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Multisystemic Therapy for Emerging Adults With Serious Mental Illness and Justice Involvement

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Abstract

Most serious mental illnesses (SMI) have onset by emerging adulthood and SMI can impair adolescents' transitions into healthy, productive adults. Emerging adults (EAs) with SMI are at high risk for justice involvement, and rates of recidivism are greater for offenders with SMI than without. These EAs are frequently multi-system involved (e.g., aging out of foster care; both juvenile and adult arrests; prison reentry). Few interventions, however, have focused specifically on EAs, and no interventions have focused on reducing recidivism in EAs with or without SMI. Multisystemic Therapy for Emerging Adults (MST-EA) is an adaptation of standard MST (for adolescent antisocial behavior) that was specifically designed for EAs with SMI and justice involvement. This paper provides the first description of MST-EA, including clinical outcome data on pilot cases and an extensive case example. To date, 57 cases have been treated with MST-EA. Success at discharge was demonstrated on main outcomes (rearrest and mental health) and other functional outcomes. Clinical data on pilot cases is promising and supports further research to assess long-term outcomes and effectiveness.

Keywords

Emerging Adults; Transition Age Youth; Multisystemic Therapy (MST); Criminal Justice Behavior; Serious Mental Illness

Emerging adulthood marks a unique developmental stage beginning as early as 14 years of age and continuing to 25 or 26 years of age (Arnett, 2000; Davis & Vander Stoep, 1997). Emerging adults (EAs), also known as transition-age youth, are at heightened risk for an array of problems that can have a lifetime of impact. The onset of mental illness occurs primarily during this age range, with three quarters of all serious mental illnesses (SMIs; e.g., schizophrenia, major depressive disorder, posttraumatic stress disorder) having onset before the age of 25 (de Girolamo, Dagani, Purcell, Cocchi, & McGorry, 2012; Kessler et

al., 2007). Prevalence rates of SMIs (excluding substance abuse disorders) are nearly 10% among EAs and are higher during this time than at any other developmental period (Substance Abuse and Mental Health Services Administration [SAMHSA], 2012).

The transition to adulthood can be tremendously compromised by mental health needs in functional realms, with 42% unemployment, 45% high school dropout, and 30% homeless rates among EAs with SMI (Davis & Koroloff, 2006; Davis & Vander Stoep, 1997; Embry, Vander Stoep, Evens, Ryan, & Pollock, 2000; Newman, Wagner, Cameto, & Knokey, 2009). Further, SMIs acutely impact EAs' struggle to stay out of trouble with the law. Young adulthood marks the peak age of criminal activity (Farrington, 2005), but adolescents transitioning to adulthood with an SMI are two to three times more likely to become justice involved than adolescents without SMIs (Davis, Banks, Fisher, Gershenson, & Grudzinskas, 2007; Vander Stoep et al., 2000). Notably, 1-year rearrest rates among EAs with SMI are 49% in males and 28% in females (Davis et al., 2007). This denotes an astoundingly high-risk subpopulation (i.e., one half of young men and one third of young women with an SMI who get arrested will be rearrested within a year), yet little research and no clinical interventions have targeted this population.

Multisystemic Therapy for Emerging Adults (MST-EA) is an intervention specifically designed to reduce recidivism in young adults (ages 17 to 21 years) who have SMIs. As described subsequently, it was adapted from MST for juvenile delinquents (age 12 to 17 years; Henggeler, Schoenwald, Rowland, & Cunningham, 2002), an intensive, home-based family and ecological treatment targeting adolescent antisocial behavior (i.e., it is not used for young adults or for SMIs) and preservation of community-based living (i.e., avoiding out-of-home placements). With more randomized controlled trials than any other youth treatment for conduct problems, including numerous replications by independent investigators, and striking positive outcomes (e.g., 47% to 64% reduction in out-of-home placements; over 50% reduction in arrests and incarceration; over 40% reduced justice involvement; less than one-fifth the cost of typical institutional placement) in both the short- and long-term (e.g., 25 year posttreatment outcomes demonstrated), MST is one of the few well-established evidence-based practices for juvenile delinquency (see McCart & Sheidow, in press).

The primary purposes of the MST-EA adaptation are to reduce recidivism and support positive functioning in school, work, independent living, and relationships, while ensuring treatment and management of mental illness and any co-occurring substance use disorder. Currently there are no proven effective interventions to reduce recidivism in EAs, with or without SMI, but MST-EA has been piloted over the past 4 years to target this high-risk population. Promising results from a small open trial demonstrating efficacy of MST-EA were recently published (Davis, Sheidow, & McCart, 2015). Presented here is the first description of the MST-EA model, as well as clinical data on all pilot cases to date and a case example that demonstrate important characteristics of the model.

Multisystemic Therapy for Emerging Adults (MST-EA) Description

Intended Population

Currently, MST-EA is intended for young adults at highest risk for recidivism: that is, 17- to 21-year-olds diagnosed with SMIs who have had a recent arrest or release from incarceration (i.e., jail, prison, detention) in the past 18 months. MST-EA clients must have a diagnosed mood, anxiety, psychotic, or eating disorder. Clients can also have co-occurring behavioral disorders (conduct, attention, and substance use disorders), but these are not required to qualify for MST-EA treatment. Individuals with co-occurring autism, pervasive developmental disorders, or mental retardation must be excluded due to extensive reliance on individual cognitive interventions in MST-EA treatment.

MST-EA is appropriate for individuals who can safely reside in the community (e.g., not actively suicidal, homicidal, psychotic), including those approaching release from treatment or justice facilities (e.g., re-entry populations). Individuals may or may not have involvement from family members and could be living with family or independently, as well as in group homes or supervised living situations that are community-based (i.e., facilities that are not “locked” and allow EAs to leave the facility for activities, school, jobs, and appointments). Pregnant and parenting young adults can be treated in MST-EA. The treatment is intended for individuals who have stable community residence (i.e., are not currently homeless, temporarily “bunking” with others, “couch--surfing,” or in shelters), although homelessness can arise during treatment.

Treatment Delivery

As with standard MST, MST-EA treatment is provided by a team of highly trained and monitored professionals, with each team member having specific roles and responsibilities. The MST-EA treatment team includes three to four full-time MST-EA therapists who have at least a master's degree and a full-time MST-EA supervisor who has at least a master's degree and 3 years of experience in delivering clinical services. Therapists carry a low caseload limited to four clients/therapist, delivering intensive interventions to each client for between 4 and 12 months (average has been 7 months.) Contact is frequent, sometimes daily (combination of in-person and phone sessions), with a minimum of about 4 hours of direct contact each week ranging as high as necessary (e.g., 5–10 hours is not uncommon). As with all MST adaptations, the therapists and supervisor work closely together to provide 24 hours/day, 7 days/week availability, allowing for flexibility in session times and for emergency problem solving with clients and members of their ecology. Clinical services are delivered in home, work, school, and/or neighborhood settings at times convenient to the client, with extensive effort devoted to engagement and retention of clients in treatment. An off-site expert clinical consultant provides weekly quality assurance and ongoing training in MST-EA, as is the case for all MST programs.

In addition to the MST-EA therapists and supervisor, a psychiatrist (or psychiatric nurse practitioner) has worked with the team for 4–6 hours/week to focus on mental illness symptom assessment and psychopharmacological care, when needed. As the clinical program was piloted, however, the team faced barriers with transitioning clients who would

need long-term psychopharmacological care to community-based professionals, so the MST-EA team no longer includes its own psychiatric support; rather, the team develops and maintains close collaborations in the communities they serve and coordinates psychopharmacological care (as well as other physical health–related care; e.g., gynecological care, dental care, prevention care) for EAs. As part of their coordination efforts, the MST-EA therapist assists the psychiatrist (or other health-care professional) in assessing medication or health regimen adherence, as well as assessing throughout the week the effectiveness of any regimen changes. Initially, the MST-EA therapist may be an active participant in working with the health care professional (e.g., transporting EAs to appointments, assisting EAs in tracking adherence and outcome of the regimen), but the therapist teaches these skills to the EA and transitions the EA into leading their own health care during treatment. To ensure that long-term health care needs are addressed, therapists will identify and problem-solve during treatment potential future barriers such as health insurance, transportation and appointment attendance, and engagement with providers.

The MST-EA team also includes “coaches,” hourly (total 1.5 full-time equivalent) paraprofessionals who, at a minimum, have completed high school/GED and have a history of successful employment or higher education. The coach element of MST-EA was developed in consultation with Patricia Chamberlain (developer of the Multidimensional Treatment Foster Care [MTFC] model, which includes “skills trainers” to mentor adolescents), as well as using knowledge of field-based mentoring (Rhodes, 2004) occurring in the homes and communities of clients. It was specifically designed to be a cross-age peer mentoring approach (Karcher, Kuperminc, Portwood, Sipe, & Taylor, 2006), in which slightly older EAs (without SMI) provide instrumental mentoring (Hamilton & Hamilton, 2005) that is both relationship and transition skill focused. Similar to MTFC skills trainers, MST-EA coaches engage clients in prosocial, skill-building activities and function as a positive mentor during an approximately 1-hour session each week. In addition, though, MST-EA coaches are responsible for delivering a tailored curriculum session each week. These sessions are in addition to the therapist contacts. The curriculum was developed by the authors, with guidance and input from various experts in the developmental, treatment, education, and vocational training fields. This curriculum covers a wide range of domains (e.g., prevocational, vocational, education, goal setting, money management, transportation, housing, nutrition, health, sexual health, communication, pregnancy, parenting), with three to seven manualized sessions per domain. Based on the client’s desired outcomes and prioritized needs, specific sessions are prescribed each week by the MST-EA supervisor to supplement the work of the MST-EA therapist. Coaches are overseen by the MST-EA supervisor and can continue to work with clients for 2 to 4 months beyond the MST-EA therapist to help sustain changes achieved during treatment.

Clinical Procedures

MST-EA is a manualized treatment that is an adaptation of a well-established evidence-based treatment, MST (Henggeler et al., 2002). Although MST treats antisocial adolescents, standard MST is not for youth over age 17 years or for individuals with significant mental illness. The primary goal of MST-EA is to increase positive community and mental health functioning in EAs with criminal justice involvement and SMIs. Thus, the focus of MST-EA

is on reducing antisocial behavior and increasing the client's positive functioning in the critical areas of emerging adulthood (school and employment, housing and independent living, interpersonal relations), as well as simultaneously ensuring treatment and management of the SMIs and any co-occurring substance use disorder. Tailoring standard MST, which focuses on preventing out-of-home placement of juvenile delinquents, to the developmental stage of emerging adulthood and to those with SMI involved:

- Shifting the primary agent of change from parents (the main focus of standard MST interventions) to the emerging adult (i.e., the identified patient);
- Engaging additional support from the emerging adult's social network (which can include family, but typically includes friends and significant others; see subsequent description);
- Providing effective mental health care, including trauma-focused interventions, while targeting reductions in antisocial behaviors;
- Ensuring client and social network safety given the high risk for suicidality, homicidality, and victimization among this population;
- Targeting the correlates of antisocial behavior particular to this population (i.e., supporting school completion, career development and vocational needs, independent living skills and housing, relationship skills, and parenting skills [in those with children], as well as treating substance abuse).

MST-EA follows the MST treatment principles and treatment process (see Henggeler et al., 2002, for a detailed description, as well as the explanation in the subsequent case examples), albeit with minor revisions to make them applicable to the ecology of the EAs (see Table 1 and Figure 1). Namely, "social network" replaces "family" and the client is the primary lever for change throughout. In standard MST and all other MST adaptations, a parent/caregiver is the primary lever for change, but in MST-EA the young adult client collaborates with the therapist in designing and implementing the treatment plan. That is, the EA is the primary contact for the therapist and is empowered by the therapist throughout treatment to implement therapeutic changes. Thus, family or caregiver involvement is not required as it is for other MST and family-based models.

However, involvement of family or other natural supports is strongly recommended and all efforts are made to identify such supports and include them in treatment. MST-EA works extensively one-on-one with the emerging adult, helping improve client functioning and the functioning of the social network. The social network can differ markedly from client to client. Families are involved in the lives of some EAs, while systems have removed other EAs from family settings (e.g., foster care, incarceration, prison re-entry, group homes), resulting in minimal or no family involvement at the threshold of adulthood. To accommodate these highly variable circumstances and to begin assessing the EA's ecology, MST-EA begins with a social network analysis completed by the therapist and client. The analysis is based on methods of Antonucci, Akiyama, and Landsford (1998) and results in a "map" of each EA's social network that identifies individuals who are part of the client's life, how close and important these individuals are to the client (denoted by placement of individuals on the map relative to the client in the center of the map), and relevant strengths

and struggles of these individuals. The primary aim of the social network analysis is to identify ways in which social network members could be helpful or contribute risks during the client's treatment. An example of an MST-EA client's social network map is shown in Figure 2.

Other key features of MST-EA treatment are similar in essence to standard MST but, because of the difference in target population (i.e., developmental stage and SMI), differ in specifics. A comprehensive set of identified risk factors for antisocial behavior (e.g., across individual, social network [including family], school, work, and neighborhood domains) is targeted through individualized interventions, as is done in standard MST (see comprehensive explanation of this process in Henggeler et al., 2002). Mental illness and, when appropriate, substance abuse symptoms are targeted through individualized interventions. These interventions integrate clinical techniques with an empirical basis in adolescent and adult populations; thus, MST-EA typically relies on cognitive behavioral and behavioral interventions to target specific problems identified (e.g., cognitive restructuring, behavioral activation, relaxation training, exposure and response prevention, anger management, affective education, motivational interviewing, community reinforcement approach/contingency management). These strategies are incorporated into a broad-based ecological framework that addresses relevant factors across social network, school, work, and community contexts. Interventions focus on promoting behavioral changes in the EAs' natural ecology by teaching them skills and providing them resources to address difficulties that will arise in taking on adult responsibilities, and empowering them to cope with peer, romantic, family, work, school, and neighborhood problems. When needed, the EA is taught how to advocate and engage effectively with relevant systems (e.g., education, health care, vocational rehabilitation, housing, judicial). The planning conducted in standard MST to sustain treatment effects long-term (see Henggeler et al., 2002) is the same in MST-EA, except that the EA is empowered to sustain the changes (rather than the parent as in standard MST). As is done in MST, MST-EA aims to reduce long-term system reliance of the EA, but if it is necessary then linkage to systems (e.g., psychopharmacological care) is accomplished well before treatment closure to ensure it will be sustainable for the EA.

MST-EA was developed for and pilot tested on primarily voluntary clients, as opposed to court-mandated clients. Thus, MST-EA therapists utilize the full array of Motivational Interviewing strategies to engage clients in treatment (Miller & Rollnick, 2002), in addition to the strategies all MST models utilize to overcome engagement barriers (e.g., flexible scheduling, home-based services, targeting practical barriers, strength-focused approach). In MST-EA, extensive effort also is devoted to ensuring the safety of the client and the client's social network members, with continuous assessment and targeting of risk for suicidality, homicidality, and victimization. Safety planning is conducted with each client at the start of and throughout treatment to identify how the client and ecology can prevent crises and safety threats. In sum, the MST-EA approach addresses the factors that are the most likely causes of offending and poor mental health in EAs with both criminal justice involvement and an SMI. Further, the adapted treatment is made developmentally appropriate for 17- to 21-year-olds via individualized interventions and support from age-appropriate social agents (i.e., social network members and a coach), while essentially retaining the underlying principles, processes, and service delivery model of standard MST.

MST-EA Case Example

Client Description and Presenting Problem

Lareesa, an 18-year-old Jamaican American female, was referred to MST-EA by her probation officer following an arrest for selling cocaine to an undercover police officer. Lareesa had used marijuana and cocaine intermittently since age 15 years. Her drug selling began approximately 6 months prior to this arrest when she started dating a known drug dealer. Lareesa had previous charges for drug possession and one gun possession arrest. Probation also noted that Lareesa had a tendency to scream at and threaten others when she became frustrated, resulting in a cluster of minor arrests except for one pending assault charge that involved Lareesa spraying mace at someone during a party in her sister's apartment. In addition to her justice problems, Lareesa had struggled with recurrent episodes of major depression for many years, with primary symptoms including irritability, social withdrawal, and hypersomnia. She experienced significant hopelessness and had attempted suicide multiple times, although not since moving in with her sister last year.

Lareesa had one older sister, aged 22 years, with whom she lived. Lareesa's father had been absent since her birth and her mother struggled with bipolar disorder. When Lareesa was 11, her maternal grandmother took custody of Lareesa and her sister due to their mother's deteriorating mental health and multiple psychiatric hospitalizations. A short time later, the grandmother abruptly moved back to Jamaica and abandoned the girls. Lareesa's sister, then aged 15 years, tried to take care of them. A neighbor eventually discovered that the girls were living alone and contacted child protective services. Over the next 5 years, Lareesa was moved to four different foster homes due to episodes of physical aggression toward foster parents. When Lareesa was age 16 years, she attempted suicide by trying to overdose on Tylenol. She was immediately transferred to a residential treatment facility and diagnosed with major depression. Lareesa attempted suicide again in the facility by hoarding sleeping pills. Lareesa was successfully discharged from the treatment facility at age 17 years and had resided with her sister for the past year. Lareesa's sister worked full time at a restaurant and expected Lareesa to get a job and start paying rent. However, her sister also had frequent parties in the home involving drugs and alcohol, and she allowed Lareesa to "hang out" and get high during those gatherings. In addition, whenever Lareesa and her sister would argue, Lareesa would leave home and stay with her boyfriend (with whom she was now court ordered to have no contact) for a few days.

Case Formulation

In line with structured MST-EA clinical procedures, the intake was multifaceted and assessed systemic strengths and struggles, the outcomes desired by all stakeholders, and Lareesa's current safety concerns. Through meetings with Lareesa and her sister, a maternal aunt who lived in the same town, and Lareesa's probation officer, the MST-EA therapist identified several strengths and struggles across the various ecological systems (see Table 2). Lareesa's desired treatment outcomes were to stay out of trouble, complete school, train in cosmetology, and "be happy" (which she defined as not experiencing mental illness symptoms). Her sister's desired outcomes were for Lareesa to obtain employment and not be aggressive when she became frustrated. Her aunt wanted Lareesa to find "nice friends" who

did not get Lareesa in trouble. Lareesa's probation officer wanted her to stay off drugs and away from drug-using peers, get her GED and a job, and to stay away from her boyfriend.

Lareesa's safety was assessed in the first week of treatment using MST-EA's structured safety protocol. As a first step, Lareesa identified her sister and aunt as key "Safety Support Persons." Next, the therapist met with Lareesa, her sister, and aunt in the home to complete the Intake Safety Checklist. Various risks were identified and immediately intervened upon in the context of this assessment. For example, when Lareesa and her sister checked the medicine cabinet for any prescription or over-the-counter medicines, they discovered several Valium pills. The sister denied knowing where the Valium came from and, with the therapist's help in brainstorming safety solutions, decided to flush them down the toilet. When queried, the sister also reported that she had a handgun in her bedroom belonging to a friend. The sister agreed to phone the friend and request that he pick up the gun that evening. The MST-EA therapist contacted the sister later that night and confirmed that the gun had in fact been removed from the home. An additional risk pertained to Lareesa's exposure to illicit drugs at her boyfriend's apartment and in her own home. As a condition of Lareesa's probation, she was prohibited from seeing her boyfriend or spending time where substances were used. Fortunately, Lareesa reported that the boyfriend had ceased having any contact with her after she informed police about his role in her drug-selling activities. Nevertheless, Lareesa's sister and aunt agreed to monitor Lareesa to ensure she had no future contact with her boyfriend. Next, the therapist helped Lareesa's sister consider the costs and benefits of holding parties at her home. Lareesa's sister decided to hold parties at one of her friends' apartments instead so Lareesa would not be around drug use; the sister was not willing to curtail partying, but was motivated to reduce Lareesa's exposure to drugs so her probation would end quickly. A final safety issue was Lareesa's tendency to leave the home and stay with her boyfriend whenever she argued with her sister. Assessment of this sequence revealed that, during these arguments, Lareesa had difficulty managing her affect and she had the cognition that she was no longer welcomed in her sister's home. In turn, Lareesa's sister would worry excessively whenever Lareesa left, but also struggled with communication and coping skills. As a short-term solution, Lareesa's aunt agreed to let Lareesa come to her home for a night of respite if there was an argument. The therapist explained that MST-EA treatment could include helping the sisters with their communication and conflict-resolution skills.

With these strengths, struggles, desired outcomes, and safety concerns in mind, the MST-EA therapist gained consensus among all stakeholders and Lareesa on several overarching treatment goals, including (a) eliminating criminal behavior, including drug selling and use; (b) maintaining good mental health; (c) decreasing frequency of verbal aggression (e.g., yelling and threatening others) and eliminating physical aggression; (d) increasing prosocial peers and activity; and (e) developing and initiating a plan for completing school and pursuing job training.

The MST-EA therapist combined information across sources to identify the "fit" between Lareesa's identified problems and the broader systemic context (Principle 1). That is, a conceptualization of the factors that were driving her specific problems, known in MST as "drivers" of a problem. As illustrated in Figure 3, many problems shared the same drivers

(e.g., Lareesa's limited coping skills contributed to both her depressive symptoms and aggression) or were mediated by other problems (e.g., Lareesa's limited access to prosocial peers and the modeling of drug use in the home led to Lareesa's own use of substances, which in turn increased the likelihood that she would engage in drug selling behavior). Following the MST-EA Analytical Process, specification of these drivers and their linkages (the "fit") guided treatment.

Course of Treatment

Prioritized drivers were targeted in treatment sessions that occurred several times each week. Fortunately, and as noted previously, the drivers relating to Lareesa's boyfriend and the modeling of substance use in the home were already being targeted. Nevertheless, the MST-EA therapist conducted weekly check-ins with Lareesa's sister to ensure that (a) Lareesa had not had any contact with her boyfriend and (b) no parties had occurred in the home. To address Lareesa's own substance use, a priority for probation, the therapist targeted the "few reasons to stop using" driver by initiating a Motivational Interviewing protocol. The therapist began by using a Personal Feedback Report to assess Lareesa's current use of marijuana and cocaine and to provide feedback on the extent of her use relative to same-age peers. Importantly, when providing this feedback, the therapist strove to utilize several of the key Motivational Interviewing strategies (e.g., expression of empathy, developing discrepancy, avoiding argumentation, and supporting self-efficacy) to facilitate Lareesa's motivation to change. Upon reflection, Lareesa reported feeling concerned by her current level of drug use and expressed a readiness to abstain from future use, but indicated that she struggled to remove herself from situations where people were using. As a next step, Lareesa and the therapist developed a plan for how she could achieve her abstinence goal, including Lareesa taking active steps to avoid substance-using peers, engaging in activities (listening to music, writing in her journal, calling her aunt) whenever she felt an urge to use, and identifying savvy ways to get out of situations in which drugs were being used (pretending like her aunt was calling her to come home, stating she had to go to the bathroom but leave the house instead). The therapist administered urine drug screens randomly to help monitor Lareesa's use of substances. After providing several clean screens, Lareesa tested positive for cocaine. This was framed by the therapist as a "slip," which led to Lareesa being willing to disclose that she had encountered some former substance-using friends in her neighborhood and they successfully pressured her to smoke crack. The therapist and Lareesa developed additional strategies that she would use to refuse drugs when pressured (e.g., telling peers that probation was testing her and that she would go to jail if she tested positive). After extensive role-play practice, Lareesa successfully refused drugs from peers on several occasions, and she provided clean screens through the remainder of treatment.

While addressing Lareesa's substance use, the MST-EA therapist simultaneously implemented a Behavioral Activation protocol to target her primary driver for depression (which also was a secondary driver for her drug use): lack of prosocial activities. Lareesa had sometimes engaged in prosocial activities when invited by her friends or family, but she had never sought out or planned activities for herself. She also did not know *how* to investigate activities in her community. As a first step, the therapist and Lareesa brainstormed potential positive activities. Given Lareesa's stated interest in going to

cosmetology school, activities that might help her achieve that goal were prioritized. Lareesa and the MST-EA coach investigated cosmetology training at a local technical school, although a GED was required for admission. Therefore, the MST-EA team purchased GED preparatory workbooks for Lareesa and helped her enroll in a GED preparation class held three evenings a week. In addition, the MST-EA coach met regularly with Lareesa to practice the materials. The MST-EA coach and therapist also prepared Lareesa to contact all of the beauty salons in her town to inquire about employment opportunities. Although no jobs were currently available, a nearby salon agreed to have Lareesa informally work as a volunteer “intern” from 9:00 to 12:00 a few days a week, with the duties of sweeping up hair and obtaining refreshments for the clientele. The therapist was able to convince Lareesa that this volunteer work could be listed on her resume, and that Lareesa might develop a relationship with a cosmetologist who could provide a reference in the future. One potential barrier to this volunteer opportunity was that Lareesa did not have an alarm clock and she often slept until noon after staying up all night. Thus, the therapist solicited assistance from Lareesa’s social network. Her aunt agreed to purchase an alarm clock and her sister agreed to ensure Lareesa was up each day before her sister left for work.

Lareesa’s peer group primarily consisted of her sister’s friends, most of whom engaged in some substance use. Lareesa’s volunteering at the salon would gain her exposure to new peers, but the therapist sought additional opportunities for prosocial peer exposure and activity (i.e., Behavioral Activation to combat depression symptoms). Upon investigation, Lareesa expressed some interest in pottery classes after going to a “paint your own pottery” activity with her MST-EA coach. The therapist showed Lareesa how to find low-cost classes available at the town’s recreational center, and the MST-EA coach attended one of these with Lareesa to help her develop a comfort level with the center staff. While at the center, the MST-EA coach and Lareesa explored other free and low-cost activities. Lareesa found a Zumba class and began attending a few times a week, where she eventually made a few new prosocial friends.

Two months into treatment, the therapist received a phone call from Lareesa’s sister who reported that when she arrived home in the late afternoon, she found Lareesa asleep on the living room couch with a nearly empty Tylenol bottle. She was unable to wake Lareesa up so she called 911 and had her transported to the hospital. According to Lareesa’s sister, the doctors pumped Lareesa’s stomach, and her condition had since stabilized. Lareesa was discharged from the hospital 2 days later, and the therapist met with her immediately to assess the sequence of events that led to the suicide attempt. Lareesa stated that her sister had been taking an earlier work shift and was not home in the mornings to ensure that Lareesa got up on time. On the morning of the suicide attempt, Lareesa slept through her alarm and missed her volunteer work entirely. She then got caught up watching TV and did not show up for her appointment with the MST-EA coach. She proceeded not to answer the phone when the coach called because she was embarrassed. This all led Lareesa to feel panicked and then to feel hopeless because she “couldn’t do anything right.” She had previously agreed to call the MST-EA therapist if she had suicidal thoughts, but she did not try calling because she felt she had let down the program and therapist. She began to fear that her sister would be angry and kick her out of the home. She came across a new bottle of

Tylenol in the kitchen cabinet and swallowed a handful of pills. Lareesa reported no current suicidal ideation, saying that she felt embarrassed now for what she had done.

The therapist identified several drivers for Lareesa's suicide attempt, including (a) ineffective safety plans, including check-ins by and use of supports; (b) Lareesa's access to medications that could cause harm; and (c) Lareesa's limited coping skills. The safety plan was scrutinized and revised to be more effective. With assistance from the therapist, Lareesa, her aunt, and her sister were able to evaluate the dramatic progress Lareesa had made in a short timeframe. Lareesa's aunt and sister communicated to her that they were proud of Lareesa but that they also understood that some mistakes would happen. They each wrote a brief note on a card that they taped onto Lareesa's mirror to remind her each day that they loved her no matter what and to call whenever she needed them. Lareesa agreed to read these "coping cards" if she had feelings of hopelessness and to call her aunt and sister if her hopelessness continued to worsen. She agreed to call the therapist if she could not reach her aunt and sister and agreed to be in touch twice daily by phone or in person with the therapist as a check in for the time being. The aunt also agreed to call more frequently and to invite Lareesa over for lunch once a week to increase check-ins by supports. Lareesa and the therapist also agreed for the MST-EA coach to contact the therapist immediately if Lareesa no-showed appointments, and that the therapist would contact Lareesa and come to the home immediately if Lareesa did not answer the phone.

As another component of the new safety plan, Lareesa's sister agreed to call during her break in the mornings to ensure Lareesa did not sleep through her alarm and her aunt agreed to give her a ride to the salon in the mornings. The therapist provided the sister with a lock box so that all prescription and over-the-counter medications could be secured. Finally, the therapist initiated cognitive-behavioral therapy to help Lareesa cope better with symptoms of depression, as well as expanded behavioral activation strategies. Specifically, Lareesa was taught to recognize the interrelations between her thoughts, feelings, and behaviors through completion of thought records. She learned to recognize and challenge her distorted cognitions via Socratic questioning, use coping cards and thought-stopping strategies, and incorporate more pleasurable activities (e.g., going on walks with her sister, having lunch with her aunt, recreational center classes) into her weekly routine. Lareesa was evaluated by a psychiatrist, but Lareesa and the psychiatrist agreed that the psychotherapeutic interventions were proving to be effective and that medications were not currently needed. Perhaps not surprising, as Lareesa became better at managing symptoms of depression, her social network noticed an improvement in her frustration tolerance and a decrease in the frequency of her verbal outbursts. The therapist also assisted Lareesa and her sister in having monthly "roommate dinners" where they reviewed what was going well in the home, what steps they wanted to take to improve their relationship, and how they could support one another in reaching personal goals.

Outcome and Prognosis

Lareesa had no new arrests during treatment and had provided 3 consecutive months of clean urine drug screens. Her probation officer and the court agreed that Lareesa's current charges should be dropped given her efforts and that her probation could end early. Lareesa also

reported reductions in her depressed mood and verbal aggression, an appraisal supported by Lareesa's sister and aunt. Lareesa and her social network identified the specific strategies they would continue using to prevent a return of significant symptoms, and a concrete plan for identifying and addressing those symptoms if they re-occurred. Lareesa had passed her GED exam and was scheduled to start the technical school in a few weeks. The salon where she volunteered provided a positive job reference for her and she was able to obtain a weekend job at the restaurant where her sister worked. As problems improved, the MST-EA therapist, Lareesa, and her social network identified drivers for the improvement and developed written long-term maintenance plans with steps they would all take to ensure continued success.

Clinical Data on Pilot Cases

A total of 80 cases have been treated to date with MST-EA, all within a community-based clinical program partnering with the developers to pilot the application of MST-EA in a "real world" setting. The program was funded by a state agency specifically to use MST-EA for treating EAs who had justice involvement and SMI. To be referred, cases have had an arrest or release from incarceration/detention within the past 18 months, and were referred from either adult or juvenile justice when case workers in those systems suspected the EA had an SMI. The SMI was then confirmed by the MST-EA clinical supervisor via the Electronic Mini International Neuro-psychiatric Interview (eMINI; Lecrubier et al., 1997), with an active DSM-IV mental health (i.e., mood, anxiety, psychotic, or eating disorder) diagnosis required for entry. Cases have crossed the full array of SMIs, with many having more than one disorder. Although the clinical program has not tracked exact numbers for each diagnosis, the range of diagnoses has been recorded. Diagnoses for these pilot cases have included major depressive disorder, dysthymic disorder, bipolar disorder, panic disorder, agoraphobia, social phobia, obsessive-compulsive disorder, posttraumatic stress disorder, generalized anxiety disorder, schizophrenia, schizophreniform disorder, psychotic disorder NOS, and bulimia nervosa. Cases have ranged in age from 17 to 21, with a mean age of 18. Cases have been 64% male, and 31% identified themselves as "White" (based on the client's selection on the clinical program's intake form), 30% as "African-American," 35% as "Hispanic," 1% as "Asian," and 2% as "Biracial." Most (69%) had adult justice system involvement at intake, with the remainder limited to juvenile justice system involvement at intake. The clinical program also tracks child welfare involvement, and 52% of cases have had such involvement (per system records). The clinical program has not maintained other numerical background data on all MST-EA cases.

At the close of treatment, the MST-EA therapists and supervisor gather data from multiple sources to determine final outcomes on key indicators. These data include system reports (e.g., arrests), client report, social network members' reports, screening tools (e.g., urine drug screens, client reports on symptom checklists such as relevant sections from the Patient Health Questionnaire), evaluations of psychiatrists or other professionals, and therapist observations (e.g., housing). These data are used by the therapist to identify whether key outcome indicators have been achieved, and then the data are reviewed by the supervisor to confirm concurrence. Finally, the data and outcome indicators are reviewed by the external

consultant to verify accurate decisions on key indicators. Only the final consensus on key indicators is recorded and maintained in a database by the clinical program.

Based on this discharge summary of indicators, the success of MST-EA for targeting the two main outcomes is clear: 82% of clients had no new arrests during treatment (as measured by official arrest records) and 76% demonstrated success in controlling mental illness symptoms (as measured by psychiatric evaluation at discharge and out-of-home placements for psychiatric needs). These numbers are remarkable, given the recidivism that can be expected in the year following arrest (i.e., nonrecidivism was only 51% for male and 72% for female EAs receiving usual services [Davis et al., 2007]). MST-EA also has been successful with other functional outcomes: 90% of clients were living in the community at the time of discharge, no clients were homeless at discharge, and 73% were actively enrolled in school and/or are employed. Compared to their skills at intake, 73% had improved communication skills with family, friends, partners, and community members (per reports of social network and client and therapist observation). A large number (83%) had substance use problems at intake, and 58% of these demonstrated a reduction in the frequency of substance use at discharge as measured by urine drug screens and psychiatric evaluations. Unfortunately, 54% of all clients in the program were still using marijuana during the last 30 days of treatment. However, only 10% of clients in the program were using other drugs and/or alcohol in the last 30 days of treatment, and only five clients in the program had new arrests for drug related offenses during treatment. Although these data are limited to that collected by the community-based program, the clinical data from the first 80 pilot cases of MST-EA is promising and is consistent with outcomes in the small open trial (Davis et al., 2015). In addition, we are identifying enhancements that might further improve outcomes. If data continue to be promising, future research might include a randomized trial to evaluate outcomes in comparison to a control group, as well as mechanisms of action research.

Discussion

Emerging adulthood is the age of highest risk for engaging in a number of risky behaviors, including criminal behaviors (e.g., Farrington, 2005). Among young adults who have an SMI, the rates of offending and re-offending are excessive, and large portions of these individuals will reoffend within a year of their original offense (Davis et al., 2007). Several characteristics of EAs likely contribute to prevalent offending in this age group: high rates of substance use, living in poverty, and disconnection with the institutions of informal social control (school, work, relationships). For EAs with SMI, rates of these risk factors are higher than in their nondisabled peers (e.g., Newman et al., 2009; Planty et al., 2008; Sheidow, McCart, Zajac, & Davis, 2012). EA offenders with SMIs are at elevated risk of rearrest and need interventions that effectively reduce recidivism risk factors and help prepare them for adult role functioning, while also treating their mental illness.

MST-EA was developed in response to this need because no other interventions had strong evidence of efficacy for recidivism reduction in those with SMI, or specifically for EAs (Skeem, Manchak, & Peterson, 2011). The array of evidence-based recidivism reduction interventions in delinquents (e.g., MST, MTFC) and adults (e.g., cognitive behavioral approaches, vocational support and counseling) have either not been tested specifically with

EAs, or have been found to be ineffective in this age group (e.g., vocational support and counseling; Uggen, 2000). The many developmental and life circumstance differences between EAs and juveniles or mature adults suggest that these approaches would need adaptation to apply well to this age group. MST-EA was developed to address this gap for EAs with SMI.

There are several reasons why MST-EA is a strong candidate for implementation. First, as described above, there is no evidence-based alternative. Second, it is an adaptation of a strong evidence-based approach, with specific adaptations crafted from careful consideration of the best research available. Third, it is consistent with recommendations from the most recent comprehensive review of adult recidivism reduction interventions and related research for offenders with mental illness (Skeem et al., 2011). These authors found only weak support for any of the current treatment models, and that support was limited to criminal justice (e.g., mental health courts) rather than mental health (e.g., forensic assertive community treatment) models. Further, evidence indicates that elevated recidivism within those with mental illness is related primarily to them having more of the *general* recidivism risk factors (e.g., substance use, unemployment, relationship problems, impoverished circumstances) than offenders without mental illness (Girard & Wormith, 2004; Skeem et al., 2011), whereas recidivism for a small portion (7%–11%) is related to the presence of mental illness symptoms. These findings lend further support to the MST-EA approach, which directly and age appropriately targets general causes of offending and reoffending, tightly integrated with mental illness treatment. Fourth, treatment by MST-EA can be individualized to the specific and highly variable needs of a referred young adult (e.g., transdiagnostic, comorbidity, multiple system involvement, various housing and social network configurations). Fifth, MST-EA is in the early stages of research, meaning that there is a manualized approach, carefully described quality assurance procedures, and supportive, though not definitive, evidence. In the absence of other empirical work to date on this particularly high-risk group, and as a result of having tested the feasibility of conducting MST-EA within a community-based setting, we are at the stage of proposing a clinical trial with optimism that MST-EA will prove effective in reducing recidivism, improving young adult functioning, and effectively treating mental illness at a critical juncture in these EAs' lives.

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References

- Antonucci TC, Akiyama H, Landsford JE. Negative effects of close social relations. *Family Relations*. 1998; 47:379–384.
- Arnett JJ. Emerging adulthood. A theory of development from the late teens through the twenties. *American Psychologist*. 2000; 55:469–480. <http://dx.doi.org/10.1037/0003-066X.55.5.469>. [PubMed: 10842426]
- Davis M, Banks SM, Fisher WH, Gershenson B, Grudzinskas AJ. Arrests of adolescent clients of a public mental health system during adolescence and young adulthood. *Psychiatric Services*. 2007; 58:1454–1460. <http://dx.doi.org/10.1176/appi.ps.58.11.1454>. [PubMed: 17978256]
- Davis, M., Koroloff, N. The great divide: How public mental health policy fails young adults. In: Fisher, WH., editor. *Community based mental health services for children and adolescents*. Vol. 14. Oxford, UK: Elsevier Sciences; 2006. p. 53-74.
- Davis M, Sheidow AJ, McCart MR. Reducing recidivism and symptom in emerging adults with serious mental health conditions and justice system involvement. *Journal of Behavioral Health and Services Research*. 2015; 42:172–190.
- Davis M, Vander Stoep A. The transition to adulthood for youth who have serious emotional disturbance: Developmental transition and young adult outcomes. *Journal of Mental Health Administration*. 1997; 24:400–427. [PubMed: 9364110]
- de Girolamo G, Dagani J, Purcell R, Cocchi A, McGorry PD. Age of onset of mental disorders and use of mental health services: Needs, opportunities and obstacles. *Epidemiology and Psychiatric Sciences*. 2012; 21:47–57. <http://dx.doi.org/10.1017/S2045796011000746>. [PubMed: 22670412]
- Embry LE, Vander Stoep AV, Evens C, Ryan KD, Pollock A. Risk factors for homelessness in adolescents released from psychiatric residential treatment. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2000; 39:1293–1299. <http://dx.doi.org/10.1097/00004583-200010000-00017>. [PubMed: 11026184]
- Farrington, DP., editor. *Integrated developmental and life-course theories of offending*. New Brunswick, NJ: Transaction; 2005.
- Girard L, Wormith JS. The predictive validity of the Level of Service Inventory-Ontario Revision on general and violent recidivism among various offender groups. *Criminal Justice and Behavior*. 2004; 31:150–181. <http://dx.doi.org/10.1177/0093854803261335>.
- Hamilton, MA., Hamilton, SF. Work and service-learning. In: Dubois, D., Karcher, MJ., editors. *Handbook of youth mentoring*. Thousand Oaks, CA: Sage; 2005. p. 348-363.
- Henggeler, SW., Schoenwald, SK., Rowland, MD., Cunningham, PB. *Serious emotional disturbance in children and adolescents: Multisystemic therapy*. New York: Guilford Press; 2002.
- Karcher MJ, Kuperminc GP, Portwood SG, Sipe CL, Taylor AS. Mentoring programs: A framework to inform program development, research, and evaluation. *Journal of Community Psychology*. 2006; 34:709–725.
- Kessler RC, Amminger GP, Aguilar-Gaxiola S, Alonso J, Lee S, Ustun TB. Age of onset of mental disorders: A review of recent literature. *Current Opinion in Psychiatry*. 2007; 20:359–364. <http://dx.doi.org/10.1097/YCO.0b013e32816ebc8c>. [PubMed: 17551351]
- Lecrubier Y, Sheehan D, Weiller E, Amorim P, Bonora I, Harnett K, Sheehan DV, Janavs J, Dunbar GC. The Mini International Neuropsychiatric Interview (MINI). A short diagnostic structured interview: Reliability and validity according to the CIDI. *European Psychiatry*. 1997; 12:224–231.
- McCart MR, Sheidow AJ. Evidence-based psychosocial treatments for adolescents with disruptive behavior. *Journal of Clinical Child and Adolescent Psychology*. (in press).
- Miller, WR., Rollnick, S. *Motivational interviewing: Preparing people to change*. 2. New York: Guilford Press; 2002.
- Newman, L., Wagner, M., Cameto, R., Knokey, A-M. *The post-high school outcomes of youth with disabilities up to 4 years after high school: A report from the National Longitudinal Transition Study-2*. Menlo Park, CA: SRI International; 2009. (NCSE 2009–3017)
- Planty, M., Hussar, W., Snyder, T., Provasnik, S., Kena, G., Dinkes, R., ... Kemp, J. *The condition of education, 2008*. Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education; 2008. (NCES 2008–031)

- Rhodes, JE. Stand by me: The risks and rewards of mentoring today's youth. Cambridge, MA: Harvard University Press; 2004.
- Sheidow AJ, McCart MR, Zajac K, Davis M. Prevalence and impact of substance use among emerging adults with serious mental health conditions. *Psychiatric Rehabilitation Journal*. 2012; 35:235–243. <http://dx.doi.org/10.2975/35.3.2012.235.243>. [PubMed: 22246122]
- Skeem JL, Manchak S, Peterson JK. Correctional policy for offenders with mental illness: Creating a new paradigm for recidivism reduction. *Law & Human Behavior*. 2011; 35:110–126. [PubMed: 20390443]
- Substance Abuse and Mental Health Services Administration. Results from the 2010 National Survey on Drug Use and Health: Mental Health Findings. Rockville, MD: Author; 2012. (HHS Publication No. SMA-11-4667)
- Uggen C. Work as a turning point in the life course of criminals: A duration model of age, employment, and recidivism. *American Sociological Review*. 2000; 65:529–546. <http://dx.doi.org/10.2307/2657381>.
- Vander Stoep A, Beresford SA, Weiss NS, McKnight B, Cauce AM, Cohen P. Community-based study of the transition to adulthood for adolescents with psychiatric disorder. *American Journal of Epidemiology*. 2000; 152:352–362. <http://dx.doi.org/10.1093/aje/152.4.35>. [PubMed: 10968380]

Figure 1.
Multisystemic Therapy for Emerging Adults (MST-EA) Analytical Process.

SUPPORT AND RISK CODES	
S – Safety Support	S – Safety Risk
I – Instrumental	CF – Conflicts, fights
E – Emotional	SU – Substance use
A – Appraisal	CR – Criminal acts
IF – Information	G – Guns, weapons

Figure 2.
 Lareesa's Social Network Map.

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Table 1**Multisystemic Therapy for Emerging Adults Treatment Principles**

1	<i>FINDING THE FIT</i>	The primary purpose of assessment is to understand the “fit” between the identified problems and their broader systemic context.
2	<i>POSITIVE AND STRENGTH FOCUSED</i>	Therapeutic contacts emphasize the positive and use systemic strengths as levers for change.
3	<i>INCREASING RESPONSIBILITY</i>	Interventions are designed to promote responsible behavior and decrease irresponsible behavior of the emerging adult and key participants in the social network.
4	<i>PRESENT-FOCUSED, ACTION-ORIENTED, AND WELL-DEFINED</i>	Interventions are present-focused and action-oriented, targeting specific and well-defined problems.
5	<i>TARGETING SEQUENCES</i>	Interventions target sequences of behavior within or between multiple systems that maintain the identified problems.
6	<i>DEVELOPMENTALLY APPROPRIATE</i>	Interventions are developmentally appropriate and fit the developmental needs of the emerging adult.
7	<i>CONTINUOUS EFFORT</i>	Interventions are designed to require daily or weekly effort by the emerging adult and social network.
8	<i>EVALUATION AND ACCOUNTABILITY</i>	Intervention effectiveness is evaluated continuously from multiple perspectives with providers assuming accountability for overcoming barriers to successful outcomes.
9	<i>GENERALIZATION</i>	Interventions are designed to promote treatment generalization and long-term maintenance of therapeutic change by empowering the emerging adult and social network to address the emerging adult’s needs across multiple systemic contexts.

Table 2**Lareesa's Systemic Strengths and Struggles**

System	Strengths	Struggles
Individual	<ul style="list-style-type: none"> • Good interpersonal skills • Quick to help others • No known health problems • No current suicidal ideation • Has had two previous jobs as a hotel maid 	<ul style="list-style-type: none"> • History of marijuana and cocaine use • Boyfriend is a known drug dealer • History of Major Depression • History of suicide attempts • Becomes verbally aggressive when frustrated • Has not completed high school or GED • Currently unemployed • Withdraws socially when depressed
Family	<ul style="list-style-type: none"> • Currently lives with 22 y/o sister, and sister wants Lareesa to have a job and pay rent • Aunt and cousins live nearby; they have no known history of substance use or criminal behavior (model noncriminal behavior) • Aunt provides Lareesa with encouragement in looking for employment • Sister and aunt (sometimes) provide money • Aunt and sister model good coping skills and problem- solving abilities 	<ul style="list-style-type: none"> • Sister invites friends to the home several times a month to use drugs and alcohol; Lareesa is allowed to "hang out" and get high during these gatherings • Sister has threatened to kick Lareesa out if she doesn't get a job or if she sees her boyfriend • Sister has difficulty describing her own coping and problem-solving skills
Partner (Boyfriend)	<ul style="list-style-type: none"> • Has provided housing for Lareesa, especially when Lareesa and her sister have gotten into fights 	<ul style="list-style-type: none"> • Was recently arrested for cocaine trafficking; numerous prior arrests for assault and weapon possession • Uses alcohol irresponsibly • Expects Lareesa to sell drugs to "earn her keep" • Poor coping/anger management skills
Peers	<ul style="list-style-type: none"> • Older sister's friends occasionally give Lareesa food and other resources (e.g., makeup, clothing) 	<ul style="list-style-type: none"> • Older sister's friends provide Lareesa with illicit drugs • Few friends aside from sister's friends • Lack of prosocial peers and activities
Work/School	<ul style="list-style-type: none"> • Interest in earning a GED and becoming a cosmetologist • Tech school is nearby and Lareesa knows how to get there by bus • Lareesa and sister regularly use bus; sometimes aunt provides rides 	<ul style="list-style-type: none"> • Sister and Lareesa do not have transportation
Community	<ul style="list-style-type: none"> • Currently on probation • Apartment is in relatively low-crime neighborhood 	<ul style="list-style-type: none"> • No recreational facilities nearby • Alcohol and drugs easily available