

Chapter Seven

**Juvenile Justice,
Substance Abuse,
and Youth Violence**

Longitudinal Patterns of Juvenile And Adult Offending in Youth in the Mental Health System

**Maryann Davis
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Introduction

Studies have shown that, compared to other youth within their same social class, a higher proportion of youth with serious emotional disturbance (SED) are arrested during adolescence and young adulthood (e.g. Valdes, Williamson, & Wagner, 1990; Bryant, Rivard, Cowan, Wright, & Hinkle, 1995; Vander Stoep, Evens, & Taub, 1997; Davis 2002; Vander Stoep et al., 2000). Most of these studies have examined youth from mental health or special education services. Knowledge about criminal justice (CJ) involvement among these particular youth is fairly superficial, focusing primarily on arrest rates, charge types, and a limited range of risk factors. Few have directly employed comparison groups (Vander Stoep, et al, 1997; 2000). CJ involvement has generally been classified as a dichotomy (arrested/not), limiting our understanding of patterns of criminal behavior. Cross-sectional designs have been employed, limiting our knowledge of temporal sequence.

Several longitudinal studies of youth in the general population have identified diverse patterns of CJ involvement across age (e.g. Loeber, Farrington, Stouthamer-Loeber, & Van Kammen, 1998; Nagin, Farrington & Moffitt, 1995). These patterns have been tied to criminology theory (e.g. Moffitt, 1993; Laub, Nagin & Sampson, 1998). Trajectory methodology is new in criminology and characterizes subgroups of individuals with different developmental criminal trajectories (e.g. Nagin 1999; Nagin & Land, 1993; Laub et al., 1998). This method has several advantages. Different periods of greatest risk can be identified. Characteristics of individuals within each cluster can be profiled. Individual and contextual maturational changes associated with arrest patterns can be explored. Trajectory typologies can be related to criminology theory. The present longitudinal study explores trajectory patterns of CJ involvement among youth who utilize the child mental health system in Massachusetts.

Methods

The present study examined the clinical charts and automated CJ records of 131 individuals who received intensive public mental health services from one agency in the greater Boston area and had reached the age of 25 by 12/31/00.

Subjects. All individuals with birth years from 1968-1973, and who were sequentially discharged between 1988-1994 from the agency's adolescent day, residential, and hospital treatment programs, served as subjects. Thirty-eight individuals had clinical charts that were not informative. These individuals came from one hospital unit and were likely to have had such a brief stay that their charts were not prepared prior to discharge. Analyses of subject characteristics are based on clinical charts of the remaining 93 subjects.

Over half of the subjects (56%) were male, a third were of minority race, and 47% were from single-parent households. The most common diagnoses were affective (50%), disruptive behavior (28%), anxiety (24%), personality (24%), substance abuse and dependence (20%), and psychotic (12%) disorders. Individuals averaged 3.1 (\pm 3.2) psychiatric hospitalizations.

CJ Database. The CJ database records the type and disposition of all charges that have been arraigned in all non-federal courts in the state. Generally, arraignment follows rapidly after arrest and can be considered comparable to arrest. Records of all individuals were searched as of 12/31/00. Arraignments prior to their 25th birthday were included.

Trajectory Methodology. The trajectory model (Nagin, 1999) was used to examine clusters of individual developmental trajectories of offending (i.e., number of charges per year of age; ages 8-25), using SAS PROC TRAJ (Jones, Nagin, & Roeder, 2001). Trajectory modeling is based on a semi-

parametric, group-based modeling strategy which aids in the statistical analyses of trajectories. Technically, this trajectory model is a mixture of probability distributions that are suitably specified to describe the data to be analyzed.

Results

Trajectory Groups. Sixty-four percent of 131 subjects had juvenile or adult corrections records. One of these subjects was an extreme outlier, (195 charges, >5 standard deviations from the mean), and was dropped from further analyses. Using a zero inflated Poisson model with two curve changes, three trajectory cluster groups were identified (using the Bayesian Information Criterion). Figure 1 shows the three trajectories identified for offending by the model. The largest group (56%), referred to as the Intermediate group, were infrequently charged in young adolescence, peaked at age 19 (1.6 charges/year) and declined through age 25 to 0.3 per year. The second group (32%), referred to as the Low group, had infrequent charges throughout (< 0.4 per year), although they also displayed a relative peak at ages 19-20. The smallest group (12%), referred to as the High group, had the most concerning pattern. This group had frequent charges from age 14 on (1.5-7.7/yr), rising steadily to age 25. Figure 2 shows the actual and predicted offending trajectories in each group.

Univariate Group Differences. Thirty-six clinical, sociodemographic, and CJ variables were examined using univariate analyses (ANOVA and Pearson Chi square). The first set of analyses examined differences in variables that are commonly available in clinical charts. Using a *p*-level corrected for repeated tests (*p* < .0022), only one variable was significant. Having a substance abuse or dependence disorder diagnosis was more common in the High group than in the other two groups ($\chi^2 = 12.8$ (*df* = 2), *p* = .002; see Table 1). Using the more liberal criterion of *p* < .05, gender, level of restrictiveness of the clinical program, and the presence of a personality disorder were significantly different between the groups (see Table 1). Several CJ variables were significantly different between the groups (corrected *p*-level < .0036). As shown in Table 1, all CJ variables showed a consistency with the designation of Low, Intermediate, and High groupings. The High group (12%) accounted for 44% of all charges. The proportion of charges that were serious person or serious property crimes were not significantly different.

Figure 1
Identified Offending Trajectory Clusters
(N = 130)

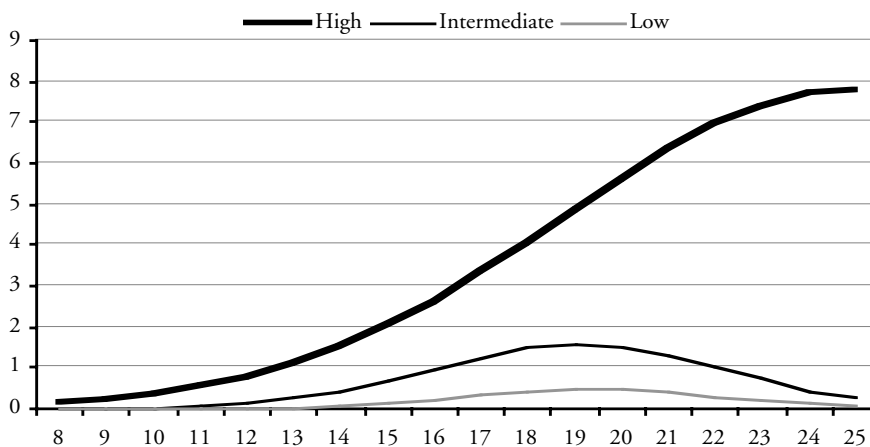
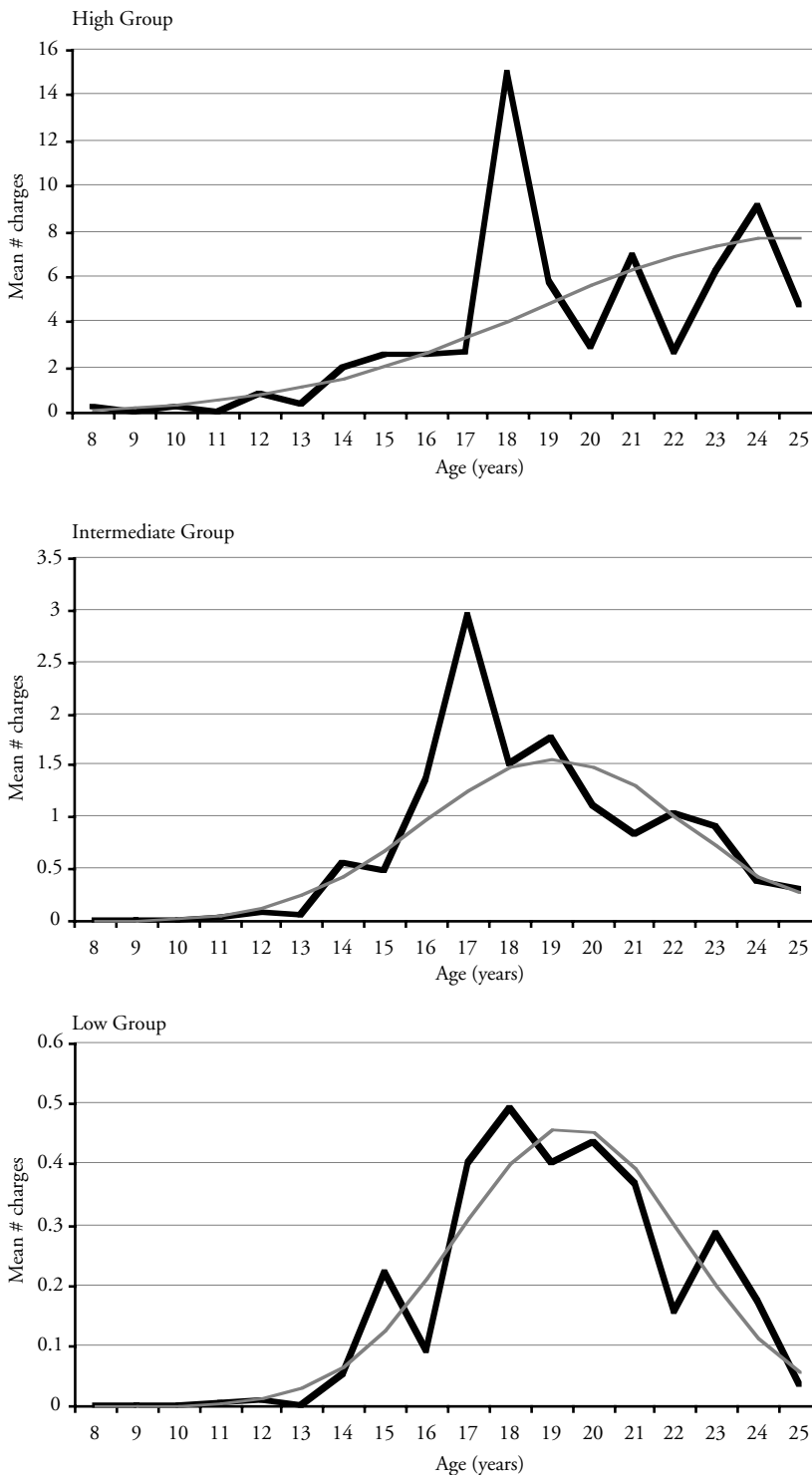


Figure 2
Observed and Predicted Offending Trajectories by Group



Multivariate Group Differences. Multiple regression analysis was conducted using chart variables to examine potential risk factors that clinicians could use to indicate which of the three trajectory groups their patients might belong to. Substance abuse or dependence disorder diagnosis, affective disorder diagnosis, gender, and restrictiveness of living of the targeted treatment setting differentiated the three groups (Adjusted $R^2 = .442$, $F(4, 50) = 9.9$, $p < .001$; see Table 1).

Adding the corrections variables to the analysis to provide an overall description of the three groups revealed that the total number of charges, age of first arrest, presence of substance abuse or dependence, or personality disorder differentiated the three groups (Adjusted $R^2 = .674$, $F(4, 50) = 28.9$, $p < .001$). As shown in Table 1, findings were again consistent with group designation.

Table 1

<i>Variable</i>	<i>Low</i>	<i>Intermediate</i>	<i>High</i>	<i>p</i>
Clinical Variables				
Substance Use Disorder	0%	41.9%	66.7%	.002
Female gender	41.2%	15.6%	0%	.047
Restrictiveness	3.2 ± 1.7	4.3 ± 1.2	4.8 ± 0.4	.020
Personality Disorder	47.1%	10.0%	16.7%	.013
Affective Disorder	58.8%	36.7%	16.7%	.141
Criminal Justice Variables				
# Juvenile charges	0.5 ± 1.3	3.2 ± 4.5	9.7 ± 7.1	<.001
Age of first arrest	18.8 ± 2.0	15.7 ± 2.6	13.9 ± 2.5	<.001
Juvenile corrections	11.8%	30.0%	83.3%	.005
# Adult charges	3.5 ± 5.7	8.5 ± 7.8	57.5 ± 10.0	<.001

Discussion

Our findings suggest that diverse patterns of arrest across age characterize important subgroups among those who come into contact with the child mental health system. There was a small group of individuals of particular concern whose general offending starts early, rapidly accelerates, and continues to increase until age 25, though at a slower pace than at ages 15-20. Compared to individuals in the other two groups, those individuals were viewed as delinquents by courts and as substance abusers who needed the most restrictive care by mental health systems. Trajectory modeling is a technique that provides a new understanding of CJ involvement in this population. The greatest period of risk for the majority of those with CJ records were around the age of majority, with arrests all but disappearing by age 25. Moffitt (1993) has theorized about a pattern of offending limited to adolescence. Studies have shown those groups to peak at a younger age than in the present study (Nagin, & Land, 1993; Laub, et al., 1998). The delayed peak is consistent with findings of delayed psychosocial development in youth with SED (reviewed in Davis & Vander Stoep, 1997), and with loss of services that occur around the age of majority. The slow desistance rate in the Intermediate group is similar to that seen in delinquents (Laub et al., 1998), but not as dramatic as that found in working-class youth (Nagin & Land, 1993). The slow desistance rate suggests that the social conditions believed to draw young adults out of youthful offending, such as stable employment and supportive adult relationships, may be less effective or less available to youth with SED in mental health systems.

The High group is the most concerning. Their high frequency offending shows little evidence of decline. This group is similar to what Moffitt described as Lifetime Persistent Offenders (1993). In this group, CJ involvement begins at a young age, increases rapidly in adolescence, and continues at high frequency throughout young adulthood. However, direct comparison of the mental health to the general offending population is needed to clarify the degree of similarity between these groups.

These findings suggest that for adolescents in the mental health system with a CJ record, clinicians can use commonly available clinical chart information to target focused interventions, such as Multisystemic Therapy (Henggeler & Borduin, 1995), at those who appear to be at greatest risk for future frequent criminal activity. Since the average age of first arrest is 13 in this group, it is likely that by the time they enter adolescent mental health services they will have already had their first arrest, again making their identification easier. In contrast, criminal activities in the Low group are most likely to begin after their adolescent treatment has ended.

Though the High group was proportionately no more violent than the other groups, the system viewed them with greater concern than adolescents, putting most of them into the custody of juvenile corrections. Passage into legal adulthood signified greater CJ involvement in the High group, while it marked the peak then subsequent reduction of CJ involvement in the other groups. It is unfortunate that children's mental health services in Massachusetts ends at age 19 (and in most states at age 18), an age when extra support may be critical to deterring criminal involvement in young adulthood.

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Juvenile Justice Referrals of Hispanic Youth into Systems of Care

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Introduction

Minority groups such as African Americans and Hispanic Americans are overrepresented in the juvenile justice system. In 1997, minority groups represented two-thirds of the youth detained in secure juvenile facilities; however, only one third of the juvenile population nationwide were minorities. Although people of Hispanic descent represent approximately 10% of the U.S. population, 18% of the total juvenile offenders in residential placement in 1997 were Hispanic (U.S. Department of Justice, 1999).

Research shows that there is an association between underutilization of mental health services by minority youth and their over representation in social service and juvenile justice systems (Pumariega, Glover, Holzer, & Nguyen, 1998). Hispanic Americans are a growing minority group yet they are less likely to seek treatment (U.S. Department of Health and Human Services, 2001). Overrepresentation in systems not designed to provide mental health services and underutilization of mental health services may put Hispanic youth and families at great risk for severe emotional and behavioral problems because early service needs may not be met.

The Center of Mental Health Services' Comprehensive Community Mental Health Services for Children and Their Families Program was initiated in 1993 to meet a service gap in children's mental health. This program is a Federal multi-site initiative to fund systems of care for youth with serious emotional and behavioral disturbance. Youth may be referred from the public child serving agencies (i.e., mental health, juvenile justice, education and child welfare), community-based organizations, or be family or self referred. The current study draws from the national evaluation of this program and will respond to the following questions: (a) Who are the Hispanic families that are enrolled in the systems of care?; (b) If Hispanic families are less likely to seek mental health services, then how are they entering the system of care?; and (c) Are the Hispanic youth who are referred to the system of care from juvenile justice different from the non-Hispanic youth who are similarly referred?

Method

Data gathered through the national evaluation of this program are examined. Caregivers of all youth, and youth ages 11 and older, are interviewed at intake into services and every six months thereafter for up to 36 months as part of the longitudinal outcome study.

Measures. Descriptive data collected on youth and families included demographics such as gender, family structure, race/ethnicity, educational attainment, household income, welfare receipt and service use. The Delinquency Survey (25 items; $\alpha = .83$) assesses youth's behavior in the community as it relates to contact with law enforcement. The Child Behavior Checklist (CBCL; Achenbach, 1991; 118 items; $\alpha = .82$) is a widely used parent report measure that assesses children's emotional and behavioral problems. Child social functioning was assessed using the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 2000) which assessed the child's level of functioning in eight life domains (e.g., school/work, community, and behavior toward others). The CAFAS was completed by trained raters who obtained information about the child from caregivers or through clinical experiences. The Behavioral and Emotional Rating Scale (BERS; Epstein & Sharma, 1998; 52 items) identifies the emotional and behavioral strengths of youth. Substance use activity was obtained by the Substance Use Survey.

Sample. Of the participants ($N = 5,070$) from grant communities funded in 1997-1999, 69.1% were boys and 30.9% were girls. Their mean age was 12.12 ($SD = 3.99$). About 10% of the sample reported being of Hispanic origin.

Results

In the overall sample, children and families ($n = 4,698$) were referred from various portals of entry including juvenile justice (16.3%), education (16.9%), mental health (29.5%), social services (11.9%), parent or self referral (11.2%), and other (14.3%). There was a significant difference between portals through which Hispanics and non-Hispanics entered the system of care ($\chi^2 = 123.5, p < .001$). Hispanics were more likely than non-Hispanics to be referred from the juvenile justice system (see Figure 1).

Further analysis was conducted to determine differences in the characteristics of Hispanic and non-Hispanic children who were referred from juvenile justice (i.e., court and detention center) into the system of care.

Of the children referred to juvenile justice who participated in the outcome study ($n = 476$), 28.1% ($n = 131$) were of Hispanic descent. Caregivers reported that Hispanic children were White (17.4%); Black (4.7%); American Indian (4.7%), and other (84.9%). For Non-Hispanics, the racial make up consisted of 64.2% White; 27.7% Black; 2.5% Asian/Pacific Islander; 6.7% American Indian, and 3.9% Other. Of those referred by juvenile justice ($n = 476$), over 80% of Hispanics were male and just under 67% of Non-Hispanic were male. The mean age of Hispanics and non-Hispanics referred by juvenile justice was 15.2 years old and 14.8 years old respectively ($t = -2.126, p < .05$).

Family income and service history were also compared between Hispanics and Non-Hispanics referred from Juvenile Justice. Hispanics (57.3%) were significantly more likely than Non-Hispanics (38.1%) to have a family income below \$15,000 ($\chi^2 = 12.41, p < .001$). Hispanics were less likely than non-Hispanics to receive outpatient (57.7% and 75.2% respectively) or school-based services (50% and 60.7% respectively) in the past year. In addition, Hispanic families (44.9%) were significantly more likely than Non-Hispanic families (34.8%) to report paying for at least some of the services received ($\chi^2 = 3.98, p < .05$).

Figure 1
Percent of Hispanic and Non-Hispanic Youth
Entering the System of Care by Portal of Entry

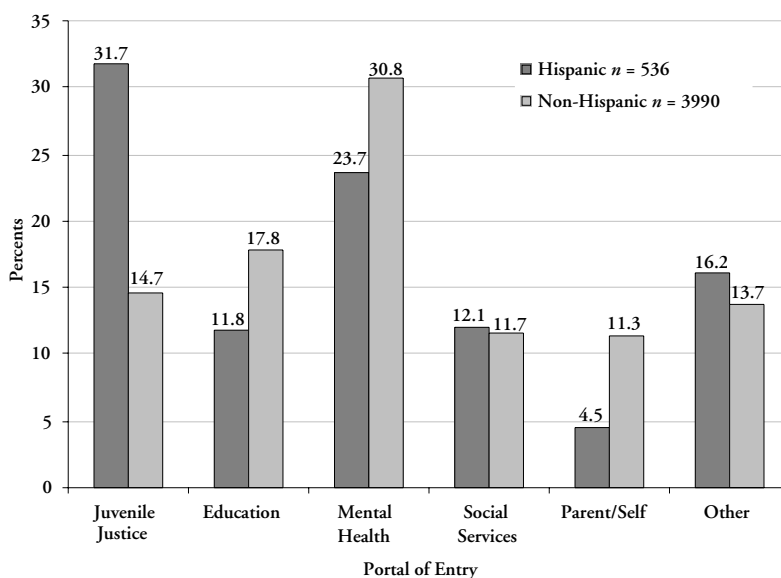


Table 1 shows that caregivers of Hispanic children referred from juvenile justice were more likely to report fewer internalizing and externalizing symptoms than caregivers of non-Hispanic children as measured by the CBCL scores. Caregivers of Hispanic children also reported less functional impairment than caregivers of non-Hispanic children. Analysis of the CAFAS subscales indicated significant differences between Hispanic and non-Hispanic children in the following areas of functional impairment: home, community, behavior towards others, moods and emotions, and substance use. In all the previously mentioned subscales but substance use, caregivers of Hispanic children indicated less functional impaired than non-Hispanic children. Caregivers reported similar levels of strengths as measured by the BERS.

Hispanic and non-Hispanic youth reported equal levels of internalizing and externalizing symptoms as measured by the Youth Self Report of the CBCL (Achenbach, 1991b). When asked about specific delinquent behaviors, Hispanic youth reported a greater likelihood of engaging in 3 out of the 19 delinquent behaviors measured by the Delinquency Survey. Hispanic youth were significantly more likely than non-Hispanic youth to report having been part of a gang (Hispanic 44.2%, Non-Hispanic 15.4%, $\chi^2 = 14.4, p < .01$), carrying a weapon (Hispanic 53.7%, Non-Hispanic 31.9%, $\chi^2 = 15.99, p < .01$) and having gone joyriding (Hispanic 29.8%, Non-Hispanic 16.5%, $\chi^2 = 8.08, p < .05$). Though there were no differences for 16 delinquent behaviors and only one behavior (carrying a weapon) that is actually illegal, Hispanic youth were more likely to report having ever been arrested (Hispanic 94.7%, Non-Hispanic 79.7%, $\chi^2 = 11.42, p < .01$), found guilty of an offense (Hispanic 88.5%, Non-Hispanic 77%, $\chi^2 = 5.59, p < .05$), and having ever been in a detention center or jail (Hispanic 92.6%, Non-Hispanic 73.4%, $\chi^2 = 15.03, p < .001$).

When asked about actual use of substances, Hispanic youth were significantly more likely than non-Hispanic youth to report ever using the following substances: alcohol (Hispanic 88%, Non-Hispanic 72%, $\chi^2 = 9.52, p < .01$), marijuana (Hispanic 85%, Non-Hispanic 68%, $\chi^2 = 10.5, p < .01$), LSD (Hispanic 34%, Non-Hispanic 23% $\chi^2 = 4.29, p < .01$) and cocaine (Hispanic 35%, Non-Hispanic 12%, $\chi^2 = 22.45, p < .01$).

Discussion

Hispanic children and families served by systems of care are significantly more likely to enter to systems of care through juvenile justice portals than non-Hispanic children and families. Among all children in systems of care referred by juvenile justice, Hispanic children demonstrated fewer symptoms and less functional impairment than Non-Hispanic youth. These two discrepancies, though alarming, are supported by past research indicating disparities in mental health status and service

Table 1
Independent T-Test Results of Functional Measures
of Hispanic and Non-Hispanic Youth

	Mean <i>t</i> -scores		<i>df</i>	Sig. (2-tailed)
	Hispanic	Non-Hispanic		
CAFAS total 8 scale score	104	120	398	.005*
Internalizing T-score, CBCL	59	64	343	.000***
Externalizing T-score, CBCL	66	71	343	.000***
Delinquent Behavior T-score, CBCL	69	73	343	.002**
BERS Strength Quotient	91	88	411	.514

* $p < .05$, ** $p < .01$, *** $p < .001$

utilization in general (U.S. Department of Health and Human Services, 2001). Given that recent research shows that Hispanic youth are overrepresented in juvenile justice, this analysis explored other factors (i.e., functional status, delinquent behavior and substance use) in an attempt to explain differences found between Hispanic and non-Hispanic youth.

While findings indicated fewer behavioral and emotional symptoms and better overall functioning by Hispanic youth, Hispanic youth reported a greater likelihood of gang involvement, carrying weapons and joyriding than other youth referred by Juvenile Justice. In addition, they were more likely to report ever using certain substances. These differences alone raise more questions than they answer. Are Hispanic youth entering services through restrictive settings because they are under served in traditional mental health settings? Are they inappropriately placed in restrictive settings with systems of care being their first opportunity to obtain appropriate services? Why do Hispanic and non-Hispanic youth who are referred from similar portals differ on key mental health characteristics? Though systems of care cannot resolve the national problem of inequality in placement of minorities in restrictive settings, they can increase outreach to the population and provide culturally competent services. Grant communities should encourage the education and mental health sectors to reach out to the Hispanic population and provide support for families to maneuver through the system in order to obtain culturally competent treatment plans once in systems of care.

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Delinquent and Substance Use Behaviors Among Children Involved in Systems of Care

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Introduction

Delinquent behaviors, such as any involvement with the law, among youth continue to be a national health concern. In 1997, approximately 2.9 million juveniles were arrested, accounting for 19% of all arrests (Snyder, 1998). Delinquent behavior often co-occurs with substance abuse. Although the causal relationship between delinquent behavior and substance abuse is not clearly understood, an association between these factors has been thoroughly documented (Blane, 1982; Bui, Ellickson, & Bell, 2000; Inciardi & Potttieger, 1991; Wilson, Rojas, Haapanen, Duxbury, & Steiner, 2001).

The purposes of this study are: (a) to document the prevalence of severe delinquent behaviors and substance abuse and their co-occurrence among youth receiving services in systems of care, (b) to describe who these youth are and what services they are receiving six months after service entry, and (c) to report changes in youth functioning from intake to six months.

Method

Data were drawn from survey instruments used in the Center for Mental Health Services (CMHS) national evaluation of the Comprehensive Community Mental Health Services for Children and Their Families Program. Caregivers of children were interviewed at intake into services and every six months thereafter for up to 36 months as part of the longitudinal outcome study. In addition, youth ages 11 and older were interviewed according to this same time frame. The intake interview provided baseline information on children's strengths and behavioral problems, functional status, and involvement in education, substance use, and delinquent behaviors. In addition, caregiver strain, family resources and family functioning were also assessed.

Sample. The current study included 901 youth 11 years of age and older who had complete information on the delinquency survey and either a diagnosis on the *Diagnostic and Statistical Manual of Mental Disorder, version four* (DSM-IV, APA, 1994) or a rating on the Child and Adolescent Functional Assessment Scale (CAFAS, Hodges, 1990).

Measures. Constructs included in this study were child diagnosis, functional status, self-reported delinquent behaviors, and services received. *Diagnostic information* was based on field diagnoses using the DSM-IV. *Functional status* was measured using the CAFAS and was assessed at both intake and 6-month intervals following intake into system of care services. Overall functional status was measured using a total scale score for the seven subscales of the CAFAS. The substance abuse scale was excluded. The delinquency survey was used to record *delinquent behaviors* reported by youth ages 11 years and older at intake and at 6-month intervals following intake into system-of-care services. Questions on the delinquency survey included whether children have in the past six months been found guilty of a crime, been on probation, or been in a detention center or jail. Caregivers' reports of *service use* in a variety of locations were recorded at 6-month and each subsequent follow-up data collection point using the Multi-Sector Service Contacts (MSSC) form. The MSSC provides standard descriptions for 21 types of services.

For purposes of this study, delinquent behavior was defined as having ever been found guilty of a crime, been on probation, or been in a detention center or jail. Substance abuse was defined as having either a DSM-IV diagnosis of substance use disorder or a score in the moderate to severe range on the substance use scale of the CAFAS. Youth were categorized into four distinct groups; these are youth with: (a) co-occurring delinquent behavior and substance abuse, (b) delinquent behavior only, (c) substance abuse only, and (d) no delinquent behavior or substance abuse.

Results

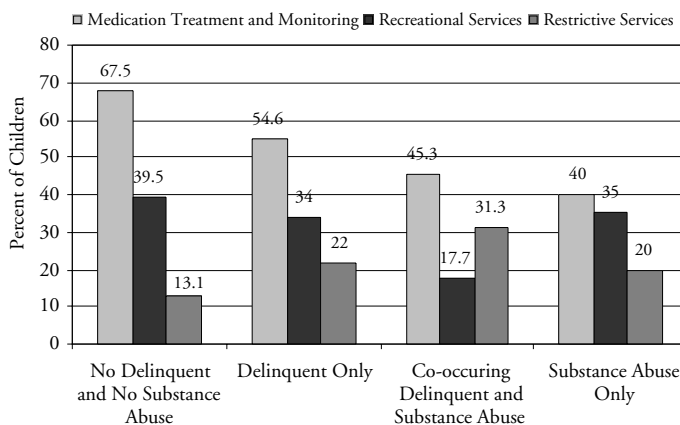
Of the 901 youth for whom data were available, 352 (39.1%) were in the no delinquent or substance abuse group, 266 (29.5%) were in the delinquent only group, 232 (25.7%) were in the co-occurring group, and 51 (5.7%) were in the substance abuse group only.

There were significant gender, age, and race differences among the four groups. There were more males than females in all four groups ($\chi^2 = 18.31$, $df = 3$, $n = 901$, $p < .001$). The majority of the children in the no delinquent and no substance abuse group, (77.8%) and the delinquent only group (51.1%) were between the ages of 11 and 14 years, whereas the majority of the children in the co-occurring (74.6%) and substance abuse only group (58.8%) were between the ages of 15 and 18 years ($\chi^2 = 161.19$, $df = 3$, $n = 901$, $p < .001$). In addition, there were more Caucasian children in the no delinquent and no substance abuse group (75.7%) than in the co-occurring group (55.9%) ($\chi^2 = 24.92$, $df = 3$, $n = 824$, $p < .001$).

Distribution of DSM-IV diagnosis differed among the groups. Children exhibiting substance abuse only were more likely to have a mood disorder ($\chi^2 = 9.42$, $df = 3$, $n = 816$, $p < .05$) and an adjustment disorder ($\chi^2 = 11.55$, $df = 3$, $n = 816$, $p < .05$) than children in the other three groups, but less likely to have an ADHD diagnosis. Those most likely to have an ADHD diagnosis were children with no delinquent behavior or substance abuse history ($\chi^2 = 42.00$, $df = 3$, $n = 816$, $p < .001$). In addition, children in the co-occurring group were more likely to have a conduct disorder diagnosis than children in the other groups ($\chi^2 = 49.22$, $df = 3$, $n = 816$, $p < .001$).

The four groups also differed in the type of services they received in the first six months of participation in systems of care (see Figure 1). Significant differences existed for recreational, restrictive, and medication treatment and monitoring ($\chi^2 = 13.68$, $df = 3$, $n = 448$, $p < .05$; $\chi^2 = 13.59$, $df = 3$, $n = 448$, $p < .05$; and $\chi^2 = 16.68$, $df = 3$, $n = 447$, $p < .001$, respectively). Children with no delinquent behavior or substance abuse history were more likely than those in the co-occurring group to receive recreational services (39.3% and 17.7%, respectively). Children with co-occurring behaviors were more likely than children in the other groups to receive medication treatment and monitoring services ($\chi^2 = 16.68$, $df = 3$, $n = 447$, $p < .001$), but less likely to receive restrictive services ($\chi^2 = 13.59$, $df = 3$, $n = 448$, $p < .05$).

Figure 1
Percent of Children Receiving Selected Services
During First Six Months in Systems of Care



Repeated measure analysis of children's functional status revealed that there was a significant time ($F(1, 506) = 51.65, p < .001$) and group effect ($F(1, 506) = 3.07, p < .05$) but, not a significant time by group interaction effect ($F(3, 506) = .209, p = ns$). A significant improvement in a child's level of functioning existed from intake to six months across all four groups. There was also a significant group effect. On average, children in the no delinquent and no substance abuse group experienced a higher level of functioning than those in the other three groups. However, there were no significant differences in the rates of improvement in functioning across the four groups.

Discussion

Youth ages 11 and older who participate in systems of care not only have a severe emotional disturbance; approximately 20% also have a history of delinquent behavior or substance abuse. Youth among the four groups differed on several demographic measures such as gender, age, and race. They also differed on diagnosis and services received. Analysis of improvement in children's functioning status indicated that children in all four groups improved from intake to six months at a similar rate.

These preliminary results did not reveal a significant difference in functional improvement among the four groups across time. However, as more data become available, possible mediating factors such as specific service utilization patterns can be examined. These mediating factors may shed more light on why children with different levels of functional status at baseline improve similarly across time.

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A National Profile of Youth with Dual Diagnosis in Mental Health Care

**Lynn A. Warner
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Introduction

Compared to individuals with a single psychiatric disorder, those with multiple psychiatric disorders, whether adults or children, experience a broader range of social problems (Grella, Hser, Joshi, & Rounds-Bryant, 2001), are more likely to use services (Kessler, et al., 1996; Wu, Kouzis, & Leaf, 1999), incur higher service costs (Garnick, Hendricks, Drainoni, Horgan, and Comstock, 1996), and are in greater need of individualized service packages (Weiner, Abraham, & Lyons, 2001). Because multiple diagnoses pose substantial costs to the individuals who live with them, their families, and society at large, there is considerable interest in understanding how multiple disorders develop with the hope of intervening in that process (Kessler & Price, 1993). If there is a causal connection between disorders, interventions may limit the likelihood that additional disorders develop after the detection of a single disorder. Or, if the disorders are the expression of the same underlying phenomenon, effective intervention may limit the severity of symptoms accompanying their co-occurrence.

We use data from a nationally representative sample of youth receiving mental health services to advance our understanding of the processes involved in the development of multiple diagnoses. We disaggregate the sample into three age groups (0-5, 6-12, and 13-17) to address the following questions: what proportion of youth admitted to mental health services have single and multiple psychiatric diagnoses?; does the pattern of comorbid illness vary with age?; and does the number and rate of presenting problems increase with age? Finally, we evaluate an “accumulation of risk” hypothesis whereby illness characteristics are more likely to be associated with functional impairment for the oldest youth than the younger youth admitted to mental health services.

Method

Data Source

The 1997 Client/Patient Sample Survey was funded by the Center for Mental Health Services (CMHS) to collect statistical information on the demographic, clinical and service use characteristics of persons receiving specialty mental health care throughout the nation. Within 1,599 randomly selected programs, detailed questionnaires were completed for randomly selected persons admitted and under care. The survey over-sampled youth, thereby allowing reliable national estimates of mental health service utilization for different subgroups in the population for the first time.

Study Sample

From the total youth admitted to mental health services (unweighted N 4,014), we excluded youth with no psychiatric disorder (other non-psychiatric, no mental disorder, medical diagnosis) and diagnosis deferred. The analytic sample includes 3,732 youth (weighted $N = 1,217,774$). Close to 10% (9.3%) of the sample are 0-5 year olds, 40.8% are between 6 and 12 years old, and 49.9% are 13 to 17 years old.

Variables and Measures

Diagnosis. Primary and secondary ICD- and DSM-based diagnoses have been organized into the following disorder categories for analysis: disruptive behavior, adjustment, mood, anxiety, developmental or pervasive, psychotic, social conditions, alcohol or drug use, personality, and other

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(e.g., specific development). Youth whose primary and secondary diagnoses fall in the same category were counted as having a single diagnosis.

Presenting problems. Two measures of presenting problems were created from the sixteen possible problems youth could have. A dichotomous variable indicated the presence of at least one problem that may suggest sub-threshold psychiatric disorder (SPD), including depressed/anxious mood, suicidal threats or actions, and alcohol or drug use (AOD). The second measure was a count of the remaining problems (e.g., aggression, skill deficits, social withdrawal).

Functional impairment. The ten-item Global Assessment of Functioning (GAF; American Psychiatric Association, 1994) scale for reporting overall functioning on Axis V of the DSM-IV measured functional impairment. Scores ranged from 1-100, allowing for rating individuals from severely impaired (needs constant supervision) to superior functioning in all social areas. In this sample, the GAF ranged from 5 to 85 (mean 54.4). Using CMHS standards for conservative estimates of serious impairment due to emotional disturbance (Friedman, Katz-Leavy, Manderscheid & Sondheimer, 1998), we contrasted scores between 1 and 50 with scores between 51 and 100 in logistic regressions.

Analytic Procedures. Descriptive results are based on frequency distributions and chi-square analyses. A series of multivariate logistic regressions were used to evaluate the hypothesis that illness factors are stronger predictors of functional impairment for the oldest youth. For each age group a control model with gender (*male* = 1), race (three levels with white as the contrast group), and public (coded 1) versus private payment source (coded 0) was estimated first. The second model added dual diagnosis, and the SPD index (both coded 1 for *yes*, 0 for *no*). Changes in model fit, and the magnitude of standardized betas for the illness characteristics were used to evaluate the relative contribution of these variables to severe functional impairment. Because of the complex sample design, statistical significance was evaluated conservatively at $p < .0001$ and should be considered preliminary.

Results

Diagnostic Profiles

One-third of the youth receiving mental health services in 1997 had two diagnoses (32%). The percentage of youth with dual diagnosis increased with age: 24.5% among the 0-5 year olds, 29.8% among the children ages 6-12, and 35.6% among the 13-17 year olds. Table 1 shows the most common primary diagnoses for youth with one and two diagnoses. For the two youngest age groups, disruptive behavior disorder was the most common diagnosis for youth with a single diagnosis (36.5%

Table 1
Distribution of Type of Diagnosis among Youth with Single and Dual Diagnoses Admitted for Mental Health Services in the United States by Age Group: 1997 National Estimates

	Age Groups																		
	Ages 0-5						Ages 6-12						Ages 13-17						
	Single Diagnosis (N=85,266)		Dual Diagnosis (N=27,599)				Single Diagnosis (N=348,593)		Dual Diagnosis (N=148,224)				Single Diagnosis (N=391,67)		Dual Diagnosis (N=216,418)				
	%	SE	Primary		Secondary		Primary		Secondary		Primary		Secondary						
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE					
Disruptive behavior	36.5	4.1	36.4	11.1	13.1	5.1	45.0	2.3	36.7	3.5	28.4	2.9	27.8	1.8	20.1	2.3	23.0	2.3	
Mood	---	---	---	---	2.4	1.9	8.8	1.6	22.1	2.9	9.1	2.2	28.0	2.2	45.0	2.9	12.7	2.2	
Adjustment	28.4	3.8	23.5	6.5	20.7	7.6	23.7	2.0	16.2	2.6	8.5	1.8	15.2	1.6	8.4	1.6	4.4	1.3	
Anxiety	9.0	2.7	13.7	6.0	16.6	8.0	8.2	1.2	9.9	2.1	11.9	2.1	6.4	1.0	8.9	1.6	8.4	1.5	
Developmental or pervasive	14.1	3.5	13.4	5.4	17.1	5.8	6.6	1.1	6.7	2.0	22.4	2.9	3.7	0.8	2.6	0.9	10.6	1.7	
Social conditions	9.8	2.7	7.0	4.0	28.4	5.7	5.0	0.9	2.5	1.2	14.2	2.3	3.8	0.7	0.8	0.3	10.1	1.6	
Alcohol or drug use	---	---	---	---	---	---	---	---	---	2.0	1.5	---	---	8.9	1.3	3.9	0.9	23.0	2.6

Note. Youth population includes all children and adolescents under the age of 18. This table represents 3,732 observations (1,217,774 weighted observations) from the 1997 Client/Patient Sample Survey. Youth with no psychiatric diagnosis and youth from the US territories of Puerto Rico, Guam, and the US Virgin Islands were excluded from the analysis.

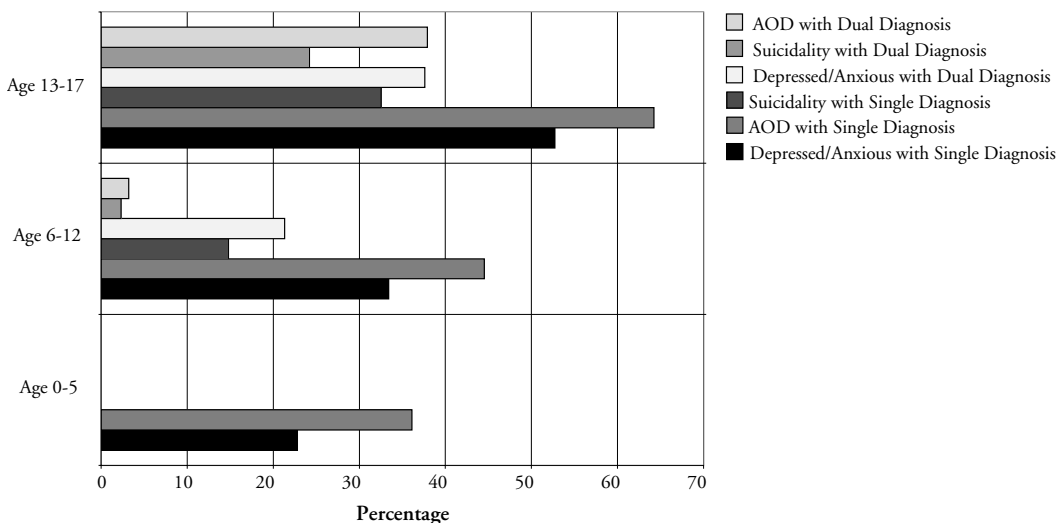
among 0-5; 45% among 6-12), and the most common primary diagnosis for youth with dual diagnosis (36.4% among 0-5; 36.7% among 6-12). For 13-17 year olds, mood and disruptive behavior disorders each constituted about 28% of the single diagnosis cases, while mood disorders were by far the most common first diagnosis (45%) among the dual diagnosis cases.

More age-related variation is evident with regard to patterns in second diagnosis. For example, the most common second diagnoses for the 0-5 year olds with dual diagnosis were adjustment disorders (20.7%), and social conditions (28.4%), while disruptive behavior (28.4%) and developmental or pervasive (22.4%) disorders accounted for the majority of the second diagnoses among the 6-12 year olds with dual diagnosis. Disruptive behavior and substance use disorders accounted for almost half of the second diagnoses for 13-17 year olds with dual diagnoses (23% each).

Presenting Problems

Compared to youth with a single diagnosis, youth with two diagnoses were significantly more likely to have at least three presenting problems (78% vs. 65%), and they had higher rates of each individual presenting problem included in the index of problems related to mental illness. Figure 1 shows that there were marked increases with age for these problems. For example, comparing only those with a single diagnosis, the proportion of youth with a presenting problem related to depressed/anxious mood increased from about one-quarter in the age group 0-5, to one-third in the age group 6-12, to one-half in the oldest age group. In each age group the youth with dual diagnosis had significantly higher rates of depressed/anxious mood problems than the youth with a single diagnosis. This figure also shows that suicidality and AOD problems surfaced when youth were 6-12 years old, and increased dramatically in the 13-17 year olds, particularly with regard to AOD.

Figure 1
Types of Presenting Problems Related to Single or Dual Diagnosis for Different Age Groups



Predictors of Functional Impairment

The hypothesis that illness characteristics would be stronger predictors of functional impairment among the oldest age group was not supported in these preliminary analyses. For all age groups dual diagnosis and the SPD index improved model fit significantly (Table 2, partial model not shown). In the full model, the standardized betas were largest in the 6-12 year old age group. The 6-12 year old group also differed from the other two subpopulations in that the relative contribution of dual diagnosis (standardized beta is 2.1) was less than the relative contribution of the SPD index (standardized beta 3.6).

Table 2
Multivariate Predictors of Severe Functional Impairment (GAF \leq 50)
among Youth with Single and Dual Diagnoses Admitted for Mental Health
Services in the United States by Age Group: 1997 National Estimates

	Age Groups		
	Ages 0-5 (N=112,865)	Ages 6-12 (N=496,817)	Ages 13-17 (N=608,092)
	Standardized Beta	Standardized Beta	Standardized Beta
Sociodemographic Characteristics			
Male	2.8*	0.9*	1.1*
Black	3.6*	0.1*	0.3*
Hispanic	-0.5*	0.4*	0.2*
Public payment	3.5*	3.6*	2.4*
Illness Characteristics			
Two diagnoses	3.8*	2.1*	1.6*
Sub-threshold psychiatric disorder index	-2.3*	3.6*	1.6*
Change -2LL, Illness Measures added to Control Model	2995.21	17752.74	7242.97

* $p < .0001$

Note. Youth population includes all children and adolescents under age 18. This table represents 3,732 observations (1,217,774 weighted observations) from the 1997 Client/Patient Sample Survey. Youth with no psychiatric diagnosis and youth from the US territories of Puerto Rico, Guam, and the US Virgin Islands were excluded from the analysis.

Discussion

As expected, we found significant increases with age in rates of dual diagnosis and presenting problems suggestive of sub-threshold psychiatric disorder. We did not find support for our hypothesis that illness characteristics would be more predictive of functional impairment among the oldest age group. Rather, the strongest illness-related predictor of functional impairment was the SPD index in the 6-12 year old age group. Together these findings raise important questions about negative developmental trajectories that will require longitudinal data to answer definitively.

One possible interpretation of these findings is that entry into the mental health services system at a young age is a marker for a trajectory toward becoming seriously mentally ill and therefore a persistent user of the system. For example, as the 6-12 year olds in this survey age, their SPD presenting problems would convert to diagnoses, thereby explaining the importance of sub-threshold problems at that age and the higher rates of dual diagnosis among the 13-17 year olds. A preponderance of evidence in support of this hypothesis might lead to endorsements of psychopharmacological interventions at very early ages.

An alternative interpretation is that youth enter and exit the system with a diagnostic profile that is associated with the developmental stresses particular to their age. Thus, the 6-12 and 13-17 year olds will experience different trajectories by virtue of the age at which they are identified as having either a disorder or sub-threshold problems. In this scenario the most effective way to limit progression toward psychopathology may be to help children develop age-appropriate coping skills.

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Comparison of Youth with Co-occurring Substance Abuse Disorders to Other Youth

**Ana Maria Brannan
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Introduction

In one of the larger epidemiological studies of child and adolescent disorders, half of the youth with a substance abuse disorder had a co-occurring disruptive mental health disorder (Cohen et al., 1993). It has also been found that youth with alcohol disorders rarely do not have another mental disorder (Clark et al., 1997). The issues and trends in co-occurring drug-related and mental health disorders have been discussed almost exclusively for adult populations in existing literature, and only limited information is available on youth with co-occurring substance abuse and emotional/behavioral disorders (Kaminer & Bukstein, 1998). In general, there is a great need to improve the field's understanding of the population of young persons who are struggling with co-occurring substance use and mental health disorders.

Study Goals

Given that so little is known about this population, this study provides descriptive comparisons of youth with co-occurring substance abuse and emotional/behavioral disorders. The primary objectives of this study are to compare youth with co-occurring disorders with youth who are experiencing only mental health challenges or only substance abuse problems, including comparison of outcomes over a 12-month period.

Method

Sample

Data for this study were collected from two separate studies. The first of these is the Fort Bragg Evaluation Project (FBEP), an evaluation of an innovative mental health demonstration project. Data also came from the Adolescents in Substance Abuse Treatment Study (ASAT), a SAMHSA-funded project designed to assess the impact of a shift to Medicaid managed care on substance abuse services delivered to adolescents. In the FBEP, caregivers and youth were interviewed as they entered treatment for emotional and behavioral problems, and every six months up to 18 months. Respondents in the ASAT sample were first interviewed as they entered treatment for substance abuse problems, with follow-up occurring every six months for up to 12 months.

Data collected from youth ages 12-18 were used for the current study. Across the two samples, youth from these two studies were divided into three groups:

- Youth with only mental health challenges,
- Youth with only substance abuse challenges, and
- Youth with co-occurring substance abuse and emotional/behavioral challenges.

To meet criteria for a mental health problem, youth had to score in the clinical (not borderline) range on at least one of the Child Behavior Checklist broad band (i.e., internalizing or externalizing) or narrow band (e.g., withdrawn, anxious/depressed, aggression, attention) syndrome scores. To meet criteria for a substance abuse problem, youth had to have endorsed at least three consequence or dependency items related to their substance use (e.g., withdrawal symptoms, difficulty with friends or family, having had an accident while using). Youth who met criteria for both an emotional/behavioral problem *and* a substance abuse problem were designated as having a co-occurring disorder.

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Instruments

The instruments used to measure these variables were administered to youth and their caregivers. Youth mental health symptomatology was measured with the Child Behavior Checklist (CBCL; Achenbach, 1991a) and the Youth Self-Report (YSR; Achenbach, 1991b). Youth psychosocial functioning was measured with the Columbia Impairment Scale (CIS; Bird, et al., 1992) and the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1990). Caregiver strain was measured with the Caregiver Strain Questionnaire (CGSQ; Brannan, Heflinger, & Bickman, 1997). The CGSQ assesses three dimensions of strain associated with the child's problems. *Objective strain* refers to the observable negative events that occur in the family (e.g., financial strain, disrupted family relations, difficulty with neighbors or police). *Subjective-externalized strain* captures feelings directed at the child's problems such as anger, resentment, and embarrassment. *Subjective-internalized strain* refers to feelings experienced by the caregiver such as worry, guilt, and fatigue.

Analyses and Results

Within each sample, we compared youth with co-occurring disorders to youth with only emotional/behavioral *or* to youth with only substance abuse disorders. Because the FBEP sample were receiving mental health services, it was the better sample to compare youth with only emotional/behavioral problems to youth with co-occurring disorders. Youth in the ASAT sample were recruited into the study through substance abuse providers. Hence, the ASAT youth provided a comparison of youth with only substance abuse problems to youth with co-occurring disorders.

Descriptive Comparisons

T-tests and chi-square tests were used to test the differences between youth with co-occurring disorders and other youth at intake into the studies. Comparisons were made on the following variables: child clinical symptomatology, social functioning, caregiver strain, and age. Analyses were conducted with each sample separately. Table 1 summarizes these findings.

For the ASAT sample, youth with co-occurring disorders tended to have more mental health symptoms, on average, than their counterparts with only mental health or only substance abuse disorders. Youth with co-occurring disorders in the ASAT sample were also more impaired in terms of global functioning.

In the FBEP sample, youth with co-occurring disorders had more symptoms, on average, than did youth with only mental health problems in terms of externalizing symptoms and delinquency. Youth with co-occurring disorders in this sample also showed significantly more social problems and greater impairment in role performance than did the other FBEP youth.

In both samples, caregivers of youth with co-occurring disorders also reported experiencing more strain than caregivers of other youth. The only exception was subjective-externalized strain in the ASAT sample.

Table 1
Comparison of Means at Intake

Variable	FBEP Sample		AODS Sample	
	MH only N=296	Co-occurring N=55	SA only N=27	Co-occurring N=79
CBCL T-scores				
Externalizing	68.40	72.36 ^c	53.63	72.41 ^a
Internalizing	66.62	66.24	47.59	66.28 ^a
Withdrawn	66.13	65.31	51.67	65.28 ^a
Somatic	61.99	61.02	53.82	63.73 ^a
Anxious/depressed	65.85	66.80	53.48	66.18 ^a
Social problems	62.51	59.20 ^d	51.22	58.89 ^a
Attention problems	67.07	65.80	54.07	67.11 ^a
Delinquency	67.81	74.86 ^a	61.93	76.46 ^a
Aggressiveness	68.16	70.16	52.41	68.76 ^a
Social functioning				
Global ¹	--	--	11.04	22.77 ^a
Role performance ²	14.66	19.46 ^b	--	--
Behavior toward self/others ²	13.55	15.46	--	--
Moods and emotions ²	16.08	18.00	--	--
Substance abuse ²	2.16	15.27	--	--
Caregiver strain				
Objective strain	2.25	2.61 ^c	1.79	2.86 ^a
Subjective-externalized	2.52	2.87 ^d	2.40	2.39
Subjective-internalized	3.63	3.96 ^c	3.28	3.82 ^c
Child's age	14.03	15.31 ^a	16	15.89

^a Youth with co-occurring disorders significantly different than other youth at $p > .0001$.

^b Youth with co-occurring disorders significantly different than other youth at $p > .001$.

^c Youth with co-occurring disorders significantly different than other youth at $p > .01$.

^d Youth with co-occurring disorders significantly different than other youth at $p > .05$.

¹ Columbia Impairment Scale score.

² Child and Adolescent Functional Assessment Scale scores.

Change Over Time

Repeated measures ANOVA was used to compare change in outcomes over a 12-month period. Recall that both the ASAT and FBEP samples had just entered treatment at the time they were recruited into the studies. We tested the difference in the change in CBCL scores for the FBEP mental health problems only group ($N = 194$) compared to that of the FBEP co-occurring group ($N = 34$). We made the same comparison for the ASAT substance abuse only group ($N = 63$) compared to the ASAT co-occurring group ($N = 89$). The youth report is used here because more youth participated in follow-up data collection and provided a larger sample.

Figure 1 shows the trajectories in CBCL externalizing and internalizing symptom T-scores for both groups of the FBEP sample. On average, the groups began with scores in the clinical range, but no longer met clinical criteria 12 months later. The youth with only mental health problems had similar internalizing and externalizing scores. The youth co-occurring disorders, however, had much higher externalizing than internalizing scores. Within each group, the change trajectories were similar for both externalizing and internalizing scores, and all groups experienced significant improvement over time. Youth with co-occurring disorders began with more externalizing problems at intake but experienced significantly greater improvement than did the mental health only group by 12 months (within subjects group \times time interaction $F = 3.1, p < .05$). Youth with co-occurring disorders had lower internalizing symptom scores, although the difference was not statistically significant, and they experienced similar improvement trajectories (within subjects group \times time interaction $F = .50, p > .6$).

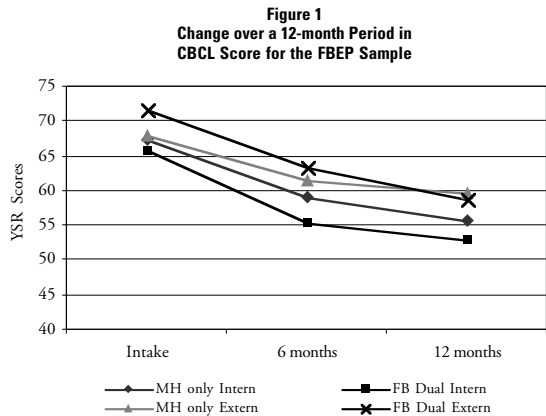
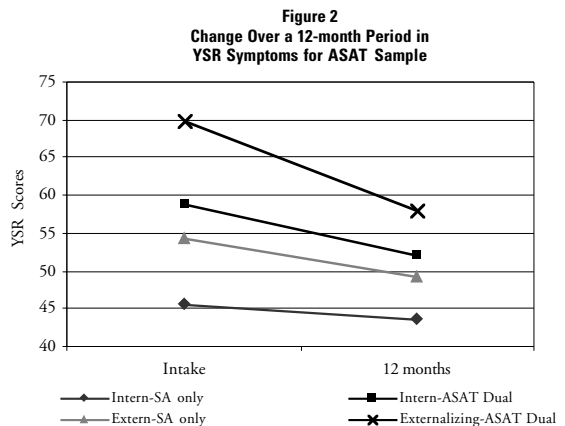


Figure 2 shows the 12-month change in YSR internalizing symptom T-scores. In the ASAT sample, youth with co-occurring disorders reported significantly more internalizing symptoms (between subjects $F = 56.9, p < .0001$) and externalizing symptoms (between subjects $F = 89.1, p < .0001$) than did their counterparts with only substance abuse problems. In addition, youth with co-occurring disorders experienced greater improvement in both internalizing (within subjects group \times time interaction $F = 6.74, p < .01$) and externalizing (within subjects group \times time interaction $F = 16.35, p < .001$) symptoms.



Conclusion

These findings indicate that youth with co-occurring disorders experience significantly more externalizing symptoms than youth with only mental health problems; they also experience more internalizing and externalizing symptoms than youth with only substance abuse problems. Caregivers of youth with co-occurring disorders also report being more strained. Although youth with co-occurring disorders tended to exhibit more problems at intake, they showed significantly greater

improvement in internalizing and externalizing symptoms than did their counterparts with only substance abuse disorders. Youth with co-occurring disorders also had greater impairment in social functioning and showed greater improvement in externalizing symptoms than did their counterparts with only mental health disorders.

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System of Care and Youth Violence: A Multi-method Examination of Youth and Family Progress

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Introduction

With the goal of preventing the escalation of violence among young persons, the Center for the Study of Social Issues at UNC-Greensboro and a local collaborative for the Prevention of Youth Violence have initiated an action-research project to intervene with middle school and high school youth who have been court-adjudicated for a violent offense. Currently, as part of the High Point Youth Violence Initiative, the collaborative is successfully interviewing youth and caregivers, identifying risk and protective factors, and implementing a system of care intervention with nearly 30 families.

Three principles form the framework that guides the youth violence prevention and intervention efforts. The first principle focuses on *development in context*. That is, at any given stage of development, young people with unique mixtures of strengths and limitations seek to master developmental tasks, and they do so in different communities and across different social contexts. The next principle involves a concentrated emphasis on building a *community-based collaborative*. Violence prevention programming has seen a shift away from punitive, and often times fragmented approaches, to comprehensive, coordinated, community-wide solutions. In this case, the community-based collaborative made the choice as to which problems to address, which program models to adopt, which individuals to serve, how those services will be delivered, and how to measure effectiveness. The third principle stresses a *family-centered approach*. Families are at the core, rather than the periphery, of the planning, coordination and implementation of services. Families are not required to conform to established (and often fragmented) programmatic niches. Rather, families are central to defining their own strengths, supports, and needs for services.

Within the context of this framework, the High Point Youth Violence Initiative consists of several critical components: research, intervention, and evaluation. The research component features both quantitative and qualitative strategies designed to examine locally relevant risk and protective factors (across family, school, peer, and neighborhood domains) for youth violence. This research will guide the formation of a community-wide prevention strategy to build safety and justice, incorporating an array of approaches designed to systematically improve the context within which children grow and develop. Next, building upon a foundation of risk and protective factor data, a system of care intervention is implemented in which a service coordinator works closely with the youth and his/her family in order to build a system of wraparound supports for the youth. Third, through process evaluation, we assess whether the system of care is implemented in accordance with the theory and principles developed for system of care initiatives in the mental health system. Outcome evaluation assesses whether the approach facilitates a concerted, long-term prevention effort in High Point by measuring the degree to which the youth served by a system of care sustained improvement in functional outcomes (e.g., academic performance, delinquency, substance use, aggression and violent behavior).

Method

Quantitative Strategies

Participants. Participants were court-adjudicated youth ages 12-16. Intake data were available for 20 families and preliminary follow-up data were available for six.

Measures. Informed by a thorough literature review (e.g., Hawkins et al., 2000; Huizinga, Weiher, Menard, Espiritu, & Esbensen, 1998; Loeber, Farrington, Stouthamer-Loeber, Moffitt, & Caspi,

1998; Thornberry, Krohn, Lizotte, Smith, & Porter, 1998) and analysis of content by community members, self-report questionnaires completed by the youth and primary caretaker were used to assess family demographics, family functioning, depression, family support, stressful life events, and substance abuse and delinquency.

Procedures. After a youth is adjudicated, families are referred to either of two service coordinators housed in the High Point Office of the Department of Juvenile Justice and Delinquency Prevention. Once consent has been obtained, the service coordinator meets with the child and the caregiver individually to administer an intake survey instrument packet. A similar packet containing follow-up measures is administered after six months of participation in the project.

Qualitative Strategies

Participants. The current analysis is based on interviews with 14 court-adjudicated youth, ages 12 to 16. Five of the youth were female, and nine were male.

Measures. A semi-structured interview procedure developed and pilot-tested by a community-based project management team consisting of ministers, principals, parents, youth, university faculty, and representatives from law enforcement, juvenile justice, and social service agencies was administered to youth and caretakers.

Procedures. After consent was obtained for participation in the study/intervention, interviewers arranged to meet with the family in a convenient location (often the family's home). Interviews were conducted by community interviewers who had completed two training sessions (and received ongoing consultation) from a Ph.D.-level anthropologist specializing in ethnography. Interviewers conducted and tape-recorded a semi-structured interview with the youth and caretaker separately (interviews typically lasted about 1 hour), although only the youth data are utilized in this inquiry.

Findings

Quantitative Analyses

Demographic data on twenty youth (7 male, 13 female; 14 African American, 4 Caucasian, 2 Latino) and their caregivers were obtained at intake from a family information form. Youth ranged in age from 12 to 16 with a mean age of 14. Median family income ranged from \$15,000 to \$19,999 and the caregivers' median education level was high school or GED completion. Tables 1 and 2 provide descriptive data from intake and 6-month follow-up assessments for six families. For the youth, reductions in Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 2000) scores were noted, as well as declines in youth self-report of drinking, marijuana use, and gang/illegal activity (Table 1). In addition, while a reduction in Child Behavior Checklist (CBCL; Achenbach, 1991) total score was observed, youth reported an increase in feeling depressed during the past thirty days.

Descriptive information on caregiver functioning is presented in Table 2. While depression declined slightly, caregivers reported more stress in certain life domains including work, love & marriage, and crime and legal matters. Although caregivers reported receiving more support at the 6-month follow-up from professional service providers and formal kin, less support was noted from informal networks, social organizations, and their spouse/partner.

Qualitative Analyses

Interviews with adolescents were transcribed and entered into qualitative analysis software (Ethnograph 5.06, Qualis Research Associates). Marshall and Rossman (1999) contend that data collection and data analysis must be a simultaneous process in qualitative research, thereby allowing for a continuous emergence of codes, categories, and themes. Accordingly, coders began reading and reviewing the transcribed interview data while still in the process of collecting interview data. A constant comparative method (Glaser & Straus, 1967; Strauss & Corbin, 1990) was utilized to

Table 1
Youth Functioning

<i>Measure</i>	<i>Intake</i>	<i>6-month</i>	<i>Change</i>
CAFAS Total	50.00	40.00	-10 (-20%)
CAFAS Community	15.00	13.30	-1.7 (-11.3%)
CAFAS Home	20.00	13.30	-6.7 (-33.5%)
Depressed past 30 days	2.33	2.67	+.34 (14.6%)
Marijuana use past 30 days	1.33	1.00	-.33 (-24.8%)
Drink last 30 days	1.33	1.00	-.33 (-24.8%)
Part of gang or illegal activity	1.17	1.00	-.17 (-14.5%)
Carried weapon	1.33	1.33	None
CBCL total (raw score)	34.00	29.50	-4.5 (-13.2%)
CAFAS School	21.70	20.00	-1.7 (-7.8%)

Table 2
**Caregiver Functioning: Depression,
Stressful Life Events, and Social Support**

<i>Measure</i>	<i>Intake</i>	<i>6-month</i>	<i>Change</i>
Caregiver depression level	24.70	24.00	-0.7 (-2.8%)
Stressful Life Events			
Work	10.83	11.50	+0.67 (6.2%)
Love & marriage	29.00	29.50	+0.5 (1.7%)
Family	30.50	31.33	+0.83 (2.7%)
Crime/legal matters	11.33	11.20	-0.13 (-1.1%)
Finances	5.67	5.67	None
Health	7.67	7.33	-0.34 (-4.4%)
Social Support			
Informal kinship support	10.17	9.50	-0.67 (-6.6%)
Spouse/partner support	8.83	6.20	-2.63 (-29.8%)
Social organization support	4.00	1.50	-2.50 (-62.5%)
Formal kinship support	5.20	5.83	+0.63 (12.1%)
Professional services support	8.33	8.60	+0.27 (3.2%)

facilitate data reduction into emerging themes and categories. Further, conceptually related cluster matrices (Miles & Huberman, 1994) were derived to assist in identifying common, as well as irregular, patterns and associations in the data.

First-level coding of the interview transcripts revealed several patterns that have emerged from various domains of the adolescents' everyday experiences. Analyses revealed 23 first-level coding categories in five domains: family, peer, school, neighborhood, and person. The first-level coding categories include: youth's perceived self, substance use, response to strong feeling, influence or lack of influence as perceived by youth, sexual activity, and communication. Analyses revealed 67 second-level coding categories (subcategories) including youth's values, youth's enjoyment, youth's dislikes.

Conclusion

The community of High Point, North Carolina has chosen to come together to take a proactive approach to addressing youth violence and overall community safety. The Youth Violence Initiative has begun to yield rich quantitative and qualitative data that are useful for both evaluative and research

purposes. When integrated, these multi-method data will provide a critical feedback loop for project refinement as well as valuable information regarding the applicability of system of care approaches in the area of juvenile justice.

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System of Care and Youth Violence: Challenge and Change at the System Level

**Margaret B. Arbuckle
James M. Frabutt
Carol MacKinnon-Lewis**

Introduction

The Center for the Study of Social Issues (CSSI) at UNC-Greensboro and a local collaborative for the Prevention of Youth Violence have initiated an “action-research” project to intervene with middle school and high school youth that have been court-adjudicated for a violent offense. Currently, as part of the High Point Youth Violence Initiative, the collaborative is successfully interviewing youth and caregivers, identifying risk and protective factors, implementing a system-of-care intervention with 30 families, and evaluating the outcomes for the youth and the application of the system-of-care model. The principles outlined below form the framework that guides the youth violence prevention and intervention efforts. Within the context of this framework, the High Point Youth Violence Initiative consists of research, intervention, and evaluation components.

The community collaborative is an outgrowth of an adult centered community initiative, the High Point Violent Crime Task Group. Recognizing that the one common denominator of the adults who were involved in criminal behavior was that they were once youth, the task group developed an ancillary task force focused on youth, the High Point Collaborative for the Prevention of Youth Violence Task Force. This multidisciplinary collaborative is diverse and community-based, and is strengthened by the participation of parents, law enforcement, representatives from juvenile Justice, mental health professionals, school personnel, local clergy and university faculty and graduate students. Rather than a unilateral and field-specific manner, the diverse stakeholders surrounding the issue of youth violence prevention has facilitated a common vision for how best to proceed. The collaborative has played a significant role in conceptualizing and implementing a youth violence initiative based on the three principles of (1) development in context; (2) community-based collaboration; and (3) family-centered approach.

- ***Development in context.*** At any given stage of development, young people with unique mixes of strengths and limitations seek to master developmental tasks, and they do so in different communities and across different social contexts.
- ***A community-based collaborative.*** The community chooses which problems to address, which program models to adopt, which individuals to serve, how those services will be delivered, and how to measure effectiveness.
- ***A family-centered approach.*** Families are at the core, rather than the periphery, of the planning, coordination and implementation of services. Families are not required to conform to established (and often fragmented) programmatic niches. Families are central to defining their own strengths, supports, and needs for services.

Method

Our goal is to elucidate the local theory of change behind implementation and dissemination of the High Point initiative’s application of a system-of-care approach to the area of juvenile justice. Descriptive information was gathered from members of the collaborative management team regarding specific strategies and actions that have impacted system-level change. In addition, potential opportunities for system-level influence were noted.

Within the context of the framework of system of care and a community collaborative approach, the High Point Youth Violence Initiative consists of several critical components: research, intervention and evaluation. The research component features both qualitative and quantitative strategies designed

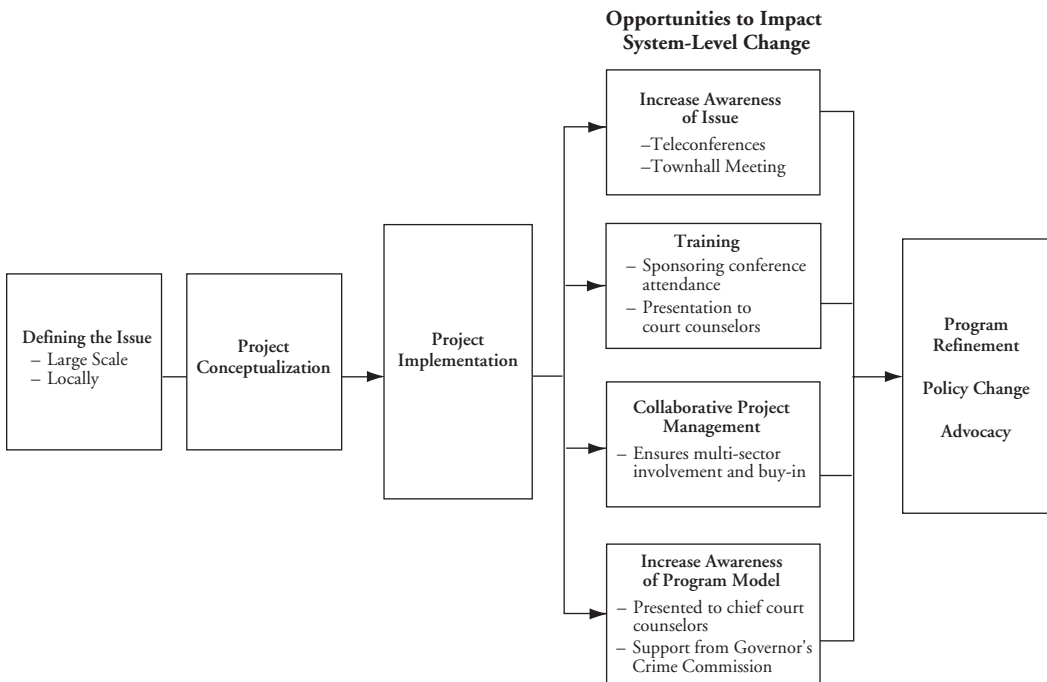
to examine locally relevant risk and protective factors (across family, school, peer, and neighborhood domains) for youth violence. Informed by a thorough literature review and analysis of content by community members, self-report questionnaires completed by the youth and primary caretaker access family demographics, family functioning, depression, family support, stressful life events, and substance abuse and delinquency. Qualitative data gathering features a semi-structured interview procedure developed and pilot-tested by a community-based project management team consisting of ministers, principals, parents, youth, university faculty, and representatives from law enforcement, juvenile justice, and social service agencies. Both sources of information guide the formation of a community-wide prevention strategy to build safety and justice, incorporating an array of approaches designed to systematically improve the context within which the children grow and develop.

Results

Through the implementation of this project, several opportunities to impact system-level change have developed. It is the interaction of these opportunities in a synergistic manner that has led to program refinement and continuing advocacy for a family-centered intervention with youth in the juvenile justice system. Figure 1 illustrates the opportunities to effect system-level change through the efforts of the High Point Youth Violence Initiative.

The system level changes described below are based upon the activities initiated by the collaborative. The opportunity to present this model through training of the juvenile court counselors resulted from the involvement of the police department and the Department of Juvenile Justice and Delinquency Prevention in the collaborative's work. Leverage points have been noted on four levels.

Figure 1
Impacting System-level Change Through the High Point Youth Violence Initiative



A key leverage point has been the *collaborative's ability to heighten awareness* in regard to youth violence as a national public health concern and as an important issue of local community safety.

The youth violence collaborative has supported *training opportunities* that have the potential to affect system-level change. For example, front-line service coordinators and staff from the High Point Office of the Department of Juvenile Justice and Delinquency Prevention attended the North Carolina System of Care Conference. As a form of local training and outreach, the authors were invited to present our emerging youth violence intervention model to the 18th District joint staff meeting of court counselors from Greensboro and High Point.

Collaborative project management has been a hallmark of the youth violence initiative that is believed to have an impact on system-level change. The collaborative was an outgrowth of a violence task group focused on adults. Working for several months in this context established relationships, facilitated trust among participants, and agreement was reached among the participants that attention needed to be given to youth violence prevention and intervention. Therefore the collaborative came together with a common commitment to address the issues of youth violence. The first implication of this joining of forces is that the current project is overseen by a joint community-university partnership. This multidisciplinary collaborative is diverse and community-based. Instead of numerous professionals each addressing this particular issue in a unilateral and field-specific manner, CSSI has brought together diverse stakeholders surrounding the issue of youth violence prevention and has facilitated a common vision for how best to proceed. Local clergy, school principals, service providers, and juvenile justice representatives have come together despite differing institutional climates, diverse cultural contexts, and different ways of defining the problem of systems-level change and devising possible solutions.

Lastly, the youth violence initiative has sought out opportunities to generate regional and state *exposure to the model* employed in the High Point Youth Violence Initiative. In fact, the current project is funded by the North Carolina Governor's Crime Commission. In that sense, we are essentially implementing a demonstration program that can have widespread applicability to other communities.

Conclusion

Several leverage points for creating system-level change through the High Point Youth Violence Initiative have been identified. When these are combined with both formative and outcome evaluation findings, the leverage points offer great potential for the initiative to facilitate future efforts linking juvenile justice with a system-of-care approach.

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