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The Juvenile Justice Behavioral Health Services Cascade: A new framework for measuring unmet substance use treatment services needs among adolescent offenders

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ABSTRACT

Overview: Substance use and substance use disorders are highly prevalent among youth under juvenile justice (JJ) supervision, and related to delinquency, psychopathology, social problems, risky sex and sexually transmitted infections, and health problems. However, numerous gaps exist in the identification of behavioral health (BH) problems and in the subsequent referral, initiation and retention in treatment for youth in community justice settings. This reflects both organizational and systems factors, including coordination between justice and BH agencies.

Methods and results: This paper presents a new framework, the Juvenile Justice Behavioral Health Services Cascade ("Cascade"), for measuring unmet substance use treatment needs to illustrate how the cascade approach can be useful in understanding service delivery issues and identifying strategies to improve treatment engagement and outcomes for youth under community JJ supervision. We discuss the organizational and systems barriers for linking delinquent youth to BH services, and explain how the Cascade can help understand and address these barriers. We provide a detailed description of the sequential steps and measures of the Cascade, and then offer an example of its application from the Juvenile Justice – Translational Research on Interventions for Adolescents in the Legal System project (JJ-TRIALS), a multi-site research cooperative funded by the National Institute on Drug Abuse.

Conclusion: As illustrated with substance abuse treatment, the Cascade has potential for informing and guiding efforts to improve behavioral health service linkages for adolescent offenders, developing and testing interventions and policies to improve interagency and cross-systems coordination, and informing the development of measures and interventions for improving the implementation of treatment in complex multisystem service settings.
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1. Introduction

The prevalence of substance use and substance use disorders (SUD) among adolescents under juvenile justice (JJ) supervision is much higher than for general community populations, and is related to delinquency, psychopathology, social problems, risky sex and sexually transmitted infections, and other health problems (Clark, 2004; Hicks, Iacono, & McGue, 2010). An estimated 70% of arrested juveniles have had prior drug involvement (Belenko & Logan, 2003), and 78% have

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recently used alcohol or drugs (Zhang, 2004). Adolescent substance use has serious negative consequences for adolescent development, school performance, and increases risk for progression to a SUD in both adolescence (Winters & Lee, 2008) and adulthood (Englund, Egeland, Oliva, & Collins, 2008; Stone, Becker, Huber, & Catalano, 2012; Swift, Coffee, Carlin, Degenhardt, & Patton, 2008).Arrested youth initiate substance use earlier than other adolescents, leading to more problematic substance use and higher recidivism (Henggeler, Clingempeel, Bronidon, & Pickrel, 2002; Kandel & Davies, 1992; Kandel & Yamaguchi, 2002). Wasserman et al. (2010) found that more than a third of a national sample of juvenile delinquents had SUDs, with rates increasing across justice system penetration.

The relationship between substance use and delinquency, however, is not straightforward. Not only do rates differ for specific groups of youth, but recommended treatment approaches also differ depending on their unique needs. For example, the relationship between alcohol use and delinquency is stronger among males and younger youth (Barnes, Welte, & Hoffman, 2002). Females comprise only 27% of the national JJ justice population (Scott & Dennis, 2016), yet have higher rates of anxiety and affective disorders (Wasserman, McReynolds, Ko, Katz, & Carpenter, 2005). Among adolescents in general, up to 90% of those with a SUD meet criteria for one or more psychiatric disorders (Chan, Dennis, & Funk, 2008; Kandel et al., 1999). Similar trends are evidenced among JJ-involved youth (Wasserman et al., 2010), which further illustrates the need to provide appropriate treatment to reduce delinquency and increase functionality. Thus, it is critical that the JJ system address the treatment needs of juveniles with SUDs to promote both public safety and improve health outcomes.The capacity of the JJ system to do so remains problematic given the lack of coordination and integration of SUD and mental health services in most communities, a problem that plagues the ability to provide a continuum of care or to provide integrated services.It is well-recognized that adolescent treatment that addresses both substance abuse and mental health needs is more likely to be more effective than treatments that address only one disorder (see Robinson & Riggs, 2016; NIDA, 2014; Teplin et al., 2005).

Problem identification and triage into appropriate services can be difficult to accomplish, especially in large systems serving diverse groups of youth and where staff must coordinate services across multiple agencies. Improving outcomes for justice-involved youth requires the identification of underlying behavioral health (BH) issues that may be contributing to the youth's delinquency. It is imperative, however, that the system goes beyond simply identifying problems—youth must be referred to appropriate services and agencies from different service systems must collaborate and develop interagency strategies to ensure that youth actually receive these services as intended. Achieving this goal requires effort that crosses organizational boundaries and a systems-level view of how youth are being identified and served. These efforts can be facilitated by reliance on a unifying conceptual framework for illustrating, documenting, and understanding how justice-involved youth move across and between the multiple settings in which they receive services. The Juvenile Justice Behavioral Health Services Cascade framework (hereinafter referred to as the "Cascade") presented in this paper provides an approach, informed by data, to tracking the aggregated movement of youth across these systems and providing a common metric for understanding and comparing diverse systems.

The Cascade framework described herein is not intended to capture all subtleties in the ways in which youth are linked to services, but rather is a first step toward conceptualizing the fundamental elements of a structured service continuum. Our emphasis is on demonstrating how the Cascade model can be used to address unmet substance abuse treatment needs; however, the framework also has broader uses for other BH issues. In its application with SUDs, we argue that all youth who enter the JJ system should be screened for substance use and other BH problems. This screening should be used to determine whether youth are assessed with a more comprehensive and validated assessment protocol and whether they are referred to other services, such as evidence-based prevention or treatment interventions (Models for Change, 2007; NIDA, 2014). The assessment results should then trigger a case plan and specific treatment recommendation (Wasserman, Jensen, Ko, Trupin, & Cocozza, 2003). Once such a plan is developed, the youth should be referred to an appropriate treatment provider (American Society of Addiction Medicine, 2013), receive a clinical assessment, initiate treatment, and remain engaged in evidence-based treatment for a sufficient length of time to improve outcomes.

Herein, we describe an optimal continuum of services from screening through treatment engagement, discuss organizational and systems barriers for linking delinquent youth to SUD services, provide a detailed description of the sequential Cascade steps and measures, and offer an example of its application from the Juvenile Justice – Translational Research on Interventions for Adolescents in the Legal System (JJ-TRIALS) multi-site research cooperative, funded by the National Institute on Drug Abuse (NIDA). The Cascade has other potential applications beyond its use in a research environment, such as providing juvenile and treatment agencies with a template for assessing progress in service delivery. This paper focuses on the research application but the discussion also highlights the other potential uses of the Cascade framework.

1.1. The optimal continuum of services

The JJ system clearly has responsibility for addressing youth health needs in secure facilities (U.S. Department of Justice, 2016). However, we focus on community supervision because it is the most common JJ supervision type for delinquent youth (Furdella & Puzzanchera, 2015), and because the challenges of identifying SUD problems and referral/linkage to treatment are much greater than within secure institutional settings (Taxman & Belenko, 2012, Wasserman et al., 2003). For youth under community supervision there is increasing acceptance that identification of substance use service needs and community services linkage is an effective strategy for reducing recidivism (Evans-Cuellar, Wasserman, McReynolds, Ko, & Katz, 2006; Hoeve, McReynolds, & Wasserman, 2013). But much variation exists across jurisdictions in this continuum of substance use services. Some jurisdictions conduct comprehensive assessment and provide treatment services directly, while most rely on community providers. In most JJ systems, youth with SUDs who require treatment will likely be referred to external providers for one or more services (Scott & Dennis, 2015; Steadman, 1992). A survey of a nationally representative sample of counties estimated that of 4252 primary providers of substance use and mental health services for youth under community justice supervision, 2823 (66%) provided both, 778 (18%) provided only mental health treatment services and 651 (15%) provided only substance use treatment services (Scott & Dennis, 2016). While the growing number of service providers that provide both substance abuse and mental health services is encouraging, the service delivery sequence often breaks down (even at the initial step of screening), and deteriorates further as youth transition from JJ to community provider agencies for treatment.

Even when cross-system linkages are in place, youth in the JJ system still are less likely to receive evidence-based practices (EBPs; Belenko & Dembo, 2003). National data on specialty adolescent SUD treatment programs have shown that the average program had only adopted half of the indicators of high-quality SUD care and EBPs (Knudsen, 2009). Even for youth treated in secure facilities (where service provision is presumably achieved more smoothly), access to EBPs is limited (Burney-Nissen, Butts, Merrigan, & Kraft, 2006; Office of Applied Studies, 2000). Ultimately, the effectiveness of the Cascade depends on agencies' ability to provide evidence-based services, and to keep young persons engaged in services long enough to benefit from them.

1.2. Challenges in addressing behavioral health needs

Organizational and systems factors affect the ability of agencies to address BH needs. First, the different missions of the JJ and BH treatment