

Youth Outcomes in a Community Collaboration Model

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Abstract

A five-year integrated, community-focused collaboration for adolescents receiving juvenile justice services who also had diagnosed mental health and substance abuse disorders is described. Multiple outcomes, including multi-system-level and individual client-level outcomes are reported. System level outcomes include: 1) the creation and continuation of a system of care for the target group, including natural and community supports; and 2) the impact of cultural issues on treatment and integrated service planning. Individual client-level outcomes include: 1) reduced juvenile justice systems involvement and reduced incarceration and out-of-home placements; 2) improved school performance and attendance; 3) accurate and timely behavioral health screening; 4) improved clinical outcomes; and 5) improved satisfaction with services.

Keywords: Juvenile justice; System of care; Youth outcomes; Behavioral health

Background

Millions of children in the United States are treated for mental disorders, but studies indicate that the majority of children receiving community-based “usual care” do not show clinical improvement [1]. Concerns about the limited effectiveness of care have prompted a variety of community collaboration initiatives intended to improve care [2-4]. One fifth of all children and adolescents in America under 21 years old have diagnosable mental health disorders [3,5]. More than one fifth (22.2%) of children and adolescents experience mental health disorders severe enough to impair daily life, but only about one third (36.2%) of those who need mental health treatment receive services [6] often because of the lack of adequate, appropriate and accessible mental health services. The lack of appropriate treatment resources often results in adolescents with serious emotional disturbance and mental health disorders being identified and treated in alternative systems that serve youth, such as the juvenile justice and education systems. About 7.5 million children have an unmet need for mental health services in the United States [7] Young adults are even less likely to receive treatment for psychiatric disorders than they were as adolescents [8]. Many of America’s juveniles are also involved in the juvenile justice system. In 2011, juvenile courts handled approximately 1.2 million delinquency cases [9]. On an average day, more than 100,000 youth are in custody in juvenile facilities [4]. In 2007, the National Conference of State Legislatures estimated that there were 2 million arrests of juveniles in the United States each year. Minorities comprise 62% of youth charged in juvenile court although minorities only comprise 34% of the total youth population in the United States; African American youths are detained at five times and Hispanic youth at two and a half times the rate of Caucasian youth. The number of females in the juvenile justice system is increasing, despite the overall decrease in the juvenile crime rate [10]. Nationally, between 50% and 75% of the youth who are committed to juvenile justice systems have diagnosable mental health problems [11-14]. In a study of over 1800 youth in Illinois’ juvenile justice system in which the youth were interviewed and assessed for psychiatric illness, nearly two thirds of males and nearly three quarters of females met diagnostic criteria for one or more psychiatric disorders Excluding conduct disorder (common among detained youth), nearly 60% of males and more than two thirds of females met diagnostic criteria and had diagnosis-specific impairment for one or more psychiatric disorders. Half of males and almost half of females had a

substance use disorder, and more than 40% of males and females met criteria for disruptive behavior disorders. Affective disorders were also prevalent, especially among females; more than 20% of females met criteria for a major depressive episode. Rates of many disorders were higher among females, non-Hispanic whites, and older adolescents. The juvenile justice system was not designed to provide treatment or interventions for mental health disorders, even though many of the youth receiving care in this system have mental health needs [15]. In spite of its clear mandate to provide services other than mental health services, the juvenile justice system often provides mental health services as the provider of last resort.

Frequently, fragmented and ineffective behavioral health systems are the reason that youth are served in the juvenile justice system. In response to this disjointed compendium of youth services, a children’s systems of care (SOC) was developed specifically to build collaboration across agencies, families, and youth for the purpose of improving access and expanding the array of coordinated community-based services to provide a “comprehensive spectrum of mental health and other necessary services which are organized into a coordinated network” for children [11,16]. While the national model was not specifically designed to address solely the needs of youth in juvenile justice, the SOC described in this paper focuses on their needs.

The SOC model assumes that one system alone cannot address the needs of troubled children and adolescents effectively. Interagency collaboration amongst child-serving agencies such as education and juvenile justice is required. Five core domains are addressed in the SOC: symptoms (e.g., impulsivity, depression); functioning (e.g., capacity to adapt to the demands of home, school, and neighborhood); consumer perspectives (e.g., satisfaction with care, impact on family); environments (stability of primary environments at home, school,

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or neighborhood); and systems (level, type or costs of services). Services are wrapped around individual children and families, using approaches such as intensive in-home and community services and case management. One of the most important components of the model is the partnership between parents and service providers. This approach has been the major framework for improving delivery systems, services, and outcomes for children with mental health needs for the past 25 years, shaping system reforms across the U.S. [17,18].

The Beaver County's System of Care: Optimizing Resources, Educational and Referral Supports (BC-SCORES) is a community services collaboration with a focus on Juvenile Justice [19]. The Juvenile Justice system identified adolescents referred to their system that had serious emotional disturbance or mental health disorders and referred and followed them in behavioral health services; it was funded by the Substance Abuse and Mental Health Services Administration, U.S. Department of Health and Human Services (SAMHSA) [20-22].

Methods

Target population

The target population was youth aged 14-21 years, who were involved with the Juvenile Justice system and had a co-occurring disorder (COD) of mental health and substance abuse. In years three and four, criteria for inclusion and referral source were expanded. In year three, the entry age was lowered to 10 instead of 14, to capture youth with early involvement with Juvenile Justice. Also in year three, the behavioral health disorder criteria were expanded from COD-only to include mental health-only and/or substance abuse-only diagnoses. These youth were considered at-risk for Juvenile Justice involvement and the referral was intended to divert the youth from Juvenile Justice and obtain appropriate behavioral health services [23].

Data collection and sources

Baseline demographic and referral source information was collected at intake following referral to BC SCORES. Individuals who agreed to participate were enrolled and could choose to participate in data collection. Individuals who chose not to participate in the data collection efforts were still eligible for services; 94 participated in data collection efforts; 150 refused. Assessments were completed at six month intervals and included fourteen instruments. Mental health services utilization was retrieved from the Health Choices claims data, a mandatory managed care program for medical assistance recipients in Pennsylvania [24].

Analysis

The overall objective of the evaluation was to assess reduction in involvement with the Juvenile Justice system, as well as measure changes in multiple outcome measures as a function of service utilization. Regression models were used to analyze the association of the dichotomous dependent outcome variables of arrests, assignment to or participation in probation, school suspension, and school failure, as a function of independent variables such as: 1) services received since enrollment in BC SCORES; 2) age (continuous or dichotomized as 15.5 years or younger and older than 15.5); 3) race; 4) gender; and 5) referral type (legal source vs. non-legal source); primary residence type; and service utilization in the pre period variable. Services (procedure type) received were operationalised in three different ways to capture intensity, scope and magnitude of service utilization. All analyses were

performed using SAS9.2 and significance level was set as $p < 0.05$ [25-32].

Results

A total of 255 participants were enrolled in BC SCORES between 12/1/2006 and 9/30/2011; 94 participated in data collection efforts. We found meaningful outcomes at both systems and individual youth levels. System level outcomes included the creation and maintenance of a SOC for the target group, accurate and timely behavioral health screening, and increased service provider awareness of the impact of cultural issues on treatment and integrated service planning. Client level outcomes included: 1) reduction in juvenile systems involvement, 2) reduced arrests, 3) reduced out-of-home placements, 4) improved school performance, 5) improved school attendance, 6) accurate and timely COD screening, 7) improved clinical outcomes, and 8) satisfaction with services.

Demographics

The average age of the adolescents participating was 15.6 years; approximately 66% were white and male; 75% lived with their primary caregiver.

Clinical characteristics

The most frequent reason for referral was conduct/delinquency-related. At baseline, mood disorders and attention deficit hyperactivity disorder were the top two primary clinical diagnoses (Table 1).

Outcomes

Three key outcomes had significant change (at the 0.05 level) between baseline and six month follow-up, school suspension, passing grades, and arrests; one key outcome, probation, showed improvement. The proportion of youth 'Not suspended' improved and the proportion of youth 'Suspended' declined at follow-up; youth younger than 15.5 years were more than 4.8 times more likely to be suspended at six month follow-up. The proportion of youth with 'Passing/Above average grade' improved and the proportion of youth 'Failing' declined at follow-up. The proportion of those not arrested increased significantly at six months, compared to the baseline proportion. Finally, moderate improvement was seen for probation status at follow up, but it was not statistically significant. Predictors for being on probation included: being younger than 15.5 years; having been referred to BC SCORES from legal sources; and being on probation at baseline (Table 2).

Service utilization

We report service utilization by youth receiving MH services prior to and during the intervention. Service utilization shows an increased

Table 1: Clinical characteristics of the participants at baseline (n=252).

Variable	n (%)
Top five problems leading to referral for services	
Depression-related problems move this section to the demographic table	92 (36.5)
Hyperactive and attention-related problems	89 (35.3)
Conduct/delinquency-related	188 (74.6)
Substance use, abuse, and dependence-related problems	87 (34.5)
School performance problems not related to learning disabilities	112 (44.4)
Top five primary clinical disorder	
Substance use disorders	22 (8.79)
Mood disorders	59 (23.4)
Adjustment disorders	20 (7.9)
Oppositional Defiant Disorder	18 (7.1)
Attention Deficit Hyperactivity Disorder	55 (21.8)

Table 2: Outcomes.

Variable	Time	
	Intake (n=94)	6 months (n=64)
	n (%)	n (%)
Suspended (in-school and out-of-school)	43 (45.7)	13 (20.3)
Failing	32 (34.0)	6 (9.4)
Passing/ Above average grade	49 (52.1)	46 (71.9)
Not arrested (6 months)	62 (69.7)	58 (90.6)
Arrested one or more times (6 months)	27 (30.3)	6 (9.4)
No probation (6 months)	59 (66.3)	43 (67.2)
Probation (6 months)	30(33.7)	21(32.8)

Table 3: Services (procedures) in the pre and during periods.

Sub-category of procedure (% receiving)	Pre (n=121)	During (n=173)
	N (%)	N (%)
PSY EVAL/Follow-up*	89 (73.55)	116 (67.35)
MH services*	40 (33.16)	80 (46.24)
MST*	7 (5.79)	17 (9.83)
Case management*	49 (40.50)	102 (58.96)
Indv. psychotherapy	59 (48.76)	76 (43.93)

*Significant at 0.005 level.

trend in five mental health services provided through the County’s behavioral health managed care program for youth. Service use was compared between pre BC SCORES (one-year prior) and for one year during BC SCORES implementation. The sample size varies between the pre and during periods as not every participant received services in each time period. Psychiatric evaluation/Follow-up was the most frequently used service in both time periods. There was at least a two-fold increase in the number of youth utilizing both mental health services, case management and Multi-Systemic Therapy (MST) in the ‘during’ period. It is important to note that the study used different data sources which could not be linked with service utilization data, which was a limitation of the study (Table 3).

Discussion

Three critical areas of outcomes for youth were significantly impacted by the implementation of the BC SCORES SOC, juvenile justice involvement; service utilization; and education outcomes. Juvenile justice involvement decreased; arrests went down and probation involvement decreased. Decrease in probation involvement may reflect the diversionary impact of the program. Education outcomes were also significant, including a reduction in suspensions, an increase in passing grades, and a reduction in failing grades. The reductions in failing grades may be a result of the first two outcomes. As eligibility criteria expanded in the early years of the program, referrals increased from families whose children were having difficulty in school and from community based natural supports, and decreased from juvenile justice programs. Therefore, educational outcomes may also be related to the school system referring parents to the BC SCORES resources. Natural supports in the community may have contributed to this outcome.

Service use increased for psychiatric evaluation and follow-up, mental health, Multi-Systemic Therapy (MST), and case management. The increased referrals to behavioral health services resulted in an increase of required initial psychiatric evaluation and 6 month follow-ups. Mental health treatment increased, possibly as a result of case finding in the community. MST services were originally developed for youth who are involved in the juvenile system and who have conduct and/or substance abuse disorders. The initial referral system was

juvenile justice; consequently many of the youth in the cohort were appropriate for MST services. Finally, case management services are a function of the goal of the program, which was to coordinate and integrate previously discrete services for youth. This administrative function of case management is at the core of systems of care.

The combination of increased natural resources in the community and enhanced relationships across child serving systems such as juvenile justice and education enhanced youth engagement and access. The diversionary features of this cross system project clearly reduced both involvement with probation and school failure as measured by reduced suspensions and increased passing grades.

Collaboration across three systems was difficult as each system had its own goals, values and mission, which created administrative barriers to collaboration. Efforts to reduce these barriers resulted in increased access to and utilization of services for youth and their families. Future research efforts should focus on the measurement of the impact of increased natural supports to determine if increased natural supports increase sustainability of outcomes.

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