Unlocking Doors: Multisystemic Therapy for Connecticut's High-Risk Children & Youth

An Effective Home-Based Alternative Treatment

Prepared by:
The Connecticut Center for Effective Practice of the
Child Health and Development Institute of Connecticut, Inc.

Funded by:
The Connecticut Department of Children and Families
The Connecticut Health Foundation

Unlocking Doors: Multisystemic Therapy for Connecticut's High-Risk Children & Youth

An Effective Home-Based Alternative Treatment

Prepared by: The Connecticut Center for Effective Practice (CCEP)
of the Child Health and Development Institute of Connecticut (CHDI)

Robert P. Franks, Ph.D.
Principal Investigator

Jennifer A. Schroeder, Ph.D.
Co-Investigator and Project Director

The Consultation Center (TCC), Yale University School of Medicine

Christian M. Connell, Ph.D.
Co-Investigator

Jacob K. Tebes, Ph.D.
Co-Investigator

The Connecticut Center for Effective Practice (CCEP) is directed by Robert P. Franks, Ph.D., under the auspices of the Child Health and Development Institute of Connecticut (CHDI), in partnership with the Connecticut Department of Children and Families, the Court Support Services Division of the Judicial Branch, the University of Connecticut Health Center, the Yale Child Study Center, The Yale Consultation Center and FAVOR, with core funding from the Connecticut Health Foundation, the Connecticut Department of Children and Families, and the Children's Fund of Connecticut.

This publication was developed with the support of the Connecticut Health Foundation, the Connecticut Department of Children and Families, and the Children's Fund of Connecticut.

ACKNOWLEDGEMENTS

The authors would like to thank the following organizations and individuals for their important contributions and support during the completion of this evaluation.

Connecticut Department of Children and Families (DCF)

Peter Panzarella, M.A., M.S., Director of Substance Abuse Services
Bert Plant, Ph.D., Director of Behavioral Health Programs and Services
Janet Williams, M.D., Medical Director

Court Support Services Division (CSSD)

Steve Grant, MA, CAGS, Director of Family Services
Julie Revaz, MSW, Program Manager, Center for Best Practices
Brian Hill, MS, Manager, Center for Program Analysis, Research, and Quality Improvement
Peter Kochol, MA, Program Manager, Center for Program Analysis, Research, and Quality Improvement

Advanced Behavioral Health, Inc. (ABH)

Samuel Moy, Ph.D., President & CEO
Michael Williams, LMFT, MST Program Manager

The Consultation Center (TCC), Yale University School of Medicine

Karol Katz, M.S., Programmer Analyst, Department of Psychiatry, Yale University School of Medicine

Disclaimer: The results of this independent evaluation conducted by CCEP do not reflect the positions of the Connecticut Department of Children and Families or the Judicial Branch Court Support Services Division.

TABLE OF CONTENTS

List of Tables

List of Figures

Multisystemic Therapy (MST) is an in-home evidence-based practice developed for high-risk children and youth with substance abuse and behavioral problems.

Over ten years ago, the State of Connecticut began examining the behavioral health and juvenile justice services it provides to children and youth. In the late 1990's a Legislative Program Review and a Report on Financing and Delivering Children's Mental Health Services were conducted. These reports found that the majority of resources (as high as 70%) devoted to the mental health and juvenile justice needs of children, youth, and families in the state were being allocated to the highest-risk children and youth with the highest level of need. Many of these resources were being used to support both in-state and out-of-state residential placements for children and youth, that in some instances could result in children and youth living away from their families and communities for years.

Also in the late 1990's, several innovative leaders at the Department of Children and Families (DCF) began examining emerging best and "evidence-based" practices conducted across the nation to treat high-risk children and youth. Evidence-based practices are treatments that have been demonstrated by research to be effective with children and youth presenting with specific difficulties. These treatments typically are manualized, have clear training and dissemination strategies, and include components that monitor the treatment for quality and treatment fidelity. Evidence-based practices were emerging as alternatives to "business as usual" in behavioral health and juvenile justice practices that included a range of treatments, which in some instances were proving to be ineffective, costly and difficult to monitor.

Multisystemic Therapy (MST) is an in-home evidence-based practice developed for high-risk children and youth with substance abuse and behavioral problems. It was identified by DCF as a potential alternative to costly treatments with limited effectiveness that removed children and youth from their homes and communities. The impetus for DCF adopting MST first came from the Connecticut Alcohol and Drug Policy Council on Juvenile Justice, which cited the importance of effective programs for this population of children and youth. As a result, the Office of Policy and Management granted funds to DCF for the first MST pilot program. The first MST team was implemented in 1999 and its outcomes were monitored closely.

The early indicators suggested that this treatment was indeed effective with children and youth with substance abuse and behavioral disorders in Connecticut and as a result, there was an increasing interest in disseminating MST more widely.

A series of other legislative and policy activities led to the cultivation of a "fertile ground" for the dissemination of MST across the state. Following a more gradual expansion of MST services by DCF, the Court Support Services Division of the Judicial Branch (CSSD) began to explore MST as a possible alternative to treating high-risk children and youth in the judicial system. In 2002, CSSD developed a Center for Best Practices and services for children and youth involved in the juvenile justice system were rapidly shifted to more proven, evidence-based approaches to treatment. Following the creation of the Center for Best Practices at CSSD, the Connecticut Policy and Economic Council (CPEC) released a report in 2002 indicating that many of the juvenile justice services being delivered to high-risk children and youth were ineffective. From 1999 to 2006 the number of MST teams in Connecticut grew from two to twenty-seven. MST teams today serve approximately one thousand of the highest risk children and youth annually in the State of Connecticut. Many of these children and youth had historically been placed out of their homes in residential or detention settings. This is an important shift in practice given that recent research has demonstrated that intensive in-home services produce better long-term outcomes for high-risk children and youth than residential treatment. For example, children and youth receiving intensive in-home services are more likely to remain with their families, have stable long-term placements, improve school performance, and lower rates of recidivism up to one year after discharge [1]. This statewide implementation of MST is one of the largest-scale disseminations of in-home treatments in the nation. The State of Connecticut demonstrated an unprecedented commitment to providing and sustaining an evidence-based practice to its neediest children and youth.

Seven years after the first implementation of MST, the Connecticut Center for Effective Practice embarked on a major study to examine both

the outcomes of this intervention and to better understand the process of implementing this practice on such a large scale. This report details the results of the study and helps to answer the questions: "How is MST working?" and, "Is this treatment effective for Connecticut's highest risk children and youth?"

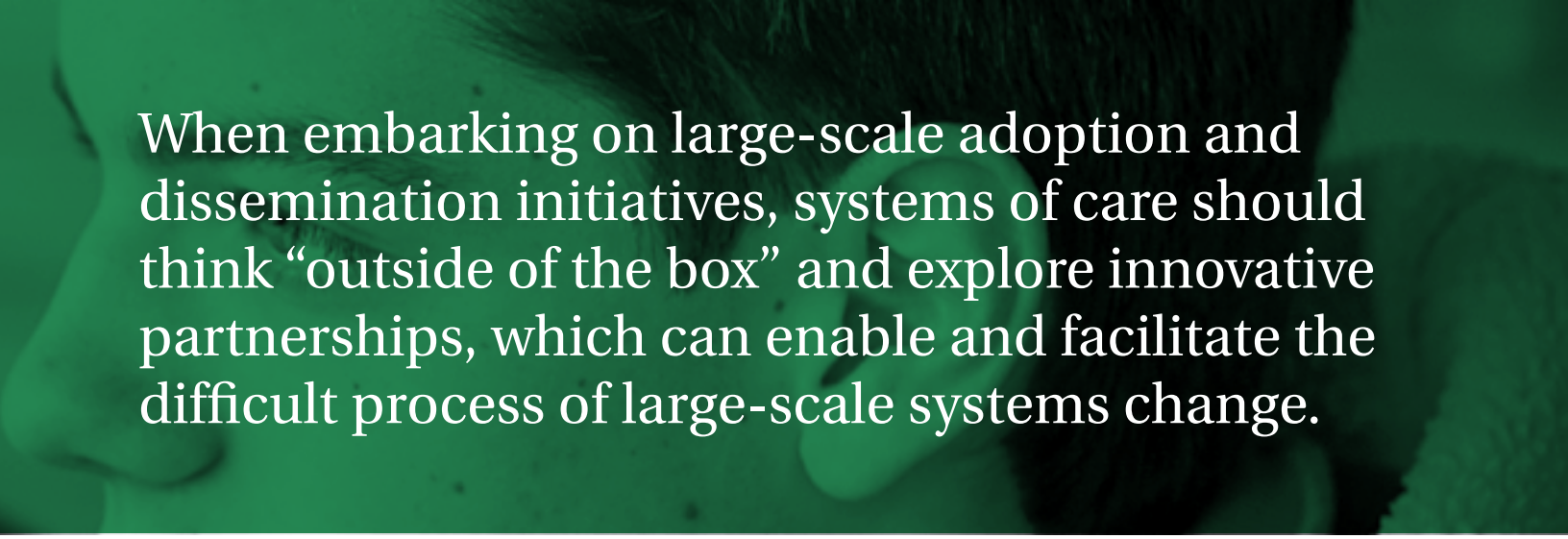
History of the Connecticut Center for Effective Practice

The Connecticut Center for Effective Practice, a division of the Child Health and Development Institute, was formed in 2001 as an innovative partnership among key stakeholders in Connecticut. Partners now include the Connecticut Department of Children and Families (DCF), the Court Support Services Division of the Judicial Branch (CSSD), the University of Connecticut Health Center Department of Psychiatry, the Yale Child Study Center, the Consultation Center at Yale University and FAVOR, a statewide parent advocacy organization. When the Center was first formed, the initial strategic priority was working closely with DCF and CSSD to conduct a statewide implementation of MST. The MST teams that CCEP successfully established have been integrated into the state's juvenile justice service continuum, including early diversion, detention alternative, delinquency placement, and community aftercare. Following its initial collaboration with state agencies and MST services to implement MST, CCEP transferred the system supervision and quality assurance responsibilities to Advanced Behavioral Health (ABH). For the past three years, with funding from the Connecticut Health Foundation, CCEP has been working with state agencies to develop this evaluation to explore the implementation and outcomes of MST in the State of Connecticut.

CCEP is a rare example of state agencies, leading academic centers and independent institutions working together to promote the adoption of evidence-based practices for children and youth with behavioral health and juvenile justice needs. In exploring the early adoption and implementation of MST in Connecticut, many of the stakeholders discussed the CCEP partnership as an essential vehicle to successfully move MST from research to practice in the state. Thus, an early lesson learned from this evaluation is that when embarking on large-scale adoption and dissemination initiatives, systems of care should think "outside of the box" and explore innovative partnerships, which can enable and facilitate the difficult process of large-scale systems change.

Description of MST

MST is an intensive family- and home-based treatment designed for juvenile offenders and delinquent children and youth at risk for out-of-home placement, as well as those experiencing substance abuse and mental health difficulties [2]. The treatment is modeled on theories of family systems and social ecology, placing both the causes of and solutions to delinquent behavior within the context of the children or youth's home and community environment [3]. MST also incorporates evidence-based treatments, such as cognitive-behavioral therapies and parent



When embarking on large-scale adoption and dissemination initiatives, systems of care should think "outside of the box" and explore innovative partnerships, which can enable and facilitate the difficult process of large-scale systems change.

training, within the context of family- and home-based treatment as opposed to the traditional weekly clinic-based outpatient model of delivery [4].

MST services are provided to one identified child or youth and his or her family in their home for an average of 5 months from enrollment to discharge. During this time, the child or youth and his or her family works with an MST therapist to identify goals for improved functioning in multiple domains, including self, peer, family, school, and community. Therapists meet with families 2-3 times per week, depending on the needs of the family, and are on-call 24 hours a day in order to respond when families are in crisis or when parents are having special difficulties with parenting and communication strategies emphasized by the program.

Research on MST's Effectiveness

The original research team that developed MST has conducted much of the research evaluating the intervention's effectiveness on the reduction of recidivism* and other problem behaviors. These studies have demonstrated that children and youth who participate in MST have reduced recidivism rates as compared to children and youth who receive treatment as usual or individual outpatient therapy [5-14].

***Recidivism refers to repeat offenses and is defined in multiple ways in the research literature. It can refer to charges or convictions as well as different types of offenses, such as violations, misdemeanors, and felonies. It is important to consider the type of recidivism presented before comparing study results, as will be discussed further in this report.**

Although much research conducted by the program developers has indicated that MST is effective in reducing recidivism, in terms of child and youth arrests, convictions, and incarcerations [7, 15], independent reviews of MST effectiveness have shown that only about half of the studies demonstrated significant reductions in recidivism [16, 17]. However, in Connecticut, two studies of children and youth receiving MST services have shown positive outcomes for specific sites. In 2001, an evaluation of MST services commissioned by DCF found that children and youth receiving MST services were less likely to offend than a comparison group of children and youth leaving the juvenile justice system who did not receive MST [18]. Similar findings were reported in 2004 based on a study of 168 children and youth who received MST services from the North American Family Institute (NAFI) in Connecticut when compared with children and youth who were referred but did not receive MST services [19]. Thus, both in national and local research studies, MST appeared to be an effective intervention for children and youth with behavioral problems in the juvenile justice system.

The Cost of MST Compared to Other Interventions

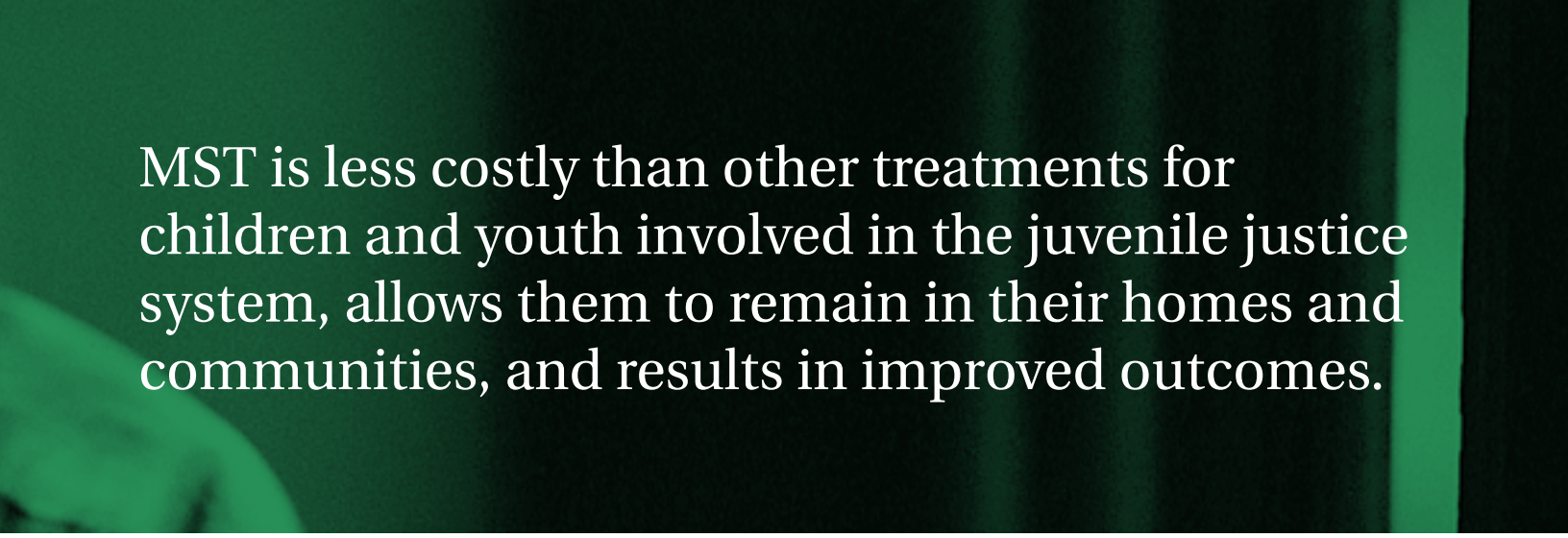
For most families, MST provides five months of intensive, in-home service and costs approximately $9,000 per family. MST is less costly than other treatments for children and youth involved in the juvenile justice system, allows them to remain in their homes and communities, and results in improved outcomes. The average cost of residential treatment for juvenile justice-involved children and youth, for example, costs about $68,000 per year, exclusive of educational costs, over approximately 10 months of treatment.

In 2001, the Washington State Institute for Public Policy completed a comprehensive analysis of the costs and benefits of programs designed to reduce crime and found that MST saved taxpayers from $31,000 - $131,900 per child or youth and also significantly reduced crime [20]. Furthermore, in the 2002 CPEC study, a cost analysis of juvenile justice programs in Connecticut estimated that a 1% reduction in misdemeanors or felonies committed by children and youth would result in approximately $8,800,000 in annual savings to taxpayers in terms of victim and judicial system costs (in 2000 dollars not adjusted for inflation) [21]. This study also concluded that a 7% reduction in this type of recidivism would pay for all residential and post-adjudicatory services that children and youth receive in the state. Although the present study did not directly examine cost-effectiveness, the results are highly promising since MST was found to result in marked reductions in recidivism over time and yielded positive outcomes for children and youth and their families. Thus, MST not only helps reduce rates of recidivism in Connecticut while enabling children and youth to remain with their families in their communities, it may also save taxpayer dollars.

Research on Large-Scale Implementation

Despite the recognized importance of large-scale implementation of evidence-based mental health practices (EBPs), few studies have examined the process of implementing such evidence-based models on a statewide basis. There is an extensive and growing literature on "technology transfer" that looks at what it takes to move an EBP from the laboratory to the field, particularly in the substance abuse field. However, most of the previous work in this area has studied the experience of a single agency or organization in adapting a new treatment technology and has focused on the organizational variables that facilitate or impede implementation [22-26]. The processes involved in large-scale implementation of an EBP on a statewide basis are largely unexplored. Further, past research on technology transfer has focused primarily on adult services. There are few, if any, studies of this process with EBPs in the children and youth's mental health field.

A guiding framework used in this research study for understanding implementation is the comprehensive review developed by Dean Fixsen and colleagues from the University of South Florida [27]. These



MST is less costly than other treatments for children and youth involved in the juvenile justice system, allows them to remain in their homes and communities, and results in improved outcomes.

authors identified six stages of implementation that were common across a variety of fields, including exploration and adoption, program installation, initial implementation, full operation, innovation, and sustainability. Each stage emphasizes a different aspect of a program implementation within a system of care, and the extent to which organizations, systems, and various stakeholders must adapt to the implementation of a new program if it is to be successful. This review also identified key components for program implementation that include program evaluation, staff evaluation, consultation and coaching, pre-service and in-service training, clinician selection, systems intervention, and facilitative administrative supports [27].

Fixsen's framework provided the basis for developing categories of questions included in the interviews. For the key informant and focus group interviews with providers, state agency leaders, and judicial staff, responses to five categories of questions were developed: 1) MST adoption, 2) training, 3) service delivery, 4) implementation, and 5) program outcomes. For interviews with family members, questions were focused on a slightly different set of categories, including: 1) referral, 2) child, youth and family perspectives on MST services, 3) changes in child, youth and family functioning attributed to the program, 4) positive aspects of the program, and 5) suggestions for program improvement. Copies of both interview protocols are available in an expanded technical report that includes a more detailed description of evaluation methods and results.[i]

Description and Goals of the Evaluation

Research Questions:
Three primary research questions guided this evaluation:

(1) What major factors contributed to the adoption of MST in Connecticut, and what issues or concerns were identified with respect to implementation of MST within the state?

(2) What have been the primary outcomes for children, youth and families receiving MST services in terms of therapist ratings of family and child or youth functioning and official indicators of recidivism and out-of-home placement?

(3) What was learned about the implementation of MST from the perspective of the various stakeholders, including family members, the court, probation officers, therapists, service providers, and state agency leadership?

A combination of research methods that included interviews with various MST stakeholders, such as service providers, judicial staff, family members, and state agency leaders as well as the compilation of multiple data outcome measures of child and youth functioning and recidivism during and after their involvement in MST was used to answer these three evaluation questions.

[i] The full technical report can be obtained by contacting CCEP or visiting www.chdi.org/resources_download

Two Kinds of Research Methods

Quantitative Methods

Quantitative methods refer to data collection and analytical procedures that quantify study outcomes into numerical results (data) that can be analyzed statistically. Examples of quantitative methods include determining the average age of children and youth in the sample, measuring survey ratings of child and youth functioning, and determining the percentage of children and youth who recidivate after discharge from treatment. The main objective of the quantitative portion of the study was to: (1) document characteristics of children and youth served by the MST program, with respect to demographic, clinical, and juvenile justice involvement histories, (2) assess family ratings of therapist fidelity to the MST treatment model, (3) summarize MST outcomes with respect to therapist ratings of family, child, and youth functioning at program discharge, and (4) summarize official recidivism and placement outcomes across juvenile and adult court systems during MST involvement and following program discharge. Within each of these focal areas, an additional goal was to identify factors associated with positive outcomes.

Qualitative Methods

Qualitative methods refer to the collection of process-oriented information and feedback from individual or group participants on topics that relate to the research questions. Participants are asked open-ended questions to obtain their perspectives on a topic, such as the effectiveness of treatment, and then this feedback is analyzed for themes across multiple participants. The main objective of the qualitative study was to get feedback from all the major stakeholders involved in the implementation of MST. Data were obtained through 33 audiotaped key informant and focus group interviews that were transcribed and coded for analysis. Potential interview participants were identified through a series of discussions with state agency leadership involved in the implementation of MST and the evaluation research team. Overall, a total of 96 individuals participated either in a key informant or focus group interview.

MST Outcome Indicators

This research examined several data sources to explore the outcomes of 1,850 cases (1,793 children and youth) of MST services over a three-year period. The data included client- and case-level information, as well as recidivism data (i.e., court contact and adjudication outcomes in the juvenile and adult corrections systems). Outcome data were obtained from four primary sources, described as follows:

(1) **The MST Institute (MSTI) is an organization based in South Carolina that was created by the developers of MST to monitor the licensing and quality assurance of MST network partners. MSTI maintains data collected for children and youth receiving MST through both DCF and CSSD.**

- DCF was the first state agency to initiate data collection through MSTI and used the basic MSTI database during the study time frame to capture critical case information and outcome data.[ii]
- CSSD uses an enhanced MSTI database to capture additional client-level information (e.g., demographic data, juvenile risk scores, juvenile record ID code) as well as therapist information (e.g., demographic data, length of employment).

(2) **The Behavioral Health Data System (BHDS) supplemented the basic MSTI information for DCF only and includes both clinical and demographic data collected and entered by therapists at program discharge.**

- Advanced Behavioral Health, Inc. (ABH), a contracted quality assurance provider for DCF, maintains the BHDS data.

(3) **The Case Management and Information System (CMIS) maintained by CSSD was used to obtain arrest records and subsequent case dispositions for individuals under 16 years of age.**

(4) **Computerized Criminal History (CCH) records maintained by the Connecticut State Police were used to obtain arrest records and subsequent case dispositions for individuals 16 years of age or older.**

In order to analyze data from all four sources, variables from each needed to be combined into one dataset that linked together unique information for each child and youth in the sample. One of the challenges in combining multiple datasets is that they often do not contain a single unique identifier, such as a numerical ID (e.g., "12345"), for each child and youth that is represented in other datasets. Children and youth may have four unique identifiers across four datasets. This is often the case with datasets collected through different organizations and sometimes prohibits efficient evaluation of treatment or program outcomes. Through collaboration with MSTI, DCF, and CSSD, the evaluators were able to match cases across datasets in order to analyze data from multiple existing data sources. This process for ongoing data collection from the four datasets was established such that future evaluations will be able to more easily link child and youth information and create a more comprehensive review of the outcomes associated with children and youth who receive behavioral health services in Connecticut.

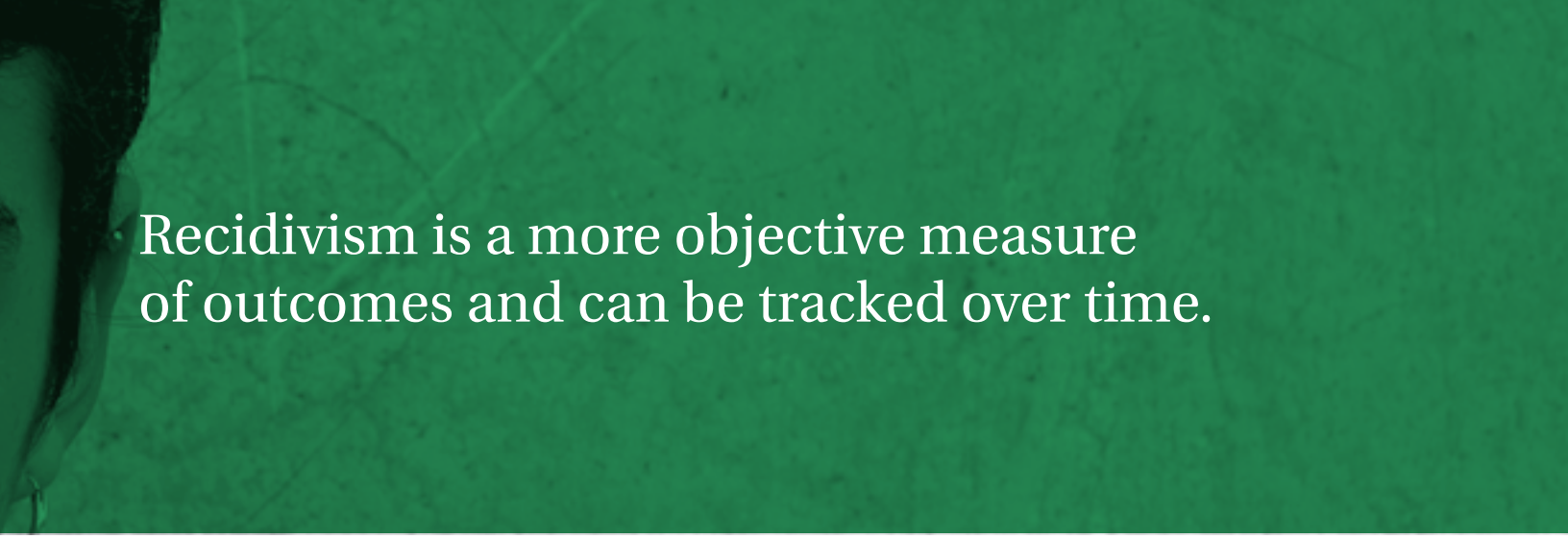
[ii] DCF has since adopted and is now utilizing the enhanced MST dataset

Evaluation Variables

Table 1 provides a summary of the data elements that were collected across the four data sources described below.

Table 1: Quantitative Evaluation Data Elements and Sources

Domain	Variables	Data Source
Child and Youth Characteristics	Age, gender, race/ethnicity, primary language, child and youth residence, DCF involvement, Juvenile Assessment Generic (JAG) Score (CSSD only)	MSTI, BHDS
	Income, special education, referral source, DCF status, probation/parole, mental health diagnoses and the Global Assessment of Functioning (GAF)	BHDS – DCF only
Child and Youth Offense History at Intake	Charge-level data on arrests and adjudicated offenses (pre MST period)	CMIS, CCH
Child and Youth Outcomes at Discharge	MST Case Review (completion/non-completion), Instrumental Outcomes, and Ultimate Outcomes	MSTI
	Discharge planning, discharge referrals	BHDS
Child and Youth Recidivism Outcomes	Charge-level data on arrests and adjudicated offenses (during MST and for up to 2 years post MST)	CMIS, CCH
Therapist Characteristics	Gender, race/ethnicity, length of employment (turnover)	MSTI – CSSD only
Program Fidelity	Therapist Adherence Measure (TAM), Supervisor Adherence Measure (SAM)	MSTI



Recidivism is a more objective measure of outcomes and can be tracked over time.

As previously discussed, most of the research on MST to date has been conducted through the MST Institute (MSTI), which has used therapist-rated child and youth outcome indicators to measure success of treatment upon discharge. These indicators included six "yes" or "no" questions on multisystemic areas of functioning such as school, peers, and family, and three "yes" or "no" questions on whether the child or youth was living at home, enrolled in school, or arrested at the time of discharge. The limitations of these outcome ratings are that they are only collected at discharge and are only rated by the therapist, though therapists are instructed to confer with other persons involved with the child or youth, such as parents, probation officers, and teachers, before making their ratings.

Recidivism as an Outcome Indicator

Recidivism is a more objective measure of outcomes and can be tracked over time, but the challenge with this indicator is that studies of juvenile delinquency outcomes often define recidivism differently. This varying definition of recidivism (e.g., type of offense, charges, convictions), makes it difficult to compare outcomes across studies. For this study, we report on recidivism both by the type of offense and whether or not the offense is based on arrest or conviction. State statute information collected from CMIS and CCH datasets was used to classify recidivism into the following four categories: Families with Service Needs (FWSN), status offense or violation of court order or probation, misdemeanor, or felony.

(1) FWSN refers to charges involving a family that includes a child or youth who has run away, is beyond control, has engaged in indecent or immoral conduct, is a truant or habitual truant or defiant of school rules, or is between the ages of 13 and 15 and has engaged in sexual intercourse.

(2) Status offenses include activities that are prohibited only to a certain class of people (i.e., minors) including underage consumption of alcohol or tobacco, truancy, running away from home. Such offenses were combined with minor infractions and violations of probation or court order in the present evaluation.

(3) A misdemeanor reflects a more serious class of offense punishable by imprisonment for not more than one year.[iii]

(4) Felony reflects the most serious class of offense punishable by imprisonment for over one year.

[iii] Misdemeanors and felony charges may also be classified according to severity of offense (class A, class B, and class C misdemeanors; capital, class A, class B, class C, and class D felonies) – these sub-categories were combined for purposes of comparing results with other study outcomes.

Males comprised two-thirds (66%) of MST cases, and the average age of children and youth served was 15 years old at the time of intake.

Who Received MST Services

Children and youth from agencies that actively provided MST Services from January 2003 through June 2006 were the subject of this study. There were 9 separate MST teams within DCF and 15 within CSSD that provided MST services to children and youth during the evaluation period. Each team consists of approximately 2-4 therapists, each of whom carry a caseload of about 4-6 families, resulting in a total of 12-30 children and youth being served by each team at any given time. Provider sites for MST teams for DCF and CSSD are based primarily in Fairfield, Hartford, and New Haven counties with additional sites based in more rural areas of the state, serving children and youth from all 169 towns and cities in Connecticut.

There were 1,850 cases identified for inclusion in the current study who received MST services in Connecticut from January 2003 through June 2006. DCF served 857 cases (833 children and youth), and CSSD served 993 cases (960 children and youth). The evaluation results will be presented primarily for the full sample, rather than by agency, to reflect the broader perspective on MST services and outcomes within the state and because when analyzed further these differences often were not statistically significant. As such, it would be inappropriate to make comparisons, and the report is not intended to make conclusions that one agency is producing better outcomes than another. Where differences were observed across agency providers, such instances are noted. In general, though, results were very consistent across the two agencies, despite differences in the speed and scope of statewide implementation.

Demographic Characteristics

Males comprised two-thirds (66%) of MST cases, and the average age of children and youth served was 15 years old at the time of intake. Additional information about subjects' age is provided in **Figure 1**. MST cases served by DCF providers were, on average, 6-months older at intake (15.3 years and 14.8 years, respectively) primarily because 30% of DCF cases were 16 years or older at intake compared to only 9% of CSSD cases.

Figure 1: Client Age at MST Intake

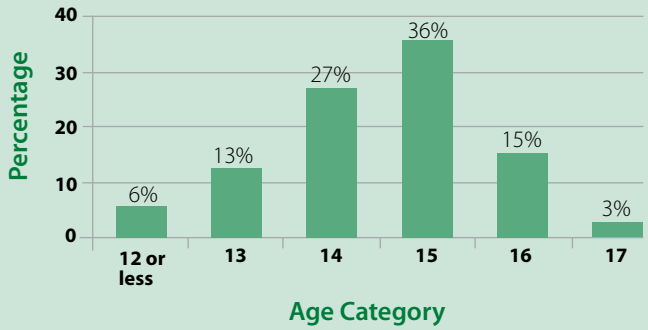


Figure 2: Client Race/Ethnicity

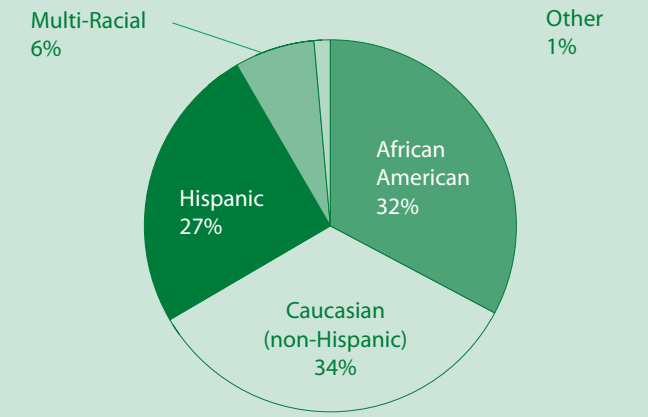


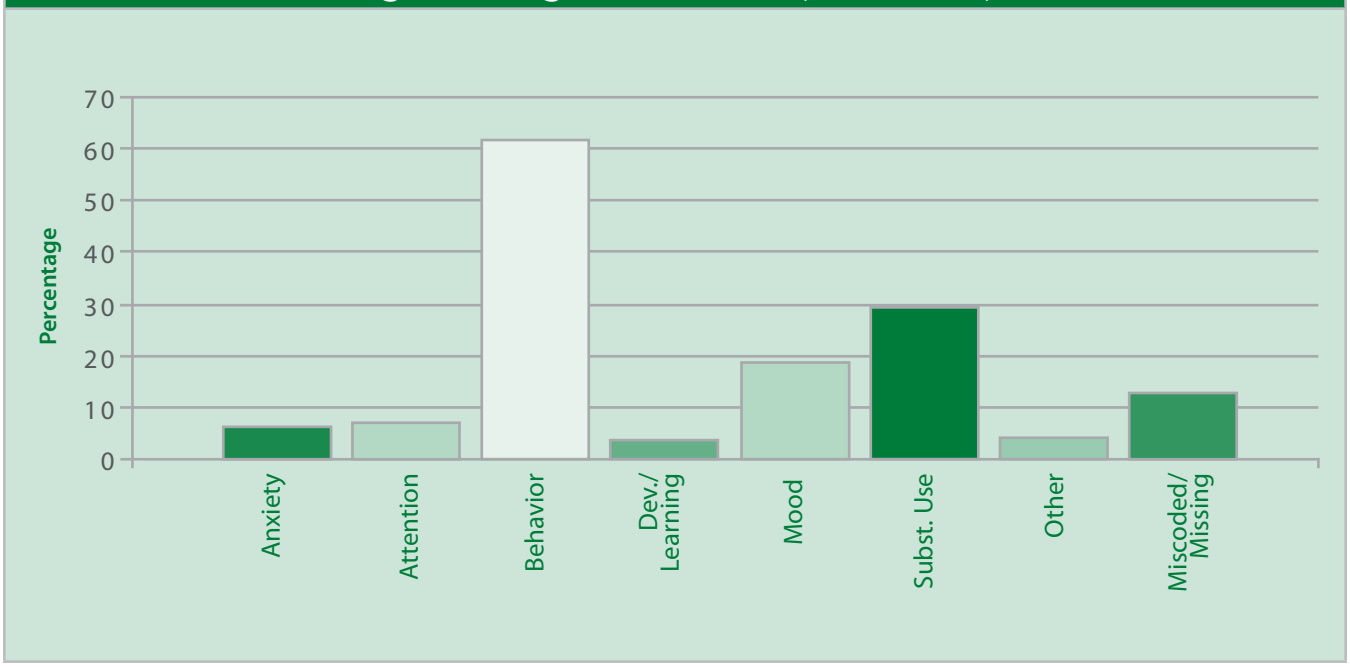
Figure 2 depicts information on race and ethnicity of children and youth served through MST. About one-third of children and youth were African American, another one-third were Caucasian (non-Hispanic), and just over one-quarter were Hispanic. Fewer children and youth served through DCF were Caucasian (non-Hispanic) (28% versus 37% for CSSD), and a higher percentage were African American (34% and 30%, respectively). Overall, nearly 10% of children and youth indicated that Spanish was their primary language, with English as the primary language for about 90% of children and youth served.

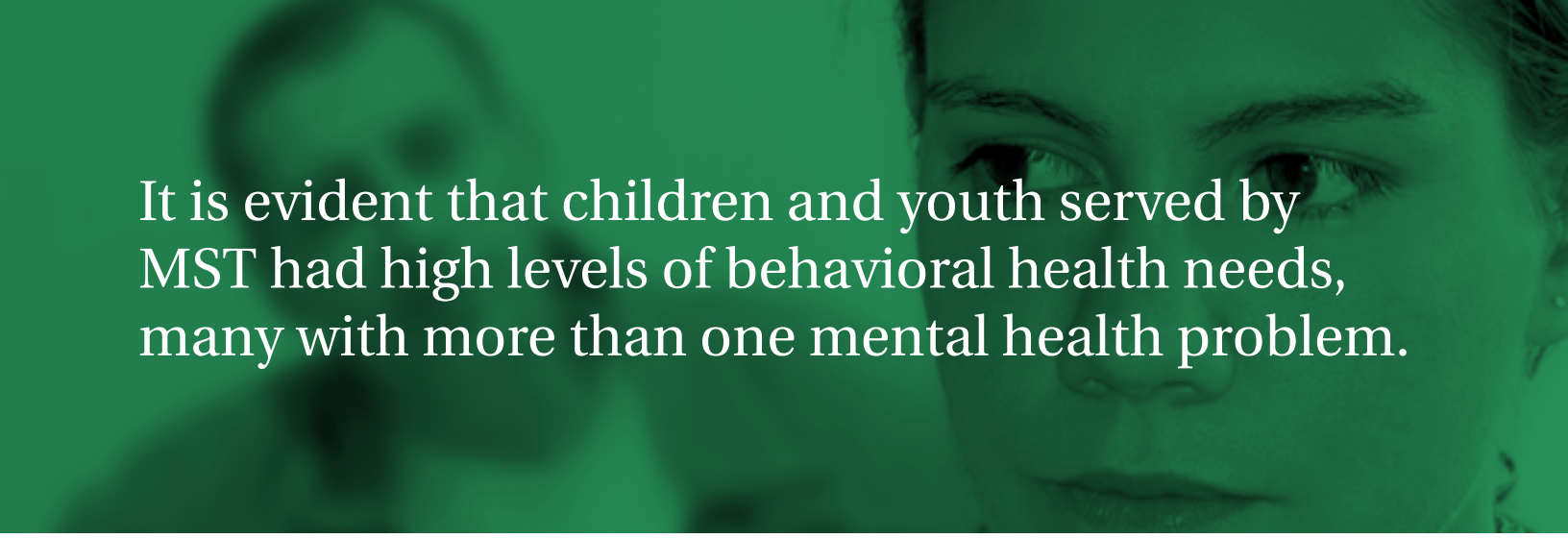
Descriptive Information About Children and Youth Served Through DCF

Additional descriptive information for 812 children and youth served by DCF providers was obtained from BHDS data. Over half (54%) were (TAN-F eligible), considered low-income, although this information was missing for 33% of cases so the actual rate may be higher. Thus, children and youth served by MST had significantly higher rates of poverty than the general population. Approximately 40% of children and youth were receiving special education services at intake. Over half of DCF-involved children and youth (58%) had a probation officer, and 35% had a parole officer – 7% of cases had neither probation nor parole involved, and less than 1% had both.

Mental health diagnostic information for DCF-involved children and youth is shown in **Figure 3**. About 40% of children and youth had diagnoses in two or more distinct diagnostic categories, meaning that children and youth served through DCF-funded MST providers exhibit a complex array of difficulties in functioning. A majority of these children and youth (62%) entered MST with a diagnosis of a behavior disorder (e.g., Conduct Disorder, Oppositional Defiant Disorder), just under one-third had a substance use disorder (29%), and about one-fifth had a mood disorder (e.g., Major Depression, Bipolar Disorder; 19%). Males were more likely to have a diagnosed behavior disorder than females (72% and 63%, respectively), and females were more likely to have a diagnosed mood disorder than males (26% and 15%, respectively). It is evident that children and youth served by MST had high levels of behavioral health needs, many with more than one mental health problem.

Figure 3: Diagnoses at Intake (DCF Clients)





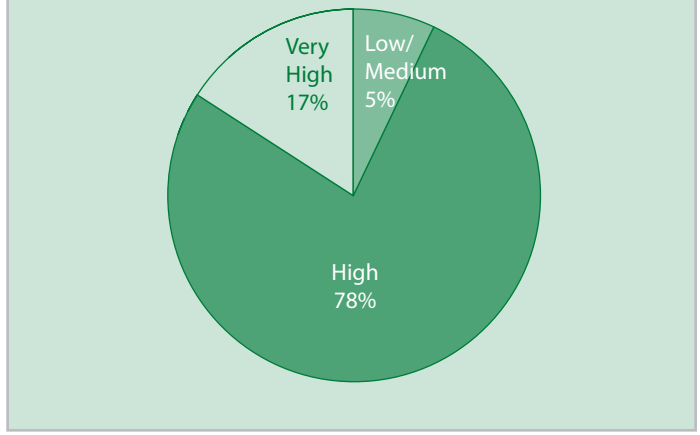
It is evident that children and youth served by MST had high levels of behavioral health needs, many with more than one mental health problem.

Descriptive Information About Children and Youth Served Through CSSD

Additional information for children and youth served by CSSD providers was obtained from the enhanced MSTI database. Nearly 80% of children and youth were residing at home at the time of intake, and DCF involvement was indicated for 27% of cases. Among CSSD cases, a risk score is calculated for children and youth in order to standardize risk when making a referral, known as the JAG (Juvenile Assessment Generic) score. Scores are classified into risk categories based upon the age of the child or youth. See **Figure 4** for the distribution of children and youth representation in risk categories at the time of referral to MST based on JAG scores.

Children and youth receiving MST services through CSSD usually fell into the High or Very High Risk categories, which indicate that MST has been provided to the neediest population within Connecticut's juvenile justice system. Historically, many of these children and youth receiving MST would have been in residential placements away from their homes and communities.

Figure 4: JAG Score Risk Categories (CSSD Clients)



Offense History at MST Admission

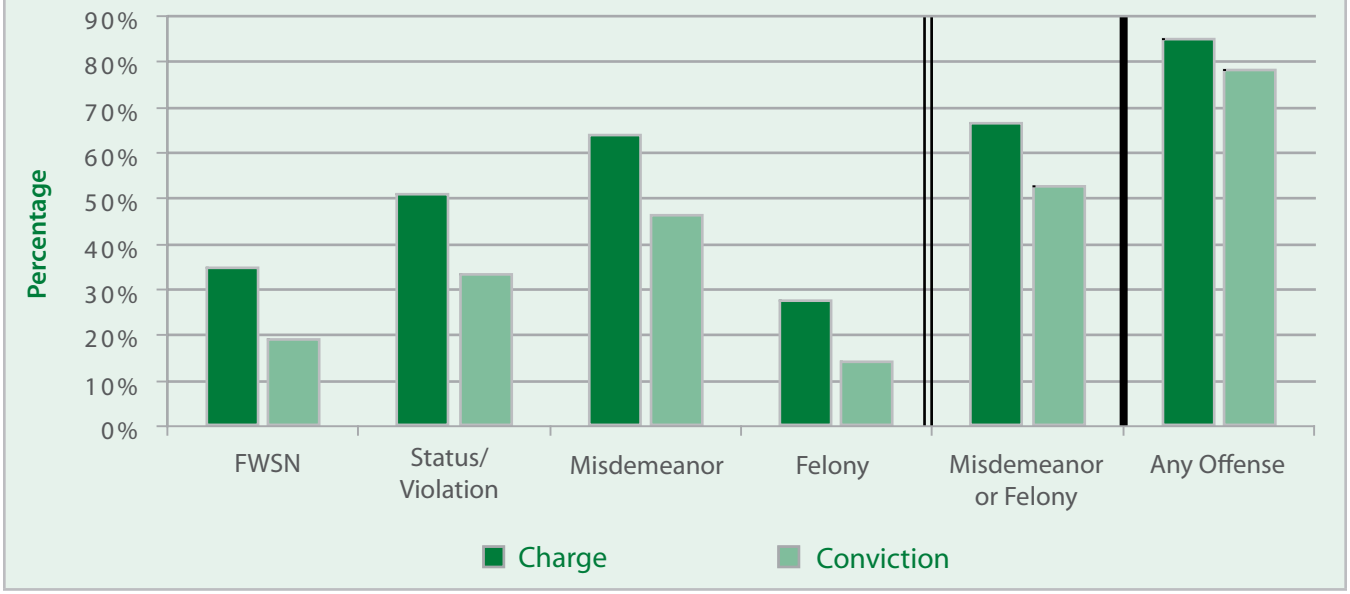
Rates of juvenile and adult court contact during the 12-months prior to MST admission also were examined. **Figure 5** shows the four different types of offense listed left to right as Families with Service Needs (FWSN) events, Status/Violation, Misdemeanor, and Felony with both charges and convictions presented. The two columns on the right side of the figure show recidivism rates for combined categories of offenses so that these outcomes may be more easily compared with common recidivism rates presented in the juvenile justice literature. The "Misdemeanor or Felony" category represents the percentage of children and youth who received at least one misdemeanor or felony offense, whereas the "Any Offense" category represents the percentage of children and youth who received at least one offense of any type. A child or youth may only be represented once in each of these categories, however, the categories are not mutually exclusive, meaning a child or youth may be represented in more than one category of offense. As shown in **Figure 5**, 83% of children and youth had been arrested and 78% had been convicted of an offense prior to enrolling in MST (see "Any Offense" category). In general, charges and conviction rates were highest for misdemeanors, status violations, and FWSN, but 28% of children and youth had been charged with a felony and 12% had been convicted of one. Children and youth served through CSSD were significantly more likely to have a history of charges or convictions during this period than were children and youth served through DCF.

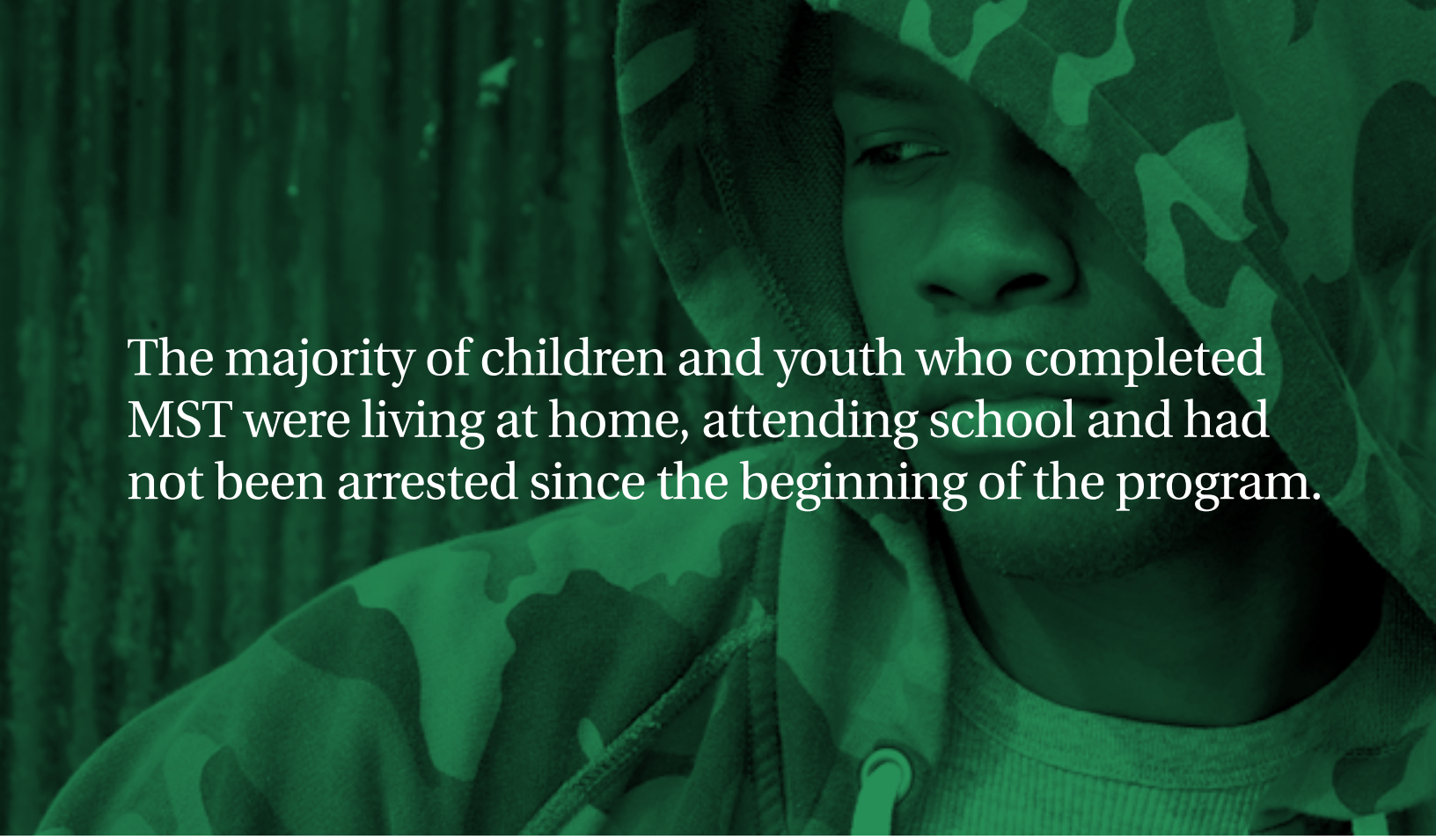
Program Fidelity

Family Ratings of Therapist Program Adherence

One of the key components of evidence-based practice is the ability to track quality assurance of the program to ensure that the practice or model is being implemented with fidelity and not deviating from its original design. Therapist fidelity to MST principles was assessed using the Therapist Adherence Measure (TAM; Henggeler & Bourduin, 1992). The TAM is a 26-item instrument designed to assess therapist adherence to nine core principles of MST. Scores range from 1 (not at all adherent) to 5 (very much adherent). The TAM is administered to caregivers on a monthly basis by trained phone interviewers not involved in the implementation of MST, resulting in about four completed TAMs per family.

Figure 5: 12-month Pre-MST Client Offense History - Any Charge or Conviction





The majority of children and youth who completed MST were living at home, attending school and had not been arrested since the beginning of the program.

Table 2 summarizes statewide ratings on the TAM by caregivers of children and youth served by either DCF or CSSD. On average, data was available for nearly nine cases per therapist. Across both state agency provider groups, average TAM ratings were consistently high (Average = 4.23), indicating that caregivers generally viewed therapists as quite adherent to the program. These results suggest that in Connecticut, MST is being implemented with high fidelity to the treatment model.

Therapist Ratings of Supervisor Program Adherence

Therapists also completed ratings of their supervisor's fidelity to the program model components in providing supervision using the Supervisor Adherence Measure (SAM). Sixteen supervisors received an average of 8.2 therapist ratings each and were rated as demonstrating high average performance on the domains of Adherence to Principles and Analytical Process and high performance on the domains of Structure and Process and Clinician Development, indicating that overall therapists rated their supervisors above average in all domains.

Table 2: Therapist Treatment Adherence Measure (TAM) Ratings

Variable	Overall
Number of Therapists	155
Number of Cases	1365
Average Number of Cases / Therapist	8.8
TAM Average	**4.23**

Program Outcomes

Completion Rates

Median length of stay in the MST program was approximately 4.2 months from admission to discharge. Length of stay differed significantly among program completers and non-completers with program completers averaging 4.8 months compared to only 2.8 months among non-completers.

Case review outcomes reflect rates of completion and reasons for non-completion among MST cases, and are reported by MST therapists at program discharge. This data was available for 1764 cases (771 DCF cases and 993 CSSD cases), and is summarized in **Table 3**. As is shown, 64% of children and youth completed the program; 17% were placed in another setting, 9.4% were removed for administrative reasons, 5.5% did not complete due to lack of engagement, and 2.3% moved during treatment resulting in non-completion. Overall, completion rates for DCF-involved children and youth were significantly lower than those served by CSSD (57.7% and 69.4%, respectively), in large part due to the higher rate of placement that occurred during MST for DCF cases as opposed to CSSD cases (21.5% and 13.4%, respectively). Other case review outcomes were comparable across the two agency provider groups.

Table 3: Therapist-Rated MST Client Case Review Outcomes

Case Progress Review	% of Youth
Completion	64.4%
Lack of engagement	5.5%
Placement during MST	17.0%
Placement, prior event	1.5%
MST administrative removal	4.0%
Funding/referral source administrative removal	5.4%
Moved	2.3%

One-half (50%) of those children and youth with a pre-MST placement were discharged from MST as a result of placement. It is not clear whether the pre-MST placements (indicated in the CMIS data) represent a prior placement or whether the placement ultimately resulted in non-completion. Docket filing dates (approximate arrest date) were used to classify pre-MST placements, so it is possible that some of these incidents were not adjudicated until after the child or youth entered MST.

One of the key components of evidence-based practice is the ability to track quality assurance of the program to ensure that the practice or model is being implemented with fidelity and not deviating from its original design.

Therapist Ratings of Instrumental Outcomes

Instrumental outcomes include six "yes" or "no" items that were developed by the MST Institute that capture whether or not children and youth have achieved skills that are "instrumental" in producing positive outcomes. Each item is rated by an MST therapist at program discharge and reflects changes or improvements in areas thought to be important to successful client functioning. Therapists are required to elicit feedback from a child or youth's family, school, and P.O. (if applicable) to generate these ratings and to have his or her direct clinical supervisor and MST systems supervisor verify that these ratings are accurate. Thus, although therapists generate these ratings, efforts are made to ensure that they are based on multiple points of reference within the child or youth's environment and verified by the quality assurance process. The six items and the percentage of children and youth achieving these outcomes are listed in **Table 4**.

Ratings of instrumental outcomes were highly inter-related. Therapists typically indicated that clients had met multiple instrumental outcomes. The primary factor associated with therapist ratings of instrumental outcomes was successful completion of the program as indicated above. Likewise, those children and youth who successfully completed the program were most likely to have been rated by therapists as having achieved instrumental outcomes. Although it is clear that completion rates have a significant effect on ratings of instrumental outcomes, it is important to recognize that both outcomes are rated simultaneously by therapists at program discharge.

Table 4: Therapist-Rated Instrumental Outcomes for Children and Youth

Item	% Achieving
Improvements in parenting skills	66.5%
Family relations	66.3%
Family social supports	68.9%
Youth educational/ vocational success	61.6%
Evidence of youth prosocial activities	57.8%
Sustained positive changes by the youth	59.9%

Therapist Ratings of Ultimate Outcomes

Ultimate outcomes are rated by MST therapists at program discharge in the same manner as described for instrumental outcomes and consist of three ratings that are also believed to be indicative of program success. These include whether the child or youth is currently living at home, attending school/vocational training/paying job or had not been arrested since beginning MST. It is important to note that therapist ratings of the percentage of children and youth not arrested since the beginning of treatment does not include probation or status violations not leading to arrest, based on the discharge criteria established for this item. Recidivism ratings presented later in the report include all charges filed based on CMIS and CCH judicial records and therefore may differ from the ultimate outcome data presented here. The three outcomes are listed in **Table 5** with the percentage of children and youth rated by their therapists as achieving each outcome at discharge. Once again, these outcomes are strongly related to rates of program completion. The majority of children and youth who completed MST were living at home, attending school and had not been arrested since the beginning of the program.

Recidivism Outcomes

Recidivism During and After Discharge from MST Services

As previously described, recidivism is reported in this evaluation using multiple types of offenses as well as both charges and convictions for children and youth. Just under 45% of children and youth had at least one charge while receiving MST services, and just over 25% were convicted during that time. Importantly, status violations (e.g., underage drinking or smoking, violations of curfew), represented the highest percentage of charges or convictions during MST (at 30% and 14%, respectively). In addition, felony charges and conviction rates during MST were 8% and 4%, respectively, and misdemeanor charges or convictions were 26% and 13%, respectively.

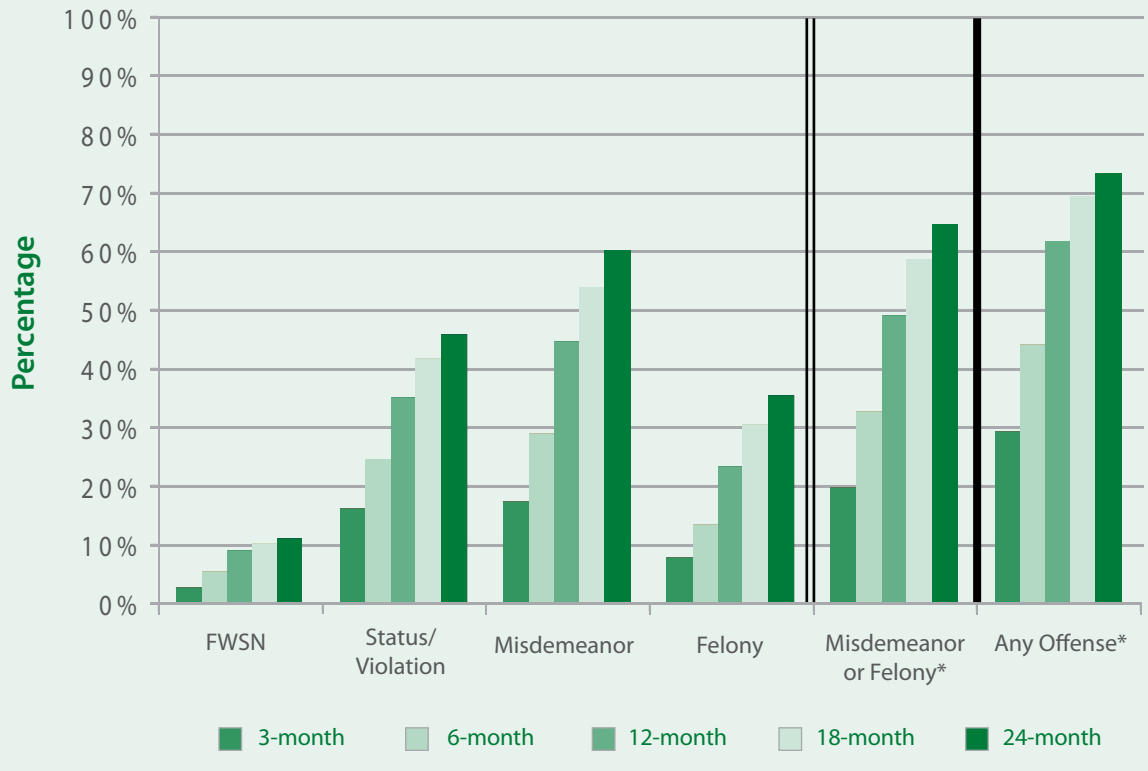
After discharge from MST, nearly 30% of children and youth experienced a charge within 3 months of discharge from the program, with 44% receiving a charge within 6 months, 61% within 12 months, 68% within 18 months, and 73% within 24 months of discharge (see **Figure 6**). Rates of conviction were significantly lower by about 30-50% (e.g., 16% at 3 months, 26% at 6 months, 39% at 12 months, 48% at 18 months, 52% at 24 months; see **Figure 7**). Rates of conviction for serious offenses such as a misdemeanor or felony were lower still (e.g., 10% at 3 months, 17% at 6 months, 29% at 12 months, 37% at 18 months, 42% at 24 months).

Table 5: Therapist-Rated Ultimate Outcomes for Children and Youth[iv]

Item	% Yes
Is the youth currently living at home?	74.1%
Is youth attending school, vocational training, or in a paying job?	76.8%
Youth has not been arrested since beginning MST for an offense during MST?	73.4%

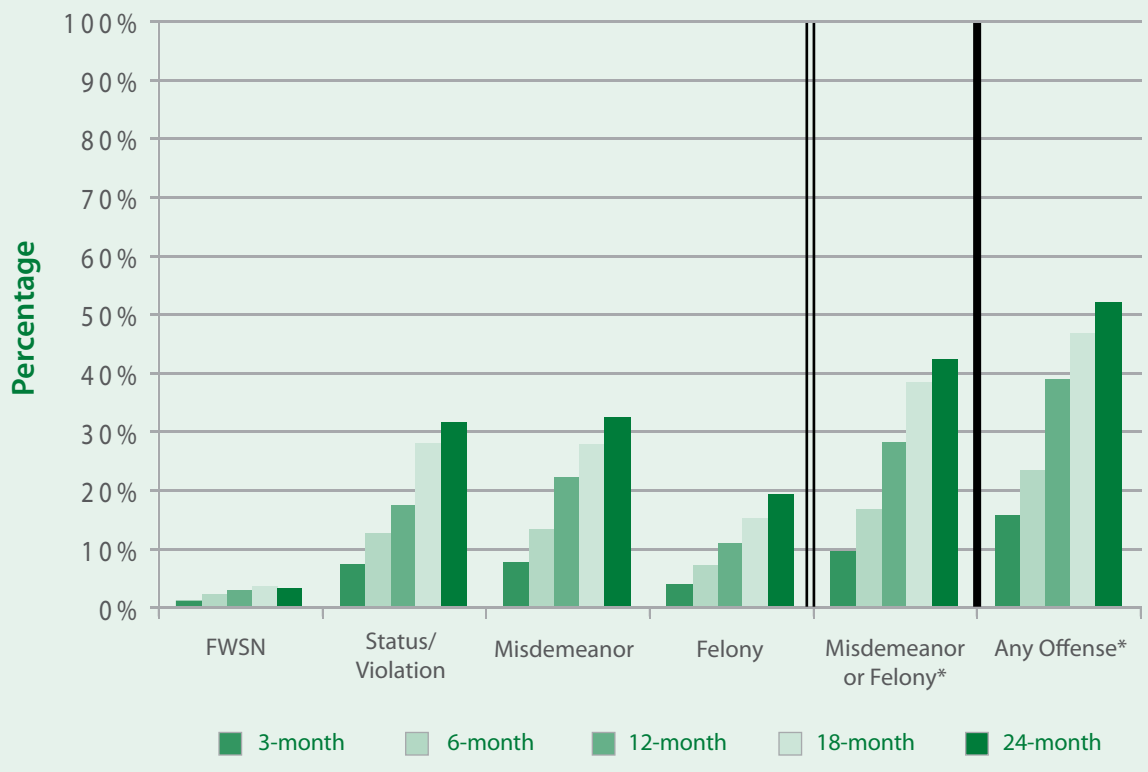
[iv] Table 5 does not include During-MST recidivism as this table was intended to show pre- and post-treatment recidivism only. Please see the full technical report at www.chdi.org for further details on During-MST recidivism.

Figure 6: Post-MST Client Recidivism (Charges)



* "Misdemeanor or Felony" and "Any Offense" categories represent combinations of multiple categories of offense. See section on "Offense History at MST Admission" for further explanation.

Figure 7: Post-MST Client Recidivism (Convictions)



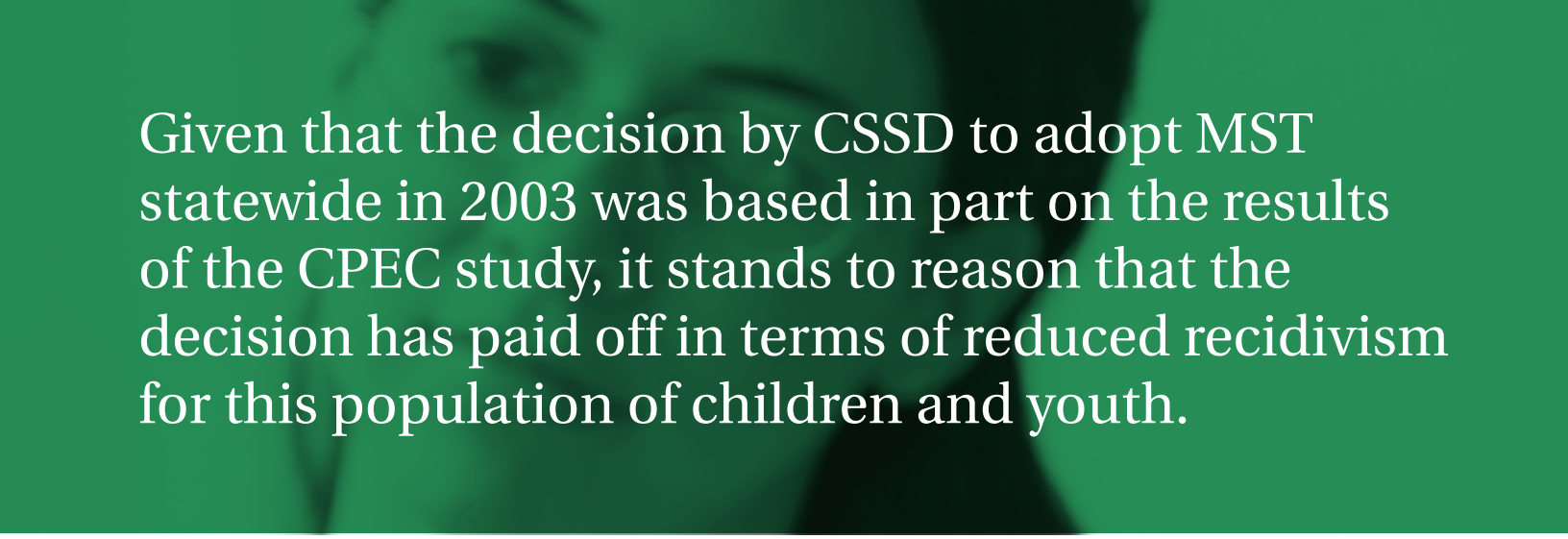
* "Misdemeanor or Felony" and "Any Offense" categories represent combinations of multiple categories of offense. See section on "Offense History at MST Admission" for further explanation.

Table 6: Changes in Recidivism Rates Over Time (Convictions)[v]				
	Pre-MST	Post-MST		
Time in Months	12 months	3 months	6 months	12 months
FWSN	19%	0.1%	2%	3%
Status/Violation	33%	8%	12%	18%
Misdemeanor	46%	7%	13%	22%
Felony	14%	4%	6%	11%
Felony or Misdemeanor	53%	10%	17%	29%
Any Offense	78%	16%	26%	39%

[v] Table 6 does not include During-MST recidivism as this table was intended to show pre- and post-treatment recidivism only. Please see the full technical report at www.chdi.org for further details on During-MST recidivism.

Table 7: Current Evaluation Recidivism Rate Comparisons to Other Studies[vi]							
	Felony or Misdemeanor			Any Offense			
Post-discharge (months)	6	12	18	6	12	18	24
MST Charge	32%	49%	58%	44%	61%	69%	73%
Previous studies – Charge							
Henggeler, 1993							61%
Miller, 1998[vii]	47%						
Timmons-Mitchell, 2006			13%[viii]			67%	
MST Conviction	17%	29%	37%	26%	39%	48%	52%
Previous studies – Conviction							
CPEC total sample	22%	36%	46%				
CPEC serious offenders	26%	41%	56%				
Miller, 2001	18%						
Cunningham, 2002				28%	44%		65%

[vi] Each comparison study defines recidivism somewhat differently. It is important to note the type of recidivism reported when comparing results.
[vii] Non-dismissed Felony or Misdemeanor charges only
[viii] Arraigned Felony charges only; see Figure 6 for current study comparison of 16%



Given that the decision by CSSD to adopt MST statewide in 2003 was based in part on the results of the CPEC study, it stands to reason that the decision has paid off in terms of reduced recidivism for this population of children and youth.

Changes in Recidivism Over Time

When post-MST rates of recidivism are compared with pre-MST rates for children and youth in this sample, there is a decrease in the rate of recidivism for all types of offenses listed. **Table 6** lists the rates of conviction for both pre- and post-MST recidivism data. As the table shows, the rate of decrease in recidivism from pre- to post-MST is 39% for any offense and 24% for felony or misdemeanor convictions.

Recidivism Comparisons to Other Studies

The outcome recidivism rates found in this evaluation compare very favorably with previous estimates in the research literature of re-convictions among children and youth with a prior juvenile justice system involvement. For example, in Connecticut, the CPEC Study [28] found that children and youth receiving juvenile justice services were convicted of misdemeanors or felonies at a rate of 46% at 18 months after discharge from services. This rate is higher than the 37% conviction rate found in the current evaluation and was based on a sample of children and youth that included first-time offenders receiving less intensive services such as outreach and tracking as well as more serious offenders receiving more intensive services such as residential placement. When the authors of this evaluation re-examined the CPEC findings to determine the rate of conviction for only serious or high-risk offenders, the rate increased to 56%, indicating a recidivism rate that is 19% higher than that found in the current study for conviction of the same type of offenses at 18 months post-discharge for a similar high-risk population. Given that the decision by CSSD to adopt MST statewide in 2003 was based in part on the results of the CPEC study, it stands to reason that the decision has paid off in terms of reduced recidivism for this population of children and youth.

Further, when recidivism rates from the current evaluation were compared to previous studies of MST effectiveness, both in-state and nationally, the rates were again found to be comparable when similar types of offense and arrest or conviction designations were used (see **Table 7**) [8, 18, 28, 29, 30, 31]. This is especially encouraging given that many of the previous studies were conducted in a highly monitored research setting with much smaller samples as compared to the community-based statewide sample used in the current evaluation with separate implementation processes from two state agencies and five provider agencies.

Placement Following Discharge from MST Services

Electronic records from CMIS and CCH datasets showed that approximately 13% of children and youth had any indication of a post-MST out-of-home placement.

Table 8: Factors Predicting Key MST Outcomes

MST Outcomes		Significantly Predicted by the Following Child and Youth Factors
TAM (fidelity) scores		
	Lower	Older children and youth
	Higher	African-American and Hispanic children and youth
Instrumental Outcomes – Therapist-Rated		
	Less Involvement in Prosocial Activities	African-American and Hispanic children and youth
	Lower Education/ Vocational Success	Older, African-American, and Hispanic children and youth
MST completion		
	Lower rate	Male and African-American children and youth and those with Pre-MST charges resulting in out-of-home placements during MST
Post-MST charges and convictions – Any Offense type		
	Lower rate	Older children and youth, those achieving all 6 instrumental outcomes, and those with Pre-MST charges resulting in out-of-home placements during MST
	Higher rate	Male, African-American and Hispanic children and youth and those with more severe Pre-MST convictions
Post-MST placement		
	Higher rate	Children and youth served by CSSD-funded MST providers and those with more severe Pre-MST convictions
	Lower rate	Children and youth with therapist-rated Educational or Vocational Success at discharge

This intervention currently has the best evidence for reducing recidivism for high-risk children and youth with behavioral problems.

Factors Affecting Program Fidelity, Therapist-Rated Outcomes, and Post-MST Recidivism

Additional analyses were completed to determine if demographic, therapist fidelity, or post-MST outcomes reported at discharge could predict program fidelity or post-MST outcomes. See **Table 8** for an overview of child and youth factors that predicted these outcomes.

Completers were also 58 times as likely to be rated by therapists as demonstrating sustained positive change, 30 times as likely to demonstrate improved family relations, 27 times as likely to demonstrate involvement in prosocial activities, 26 times as likely to demonstrate improved parenting skills, 18 times as likely to demonstrate improved family social supports, and 14 times as likely to demonstrate educational or vocational success. In addition, children and youth who achieved all six instrumental outcomes were significantly less likely to receive a charge or conviction than children and youth who did not achieve any (though no significant differences were found for children and youth with 1-5 instrumental outcomes achieved). Again, these results are not surprising given that successful completion of MST and ratings on instrumental outcomes were highly related.

Bottom Line: Is MST Working?

Results of this comprehensive evaluation strongly suggest that MST is indeed working to reduce recidivism and help some of Connecticut's most high-risk children and youth remain in their homes and communities. MST is not a "cure all" and children and youth who complete MST may still have difficulties over time. However, the rates of recidivism are significantly lower (as much as 15-20% for misdemeanors or felonies) than the business as usual interventions evaluated in the CPEC study. In addition, the results appear to be sustained over time, and the intervention is less costly than other interventions for high-risk children and youth, such as residential placement. It is important to view these results in the contexts of other local and national studies of children and youth with similar needs and risk. Compared to these studies, children and youth receiving MST services in Connecticut are doing as well or better than their counterparts. It is also important to break down recidivism, as has been done in this study, into its component parts to understand how children and youth are having continued contact with the juvenile justice system. High-risk children and youth who enter MST with severe behavioral difficulties and a history of felonies and misdemeanors and leave with sustained improvements in behavior, limited juvenile justice contact, or greatly reduced severity of contact (moving from felonies to violations of probation), must be seen as successful outcomes. Thus, we must move from seeing recidivism as a "yes/no" construct and instead look at a child or youth's functioning in a more holistic manner, recognizing improvements that they have made.

Thus, it does indeed appear that MST is working. This intervention currently has the best evidence for reducing recidivism for high-risk children and youth with behavioral problems.

Several stakeholders indicated that critical to the adoption of MST was the presence of "champions" at DCF who advocated for the program with critical state leaders, such as state agency leadership, agency directors, and families.

Qualitative Results: Stakeholder Perspectives on Program Implementation and Outcomes

The perspectives of various MST stakeholders were obtained through completion of the qualitative component of the evaluation. As noted earlier, stakeholders included family members, MST therapists and supervisors, judges and court personnel, probation officers, and state agency leadership. The perspectives of stakeholders on program implementation and outcomes provided essential information about how and why MST was adopted in Connecticut, how the implementation of the program changed over time, infrastructure and sustainability issues, the assessment and opinions about program outcomes, and important lessons learned.

Below is a summary of participants by type of interview modality.

Interview and focus group protocols were generated based on the stages and components of program implementation presented in Fixsen and colleagues (2005) meta-analysis of implementation research. The interview facilitators for the current study used this framework as a guide from which to elicit interview participants to "tell the story" of the implementation of MST in Connecticut from their unique and combined perspectives. The interviews were therefore designed to be open-ended, allowing participants to interject their own perspectives on the implementation of MST in Connecticut, regardless of whether or not it aligned with the protocol framework. Therefore, although there is overlap with the framework presented by Fixsen and colleagues used to design the protocol for the current evaluation, there are also elements of program implementation that may be unique to this investigation. Fixsen and colleagues report that this is likely to be the case with implementation processes in different organizations and with varying implementation strategies, since there are many factors that must operate synergistically and perhaps nonlinearly in order for effective implementation to occur.

Qualitative Evaluation Participants

Individual Interviews (N=17):

- State-level agency leadership and policy makers (N=9)
- Juvenile Court Judges (N=5)
- MST System Supervisors (N=3)

Focus Group Interviews (16 Groups; N=79):

- Juvenile Justice System Supervisors and Probation Officers (P.O.s) (4 Groups; N=21)
- MST Administrators and Supervisors (4 Groups; N=15)
- MST Therapists (5 Groups; N=31)
- Families who received MST services (2 Groups; N=12)

Early Adoption Issues

Several stakeholders indicated that critical to the adoption of MST was the presence of "champions" at DCF who advocated for the program with critical state leaders, such as state agency leadership, agency directors, and families. In addition, state agency leaders and staff who learned about MST appreciated that it had considerable research evidence that supported its use.

A number of stakeholders also were intrigued by the implications of implementing an evidence-based intervention and disseminating it statewide. Such an approach would include ongoing data collection and supervision to monitor program fidelity and outcomes so as to sustain system quality, a model of practice that was uncommon among state-funded programs. One agency leader put it this way:

"If we could use MST as an inroad to begin to change the culture of the state agencies... then it was a good opportunity."

Initially, CSSD was not involved in the adoption of MST because it operated in a separate service system than DCF, although there was often overlap in the target population of children and youth who were involved in the juvenile justice system. The impetus for system reform moved swiftly at CSSD, due in part to the CPEC study that found that juvenile justice programs were not working, such that 15 new MST teams were started in the agency's first year of MST implementation. As noted by one CSSD leader,

"Probably without the political will and momentum that was created by the crisis of the CPEC study, any changes that we (CSSD) made would have been slower or more moderate. But that crisis allowed us the opportunity to really make some radical changes quickly. And as such, we cancelled three program models and reinvested in Multisystemic Therapy."

The adoption of MST on such a large scale and in a relatively short period by CSSD was unprecedented. There were some "growing pains" noted with this rapid adoption, but surprisingly the ramp up, with all things considered, was highly successful. There is little evidence to suggest that this rapid adoption negatively affected outcomes for children and youth served by the programs. In retrospect, it was probably most difficult for judicial staff who had to rapidly change the way they were doing business.

According to many focus group participants, MST may have been initially "oversold" as a solution to the problems facing high-risk children and youth in the juvenile justice system, which fostered some resentment among probation officers (P.O.s) and set the program up to fail in meeting unrealistic expectations. MST providers experienced this at times as resistance to implementing the program.

One change brought on by the implementation of MST was that the previous philosophy about serving children and youth in the juvenile justice system did not incorporate the ecological and holistic approach encouraged by MST. The main focus had always been on the child or youth, and not family or community

Therapists reported that implementing MST successfully requires a good collaborative relationship among the key stakeholders involved – parent and family, probation officer, parole officer, judge, the school system, and therapist.

concerns. This shift to family and community thinking took some adjustment within the court system when MST was first implemented.

Interview participants also pointed out that the initial "overselling" of MST and the transition from the usual services to MST without sufficient stakeholder buy-in led to resistance and therefore perhaps a less smooth transition to MST in the early phases of implementation than might have otherwise occurred if there had been increased community collaboration during the adoption phase.

The Implementation Process

Focus group participants identified several issues that influenced the implementation of MST in the state once adoption of MST had occurred. These included provider readiness, aspects of the referral process, a shifting target population with increased co-morbidity, and various collaboration issues within the service system.

Provider Readiness

Implementation of evidence-based practices (EBPs) was not yet widespread in the state when MST was first adopted and the transition to EBPs was more difficult for some providers than others. To address this issue, DCF began asking agency providers to complete an assessment form to determine whether an agency could implement and sustain a comprehensive EBP program like MST.

Providers not already implementing EBPs required a shift in philosophy in order to implement MST. The MST model required clinicians to conduct treatment with the family in the home and to work using a strengths-based perspective, which some providers were not ready to do. In addition, providers from some smaller agencies were hesitant to implement MST because of informal agreements within their communities that they should not serve children and youth across town lines as they would have to do as a contracted MST provider. Another barrier for smaller agencies was that some did not want to offer multiple services at the same clinic.

Another provider readiness issue involved the complexities inherent in implementing an evidence-based program, even though MST included a "package" of training, treatment, and quality assurance protocols. For many providers, rolling out MST was far from straightforward, as reported by a state agency official who participated in the statewide implementation:

"I had the erroneous notion that because these are so explicated and prescribed models that it was like buying a can of soup off the shelf or something. I really thought that setting up the services was going to be as simple as creating a contract and executing it and it turned out that it's a lot more complicated than that."

The Referral Process

Within CSSD, children and youth referred are required to have a single risk assessment score (called the JAG) in the "high" or "very high" range. Such scores are determined through a structured interview conducted by probation officers and based on child or youth and parent-report of risk behaviors in multiple domains. Within DCF, however, referrals are much more varied and not determined by JAG scores. Thus, referred children and youth may exhibit mental health or substance abuse problems as well as delinquent behaviors. For judicial staff and therapists working with both DCF- and CSSD-funded teams, this created confusion as to why some children and youth were referred to MST while others were not.

A number of focus group participants indicated that the referral process could be improved if probation officers had more discretion over who is referred to MST, rather than just depending on JAG scores. They noted that probation officers often know children and youth who have been in the system before and can make recommendations about whether a family would respond well to MST.

A Shifting Target Population of Increasing Risk

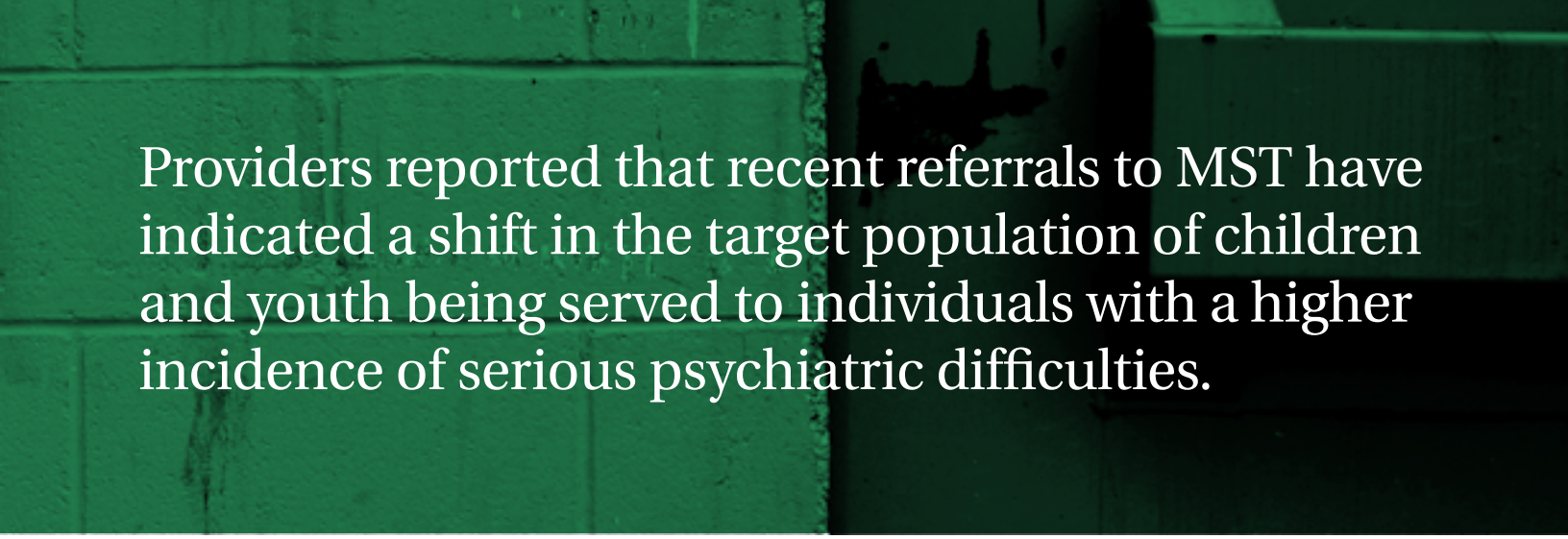
Providers reported that recent referrals to MST have indicated a shift in the target population of children and youth being served to individuals with a higher incidence of serious psychiatric difficulties. This shift presented significant challenges to providers because MST is intended primarily for delinquent children and youth. Although serious psychiatric difficulties such as psychosis or suicidality are factors that are supposed to exclude children and youth from being referred to MST, the level of psychiatric risk is not always known prior to the referral. Providers reported that the shift in the target population made it more difficult to implement the model with fidelity. Therapists and supervisors also indicated that parents of MST-referred children and youth often had their own cognitive or developmental impairments that made it difficult for them to engage in treatment.

Providers suggested that one way to address this issue would be to have parents and children and youth complete a comprehensive assessment at intake so that mental health and substance abuse issues could be identified.[ix]

Collaboration Issues within the Service System

Therapists reported that implementing MST successfully requires a good collaborative relationship among the key stakeholders involved – parent and family, probation officer, parole officer, judge, the school system, and therapist. When any one of these relationships is not working well, it is more challenging to work with the child or youth and family successfully. Although most providers noted that they generally had a positive working relationship with each of the essential stakeholders, this was not always the case. Collaborations were most difficult when having to deal with certain "personalities" in court or in school systems. Providers also noted that some collaborators were less open to the MST model and in doing "whatever it takes" as specified in the MST motto.

[ix] It should be noted that in the time since provider interviews were conducted, both CSSD and DCF have begun implementing more in-depth screening assessment tools at intake.



Providers reported that recent referrals to MST have indicated a shift in the target population of children and youth being served to individuals with a higher incidence of serious psychiatric difficulties.

Providers indicated that collaborations with smaller court systems that serve fewer children and youth often are more successful than those involving larger systems that serve large numbers of children and youth. Providers also noted that it was essential to get to know individual school counselors, principals, and social workers in order to build a positive working relationship for MST.

Finally, providers noted that collaboration among therapists and juvenile court judges was often the most challenging due to the nature of the system and roles of judges, court staff, and therapists. Judges generally do not receive training on the MST model nor are they required to understand the clinical components of a court case. They also receive only those details of the case that the defense and prosecuting attorneys provide.

In this sense, as one judge pointed out, the judge is not in the position to make clinical decisions based on all aspects of the child or youth's life, but rather to make judicial decisions based on the merits of the case. It also may not be appropriate for a judge to know more about an adjudicated child or youth's case file than the attorneys have provided due to confidentiality concerns. Thus, judges rule on the totality of the evidence presented and are not usually in a position to advocate for the child or youth clinically.

It can also be difficult for therapists and providers to build rapport with juvenile court judges partly because judges rotate out of the court. This is a frustrating part of systems collaboration. In addition, for judges, work in the juvenile court can be dispiriting because they see mostly the unsuccessful cases in their courtroom.

Issues Resulting from the Single-Provider MST Guideline

Several probation officers and therapists pointed out that the single-provider focus of MST that is intended to prevent any overlapping treatments actually prevents children and youth and their families from benefiting from other services in the community that might be helpful, such as after-school programming, targeted psychotherapy or substance abuse counseling, or interventions to deal with prior trauma. Some probation officers indicated that they might actually refer a child or youth to other evidence-based practices, such as MDFT[x], because individual therapy is allowed in the MDFT treatment model.

[x] MDFT = Multidimensional Family Therapy

Workforce Development Issues

Several workforce development issues were identified in the focus groups, such as essential qualities for therapists, therapist training issues, therapist turnover and incentives, therapist supervision and consultation, and the need for bilingual/ bicultural therapists.

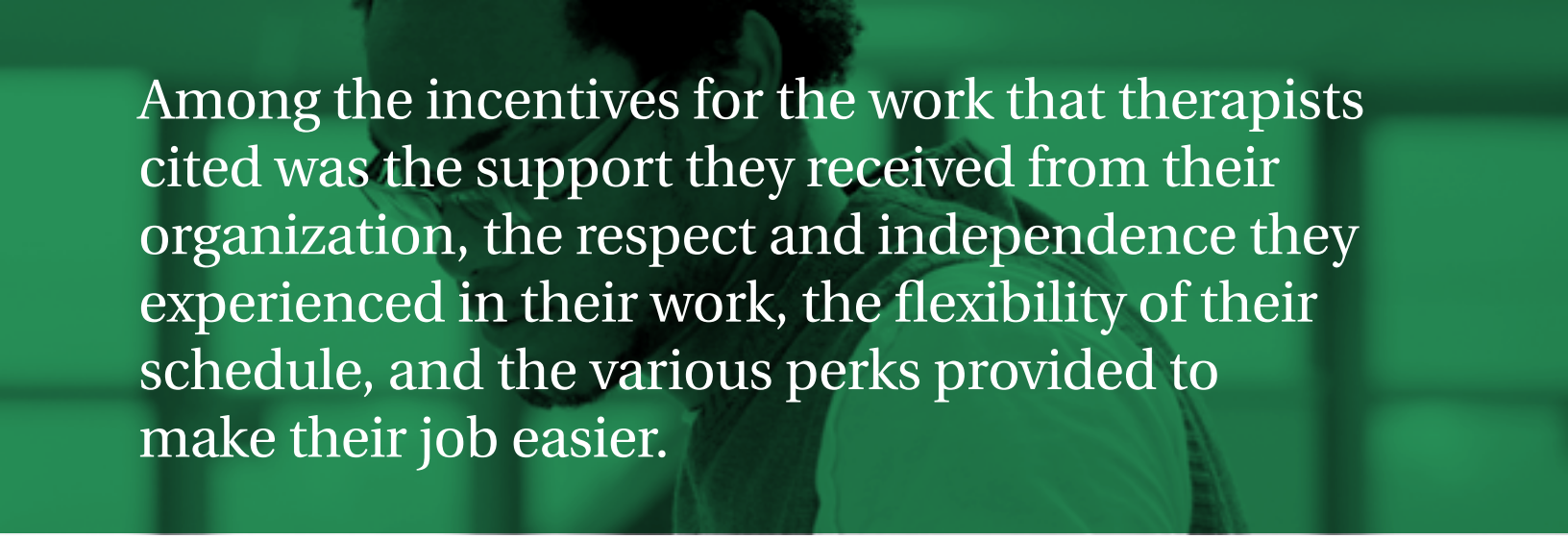
Essential Qualities for Therapists

Providers need to make sure they are hiring clinicians who are well-matched to the program and are fully informed of the demands of the job. Therapists and supervisors noted that if you "buy into" the MST model and have certain qualities, MST can be a good fit. Some of the qualities that make a good MST therapist include:

- **Being able to work with families in using a strengths-based approach**
- **Specifying problems and goals in measurable ways**
- **Managing time well**
- **Having a high tolerance for working with a difficult-to-treat target population**
- **Being able to work collaboratively with other providers and systems**
- **The ability to work independently as well as within a team**

Therapist Training

All therapists trained in MST completed a required 5-day initial training as well as ongoing booster trainings and systems consultation. Originally, this was conducted by MST Services, Inc. in South Carolina and then eventually by Advanced Behavioral Health in Connecticut. Although the 5-day initial training was reported to be thorough, therapists indicated that it was not until they were in the field that they really could understand and appreciate the MST model. One provider noted that effective training for MST included combining the initial 5-day training session with *in vivo* field experiences, such as shadowing a more experienced therapist. Another said that it would have been helpful initially if the trainings included sessions on how to deal with difficult questions from parents or from other service sectors, such as the courts or DCF workers, about specific aspects of the model since therapists report having to regularly educate families and other service sectors about MST.



Among the incentives for the work that therapists cited was the support they received from their organization, the respect and independence they experienced in their work, the flexibility of their schedule, and the various perks provided to make their job easier.

Therapist Turnover and Incentives

Initially, turnover of therapists was more frequent but eventually this diminished as therapist selection criteria became clearer, training procedures improved, and incentives to therapists were implemented. Quantitative data collected on the length of employment for MST therapists in Connecticut during the study period indicated that the average length of employment for all MST therapists during this time was 13 months. The length of employment appeared to increase over time such that those who were currently employed at the time of data analysis averaged 16 months since their date of hire, whereas those who were no longer working as MST therapists had averaged 11 months. In addition, one of the sites demonstrated much longer lengths of employment than the group average, with therapists remaining employed for 21 months on average. Organizational factors that therapists attributed to this lower rate of turnover included support from both direct supervisors and the provider organization as a whole, adequate resources for therapists, and a positive peer culture that promotes collaboration and support.

Therapists reported that turnover was reduced as the challenges of working with difficult families were made clear to prospective therapists during the hiring process. They noted that although the overly-optimistic "selling" of the program during the early phases of implementation yielded higher rates of hiring, it also resulted in higher turnover rates. One consequence of the higher turnover rates and poorer matches between therapists and the MST model was lower program fidelity during the early phases of implementation. To address this problem, therapists reported that the screening process was improved and intensified.

Therapists, supervisors, and administrators also noted several other reasons for the turnover in MST therapists, such as the limited upward mobility available within the program. Another factor that resulted in turnover of therapists was that the rate of pay was not always commensurate with the hours that therapists had to be available to families and the stress that was inherent in the position.

Among the incentives for the work that therapists cited was the support they received from their organization, the respect and independence they experienced in their work, the flexibility of their schedule, and the various perks provided to make their job easier. For example, being able to complete paperwork outside of the office was cited as helpful by several because this saved time driving back to the office between family visits.

Supervision & Consultation

MST required considerable supervision and oversight, usually much more than other models implemented within a given agency. Although some viewed the intensive supervision as an asset, it was also felt as burdensome at times, and prompted turnover of supervisors and therapists early on in the initial implementation phase of the model. There were also tensions apparent between in-state agency supervisors and the out-of-state consultants that were due to initial differences between the traditional service delivery practices of in-state providers and MST implementation requirements.

A related issue was that differences were also apparent between the clinical experience of the therapists and that of the outside consultants. Since the consultants were based in South Carolina, some of their experiences were not directly applicable to Connecticut. When supervision shifted from South Carolina to Connecticut, local systems supervisors were better able to assist with local challenges according to therapists.

Off-site systems supervision sometimes reportedly felt redundant since many of these issues had been addressed effectively through the local supervisor. Direct clinical supervisors also reported feeling that their work was being "infringed" upon by the consultants who they thought were supposed to support the therapists and supervisors and not to make specific case recommendations.

Therapists and supervisors alike cited organizational support and peer support as critical to their work, especially in dealing with early tensions between outside consultants and local supervisors.

The Need for Bilingual-Bicultural Therapists

A final note about workforce development is that agency administrators described that a critical challenge in hiring MST therapists was the difficulty in finding bilingual/bicultural therapists. They noted little success in resolving this issue with any consistency, despite significant efforts to do so.

Program Outcomes

Focus group participants identified several factors that they believed were related to MST program outcomes, such as: parent/family engagement, the appropriateness of referrals, fidelity to the program model, and child and youth involvement in community activities. In addition, participants identified two factors they believed should be considered when evaluating program outcomes: the extent to which MST may have been "oversold" as a panacea when first adopted, and how outcomes are defined and measured.

A wide range of stakeholders reported that the engagement of the family in treatment is the single most important factor in the success of MST.

Parent/Family Engagement

A wide range of stakeholders reported that the engagement of the family in treatment is the single most important factor in the success of MST. Therapists, supervisors, service providers, probation officers, and judges all agreed that family and parent engagement is, by far, the best predictor of positive outcomes.

Although stakeholders reported that parents may differ in *how* they are engaged in treatment – with some "writing stuff down" and others "verbalizing" or actively participating in treatment discussions – it is the quality of being fully engaged in treatment that was believed to make a difference. As one therapist noted,

"If you get a family where the parent is invested and they are willing, motivated, and ready to make changes, it's phenomenal. (MST is) the best treatment, I think, when you have a family like that... I think it's incredible."

Therapists also consistently indicated that facilitating engagement early in the treatment was critical. Many said that they routinely brought food to sessions to break the ice, and adopted a non-judgmental and accepting stance toward the parents and family early in the treatment in order to build trust. However, therapists and families also noted that although parent and family engagement is crucial, the focus of treatment should be equally on the child or youth and his or her parents. Families in particular reported that they sometimes felt the therapist focused too much on parent skill building than on engaging the child or youth in the process.

Probation officers agreed with MST therapists on the importance of family engagement, but also suggested that higher functioning families may simply be better able to take advantage of what MST offers. Probation officers and juvenile court judges also reported that MST may be more effective when the problems in the family have not become entrenched. Juvenile court judges agreed, but emphasized the extent to which many of the problems aced by the families referred to MST may be longstanding and involve multiple challenges.

Nevertheless, stakeholders did indicate that MST may be better than most forms of intervention to address the challenges faced by multi-problem families because of its explicit focus on multisystemic issues.

Appropriateness of Referrals

Although a wide range of stakeholders reported that family engagement is the best predictor of MST success, another important factor noted by many was whether the referral to MST was appropriate in the first place. Therapists and supervisors both indicated that MST will work only if children, youth and parents have the capacities to participate in treatment fully, and are motivated to do so. Therapists reported that children and youth or parents with cognitive or developmental impairments have trouble engaging fully in MST and understanding what they need to change. In addition, if parents have a substance abuse or mental health problem they often have difficulty consistently engaging in the treatment. Referrals that do not take such issues as parent functioning into account may often result in poor outcomes.

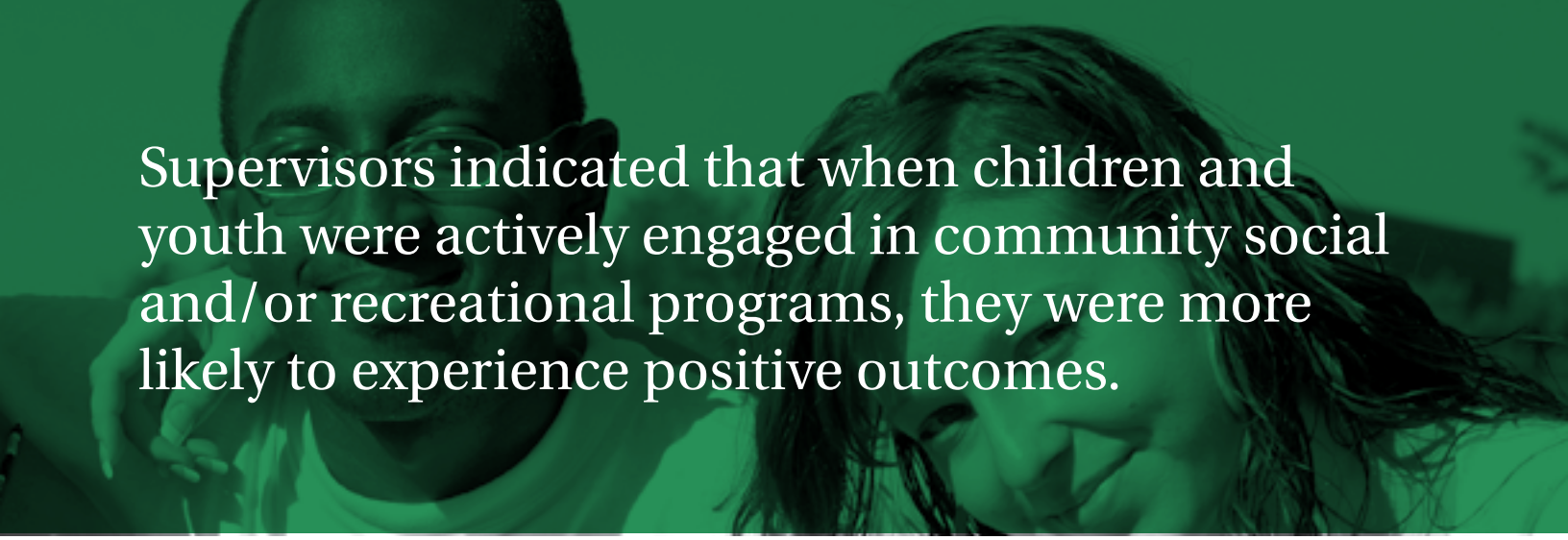
Numerous providers also shared their opinion that MST might be more helpful to younger adolescents who have not yet developed a history of problem behaviors, even though older children and youth understand some of the abstract concepts better.

Fidelity to the Program Model

One issue identified by providers as crucial to positive outcomes for MST was whether therapists adhered to the MST program model. Fidelity to the MST model was viewed as vital to the program's success. This practice is commonly referred to as program fidelity. However, as one provider noted, adherence to the model is just one sign of program fidelity. Other, more qualitative indicators include the therapist's attitude toward the model and willingness to engage the family.

Child and Youth Involvement in Community Activities

Another factor described by MST supervisors as critical to the success of MST is getting children and youth involved in prosocial community activities. Supervisors indicated that when children and youth were actively engaged in community social and/or recreational programs, they were more likely to experience positive outcomes. However, the general lack of prosocial activities and resources for children and youth in the communities offering MST services was a consistent challenge to therapists, and one that was reported in both urban and rural settings.



Supervisors indicated that when children and youth were actively engaged in community social and/or recreational programs, they were more likely to experience positive outcomes.

Key Factors to Consider when Evaluating MST Program Outcomes

As noted earlier by several groups of stakeholders, MST was perhaps oversold in Connecticut almost as a cure for the problems faced by high-risk children and youth and their families. As a result, any outcomes short of complete success for MST were bound to disappoint and to create resentment among those working in the trenches for years on these problems. This resentment coincided with an emergent skepticism among experienced stakeholders that MST may not be all that it was expected to be. Therefore, multiple interview participants noted that outcomes from MST should be considered in the context of the high-risk nature of the population being served and that success should be based on improvements rather than cures.

One issue that troubled many providers and court staff was how positive outcomes were defined and measured when evaluating MST. Several groups of stakeholders expressed concern that recidivism was the primary outcome in evaluating MST rather than defining it in terms of home, school, and community functioning. Repeatedly, providers and court staff described instances in which a child or youth had not made much progress in school or at home, but because there was no re-arrest, the case was considered a success.

One probation officer described it this way,

"What the kid's life is like is to me way more important. If a kid has dropped out of school and doesn't have a job and is getting high every day, but he hasn't gotten arrested—to gauge that as any form of success is terrible."

Many probation officers also noted that arrests have the potential to be discretionary depending on the location of the child or youth (e.g., urban vs. suburban) and the child or youth's racial or ethnic background. This would affect the outcome statistics that are used to evaluate the program. There is a perception that ethnic minority children and youth received a greater number of arrests and fewer nolles than their white counterparts, particularly if the arrest occurred in more urban areas. More specifically, interview participants reported that the rate of arrest in a community may be related to the location in which incidents take place, the social class of the person involved, and the person's racial-ethnic background.

We must be realistic in the goals we set for our most high-risk children and youth and invest in programs that yield the highest levels of success while at the same time keeping our children and youth in our communities.

From this evaluation, we have gained an in-depth look at the outcomes of over 1,800 cases of children and youth who received MST services over a three-year period, as well as a detailed description of the process of implementing this evidence-based practice across the state of Connecticut. The various types of data reported in this study, fidelity indicators, therapist reported outcomes and recidivism data, all suggest that MST is improving outcomes for children and youth who receive these services. Many may look at the recidivism rates and suggest that these rates are "too high" or they show insufficient improvements over time. However, given the pre-arrest history of these children and youth and the evident negative trajectory many of these children and youth faced, MST has not only significantly reduced recidivism, but has also allowed these children and youth to stay in their homes and communities.

The challenge of programs that remove the child or youth from the home, or treat them in a congregate care setting is that after the treatment we return children and youth to the same environment, the same ecology, where the problems originated. Thus, children and youth who may experience short-term gains while in other forms of treatment often recidivate quickly (and in some instances according to the CPEC report) at higher rates than before treatment. This is MST's greatest strength. MST works to change the ecology of the systems in which the child or youth lives. The theory being that only by changing this ecology, can you result in real sustainable changes for the child or youth.

The reduction in recidivism for MST participants over "business as usual" is on average around 15-20% for misdemeanor or felony convictions when compared to rates reported in the CPEC report. This may seem like a small number, but some analyses suggest that even a small reduction in recidivism (anywhere from 7-10%) would be sufficient to pay for all of the juvenile justice services currently being offered by the state.

It is vital that we understand that children and youth with complex behavioral health, substance abuse and juvenile justice difficulties are unlikely to be "cured" overnight. However, we must also celebrate our incremental successes whenever possible.

Children and youth who enter MST treatment with pre-arrest histories of felonies (the most serious offenses) but leave MST treatment with significantly lower rates of recidivism (with less severe offenses) that are sustained up to twelve months later must be considered a success. We must be realistic in the goals we set for our most high-risk children and youth and invest in programs that yield the highest levels of success while at the same time keeping our children and youth in our communities.

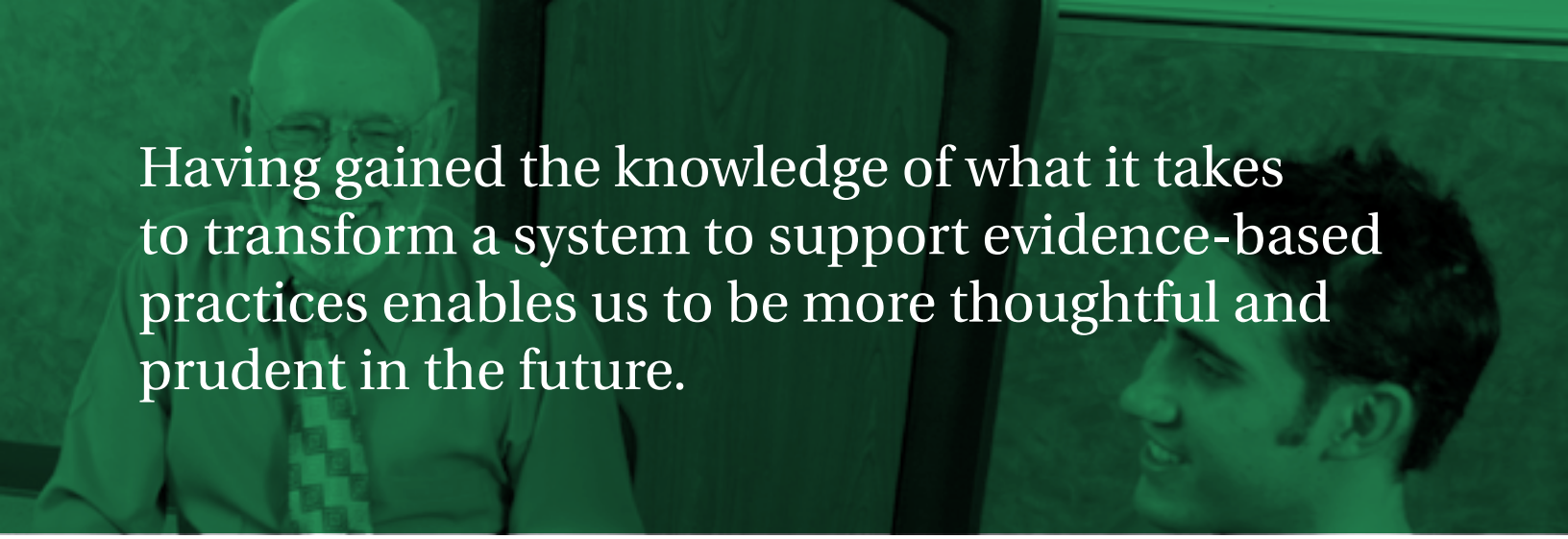
Further, throughout our many interviews, the people who are most familiar with these services (the probation staff, providers, and families), generally believe that MST works. We consistently heard that the efficacy of MST may have been oversold and that it is not a "cure all", but that it is indeed a very effective treatment and the best tool our juvenile justice and behavioral health workers have at their disposal for high-risk children and youth.

We also consistently heard that this work is difficult. Burnout is high. Turnover is high. Providing MST is a difficult job to do for clinicians who have children or other non-work related obligations. The agencies that did the best retaining staff and where staff reported the highest job satisfaction were those that recognized and addressed these challenges through morale building, providing incentives for their staff, and implementing policies (such as flex time) that helped compensate for high job stress. There also was a consensus that, as a state, we must do better in our graduate programs and internship training to prepare our workforce for the kinds of jobs they will be performing in the "real world". Thus, Connecticut needs to invest in our workforce development and recognize that adequate preparation of our mental health professionals is key to implementation of quality programs.

We also learned that implementing a program like MST on a large scale takes a great deal of time, investment and attention to detail. Having the organizational structure of MST services, and consequently the quality assurance services of Advanced Behavioral Health, has made this possible in Connecticut. Frankly, it was somewhat surprising to the researchers that despite the fast "ramp up" of MST Services in our state (especially by CSSD), we were seeing consistent positive outcomes for children and youth across agencies. These results have to be attributed to the highly structured implementation and QA mechanism that MST Services has established in combination with the dedicated staff at our state agencies and provider organizations. It is difficult to say if the program would have been as successful without this structure and support.

By conducting this research, we also learned that completing a comprehensive, large-scale evaluation of services being provided to our children and youth is unnecessarily difficult and obstructive. Our research team devoted over two years to collect and analyze this data. In doing so we had to build the capacity of our state agencies to examine and utilize the data they had been collecting. We had to overcome the obstacles of having to explore four datasets who didn't "talk to each other" because they were developed independently. We also had to strategize ways of identifying children and youth in different systems because they all had their own unique identifiers. If we are to better understand what programs and services work for our neediest children and youth, we need to do a better job in developing our systems and programs that track their progress over time. We also need to ensure that we can follow children and youth across agencies, between behavioral health and juvenile justice (in a way that protects their anonymity), in order to explore whether or not we are serving them well. It is our hope that this research can be the foundation for future efforts by our state agencies to make such analyses more accessible, cost effective and routine.

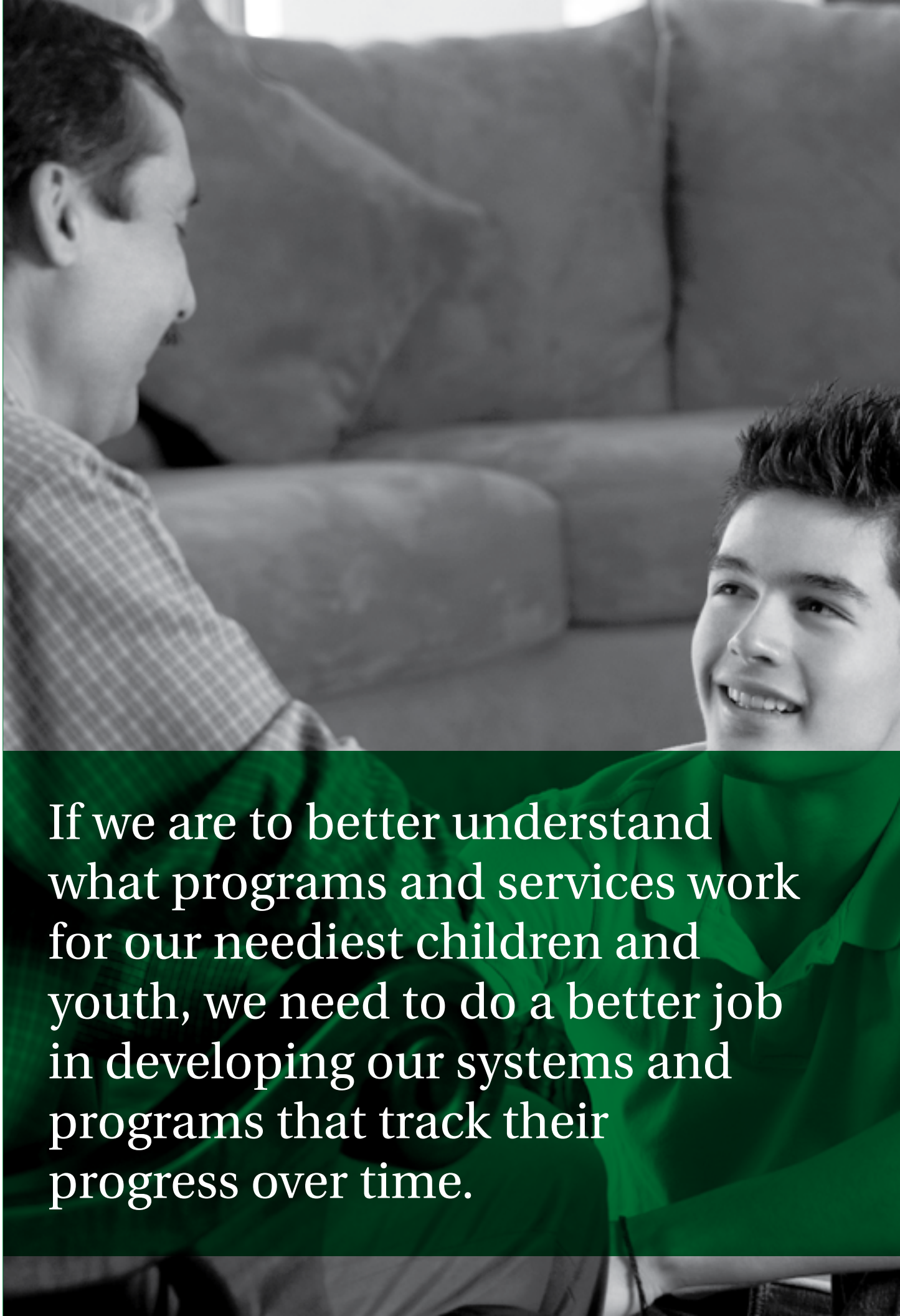
Finally, an important take-home message of this report is that upon analyzing the adoption and dissemination of MST, we would have liked to have been able to report that there was a "master plan" that resulted in the full-scale dissemination of MST across the state. However, we found that rather than a perfectly planned process it was more of a "perfect storm". A combination of factors at the state policy level (KidCare legislation, legislative reviews, major reports), the agency level (champions of evidence-based practice, grant money, identified needs of children and youth, recognition that "business as usual" was not working), the collaborative level (creation of the Connecticut Center for Effective Practice), and the provider level (willingness to change, interest in evidence-based practice), led to the full-scale implementation of MST we see today. Having gained the knowledge of what it takes to transform a system to support evidence-based practices enables us to be more thoughtful and prudent in the future. We can recognize the steps it takes to implement evidence-based practices to scale, the need for capacity building of providers, the importance of ongoing training for providers, the need for diligent quality assurance and outcome data collection and the need to continuously provide feedback on outcomes to stakeholders and families.



Having gained the knowledge of what it takes to transform a system to support evidence-based practices enables us to be more thoughtful and prudent in the future.

In many ways MST has opened the door and developed the capacities of our state agencies and providers to provide a range of other evidence-based practices our children and youth benefit from today (IICAPS, FFT, MDFT, BSFT, MTFC[xi] and others). Therefore, despite its critics, the story of MST in Connecticut, although not without its "bumps in the road" and areas in need of improvement, is a story of success. Children and youth are being better served in a more cost-effective manner and are remaining in their homes and communities.

[xi] IICAPS = Intensive In-Home Child and Adolescent Psychiatric Service, FFT = Functional Family Therapy, MDFT = Multidimensional Family Therapy, BSFT = Brief Strategic Family Therapy, MTFC = Multidimensional Treatment Foster Care



If we are to better understand what programs and services work for our neediest children and youth, we need to do a better job in developing our systems and programs that track their progress over time.

RECOMMENDATIONS FOR CONNECTICUT AND OTHER SYSTEMS OF CARE

1. **The State of Connecticut should continue to support in-home evidence-based practices, such as MST,** to provide effective alternative treatments to high-risk children and youth with severe behavioral and substance abusing problems in the juvenile justice and behavioral health systems.

2. **Implementation of evidence-based practices and programs should include sufficient capacity building and "ramp up" amongst providers.** This should include capacity building around ongoing training, quality assurance and data collection.

3. **Quality assurance and close monitoring of the fidelity of evidence-based practices to the program models is key to both successful implementation and outcomes.**

4. **Ongoing workforce development is critical.** Workforce development, including preparation to provide evidence-based family practices in in-home settings, is critical. This preparation should begin in graduate training programs, continue through internship placements, be provided in CSSD and DCF pre-service and in-service training and be reinforced through ongoing periodic trainings at the practice level.

5. **Other key workforce development issues include attention to provider policies and practices that help retain staff and minimize high rates of turnover.** These incentives should be tailored to the workers' needs and include benefits such as flex time, transportation, mobile laptops, peer supervision and support, working in teams, and support for vicarious trauma and burnout.

6. **State agencies should work together to streamline their data collection systems and make sure that data are more readily accessible and usable.** Unique identifiers that can maintain the child or youth's and the family's confidentiality should be used across systems so that data can be shared and compared to better serve children, youth and families. State agencies need to better develop their capacities to interpret and utilize data and learn to work collaboratively with external researchers and evaluators in order to ensure that children, youth and families are receiving services that are effective.

7. **Ongoing external evaluation of the outcomes of evidence-based practice is critical.** Outcome data collected in a vacuum that is not reported back to the provider, clinician and family is not useful. Objective, external evaluation of services should be conducted on a regular basis to ensure that programs and services are resulting in positive outcomes for children and youth.

8. **Outcome data should be shared with stakeholders including agency staff, advocacy groups, child welfare staff, judicial staff and judges.** Judges, in particular, should be briefed periodically on the outcomes of children and youth who they have referred for services. In the absence of such data sharing, anecdotal information that can sometimes be misleading can be overgeneralized leading to erroneous conclusions about a program's efficacy.

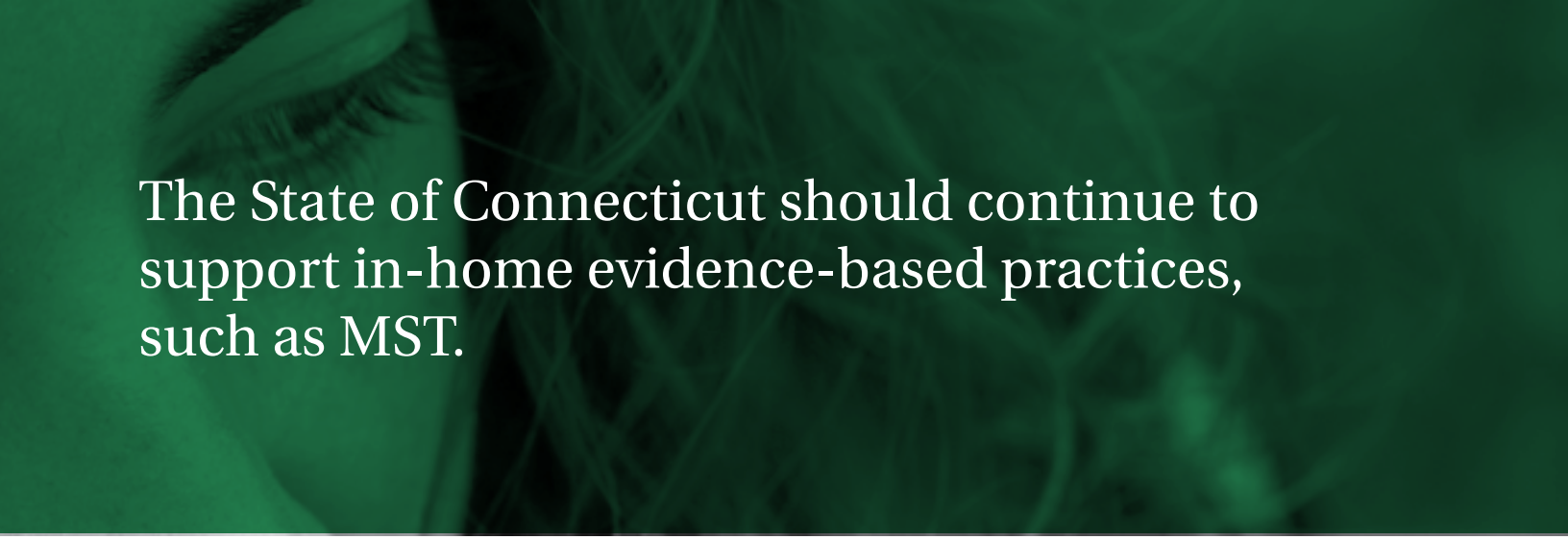
9. **Recidivism should be a clearly defined outcome at multiple levels for any evaluation involving juvenile justice children and youth.** It is insufficient to consider recidivism as a "yes or no" variable. Since juveniles can recidivate at multiple levels and movement from more severe offenses to less severe offenses would be considered improvement, we need to examine recidivism along a multiple point continuum in order to get an accurate sense of whether or not our interventions are helping.

10. **Family engagement is critical to any program's success, especially an in-home family driven model.** Our qualitative study indicated over and over the importance of parents and caregivers being involved in their child or youth's treatment. The importance of family engagement should be emphasized from the point of first contact and referral to MST or other evidence-based family services.

11. **If additional resources are available, MST should also be considered for use with "medium to lower risk" children and youth, as it might interrupt their negative behavioral trajectory and prevent more serious offenses.** Lower risk juveniles are also more likely to have families that are more ready to engage and participate in treatment leading to potentially better outcomes. Probation staff should be encouraged to use their discretion to determine lower risk children and youth that do not meet the threshold for treatment who might most benefit from this intervention.

12. Based upon the qualitative feedback gathered in this evaluation and supported by quantitative factors, participation in prosocial activities is an essential component of positive outcomes in MST services and other juvenile justice interventions. **Therefore, more resources, as available, should be devoted to developing and making available prosocial activities for medium- to high-risk children and youth.**

13. **Linkages to other services both during- and post-MST treatment should be considered and encouraged when appropriate.** The MST philosophy encourages limited to no contact with other treatment providers and limited referrals upon discharge. However, qualitative results suggest although providers do on occasion make referrals to other services, many children with special needs or chronic family or individual difficulties would benefit from increased linkages and referrals to other appropriate services. It would be critical that other treatment providers work closely with and collaborate with MST providers so as not to disrupt their treatment.



The State of Connecticut should continue to support in-home evidence-based practices, such as MST.

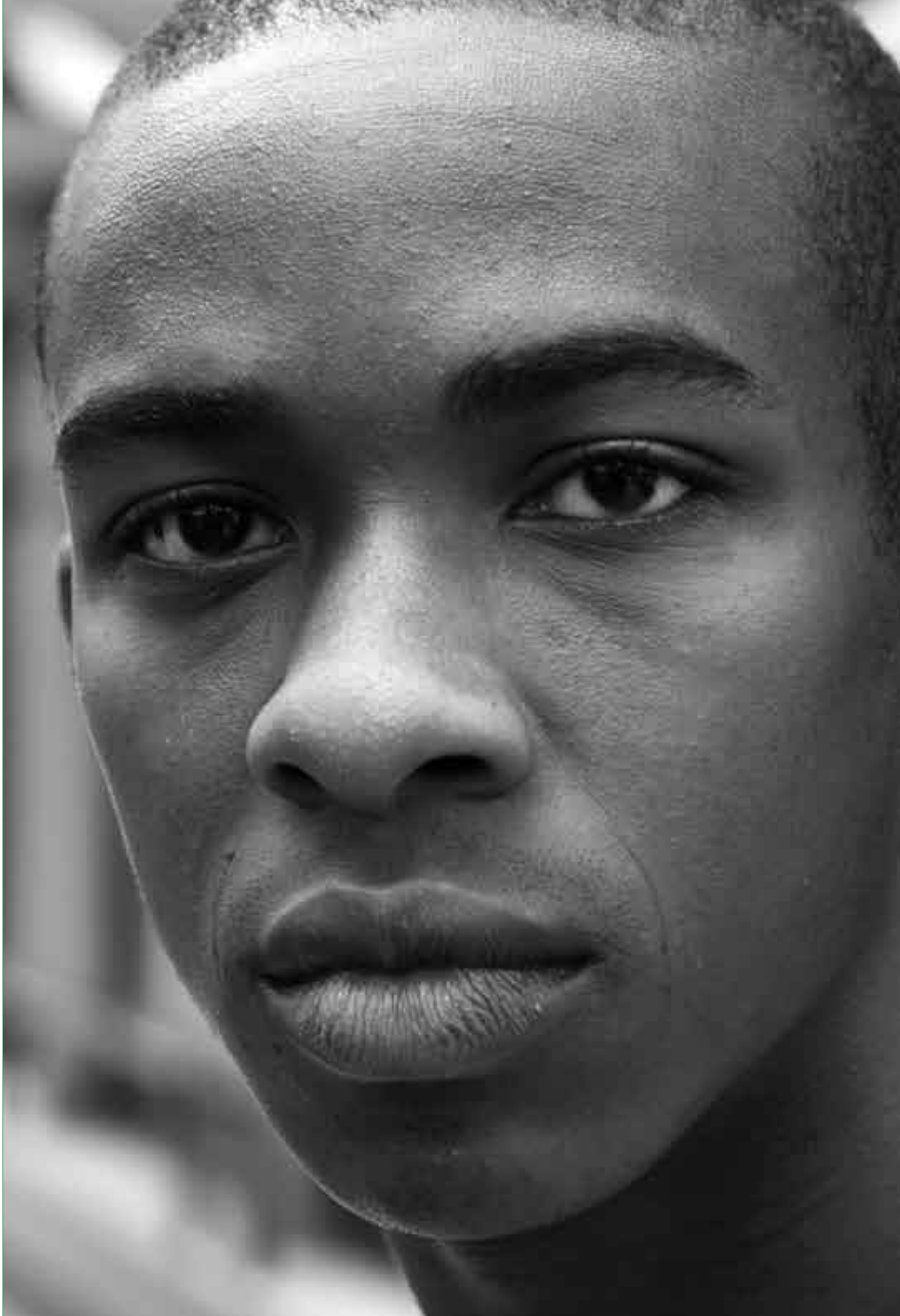
14. According to qualitative feedback, MST providers are reportedly focusing most of their treatment on the child or youth's family and caregivers and sometimes experiencing difficulty engaging other systems. It is important and consistent with the MST model to engage other systems within the child or youth's life, especially school. **If barriers to system engagement are encountered, MST providers should seek out additional support through system supervisors, agency leadership, or community representatives to ensure that MST treatment is not only parent-focused but also actively involves the child or youth and other systems such as the school.**

15. In marketing evidence-based practices, we must be careful not to "oversell" the ability of these programs to reduce or eliminate difficulties with our children and youth. MST may have been oversold in Connecticut resulting in unrealistic expectations that the program was going to be some sort of "silver bullet" that would cure the woes of all high-risk children and youth in the juvenile justice system and eliminate recidivism. The truth is, with a high risk population, any significant reduction in recidivism is a huge success and measured by these standards MST has been highly effective. **It is recommended that we set realistic goals and expectations for our programs and recognize that severe, chronic difficulties with children and youth who have had complex histories are difficult to treat and that incremental success should be supported and celebrated.**

16. **Finally, the State of Connecticut should recognize that investments in programs and services with clear models, rigorous quality assurance, intensive supervision and systematic outcome data collection are well worth the investment.** We must come to value these factors that support the delivery of high quality effective services as much as we do investing our resources in purchasing the services itself. Having good services takes commitment to ongoing training and quality assurance and these essential elements should be a part of every program budget.

REFERENCES

The Connecticut Center for Effective Practice (CCEP)



References

1. Barth, R.P., Greeson, J.K.P., Guo, S., Green, R.L., Hurley, S., & Sisson, J., Outcomes for youth receiving intensive in-home therapy or residential care: A comparison using propensity scores. 2007: American Journal of Orthopsychiatry Vol 77(4) Oct 2007, 497-505.
2. Henggeler, S.W., Schoenwald, S.K., Borduin, C.M., Rowland, M.D., & Cunningham, P.B., Multisystemic treatment of antisocial behavior in children and adolescents. Treatment manuals for practitioners. 1998, New York, NY: Guilford Press. xiii, 287.
3. Henggeler, S.W., Schoenwald, S.K., Rowland, M.D., & Cunningham, P.B., Serious emotional disturbance in children and adolescents: Multisystemic therapy. 2002, New York, NY: Guilford Press. xii, 260.
4. Henggeler, S.W. & Lee, T., Multisystemic treatment of serious clinical problems, in evidence-based psychotherapies for children and adolescents. , A.E.K.J.R. Weisz, Editor. 2003, Guilford Press: New York, NY. p. 301-322.
5. Henggeler, S.W., Rowland, M.D., Randall, J., Ward, D.M., Pickrel, S.G., Cunningham, P.B., Miller, S.L., Edwards, J., Zealberg, J.J., Hand, L.D., & Santos, A.B., Home-based multisystemic therapy as an alternative to the hospitalization of youths in psychiatric crisis: clinical outcomes. Journal of the American Academy of Child & Adolescent Psychiatry, 1999. 38(11): p. 1331-9.
6. Rowland, M.D., Halliday-Boykins, C.A., Henggeler, S.W., Cunningham, P.B., Lee, T.G., Kruesi, M.J., & Shapiro, S.B., A Randomized Trial of Multisystemic Therapy With Hawaii's Felix Class Youths. Journal of Emotional and Behavioral Disorders 2005. 13(1): p. 13-23.
7. Henggeler, S.W., Melton, G.B., & Smith, L.A., Family preservation using multisystemic therapy: an effective alternative to incarcerating serious juvenile offenders. Journal of Consulting & Clinical Psychology, 1992. 60(6): p. 953-61.
8. Henggeler, S.W., Melton, G.B., Smith, L.A., Schoenwald, S.K., & Hanley, J.H., Family preservation using multisystemic treatment: Long-term follow-up to a clinical trial with serious juvenile offenders. 1993: Journal of Child and Family Studies Vol 2(4) Dec 1993, 283-293 Springer.
9. Borduin, C.M., Mann, B.J., Cone, L.T., Henggeler, S.W., Fucci, B.R., Blaske, D.M., & Williams, R.A., Multisystemic treatment of serious juvenile offenders: long-term prevention of criminality and violence. Journal of Consulting & Clinical Psychology, 1995. 63(4): p. 569-78.
10. Cunningham, P.B. & Henggeler, S.W., Engaging multiproblem families in treatment: Lessons learned throughout the development of multisystemic therapy. Family Process, 1999. 38(3): p. 265-286.
11. Henggeler, S.W., Clingempeel, W.G., Brondino, M.J., & Pickrel, S.G., Four-year follow-up of multisystemic therapy with substance-abusing and substance-dependent juvenile offenders. 2002: Journal of the American Academy of Child & Adolescent Psychiatry Vol 41(7) Jul 2002, 868-874.
12. Schaeffer, C.M. & Borduin, C.M., Long-term follow-up to a randomized clinical trial of multisystemic therapy with serious and violent juvenile offenders. Journal of Consulting & Clinical Psychology, 2005. 73(3): p. 445-53.
13. Henggeler, S.W., Cunningham, P.B., Pickrel, S.G., Schoenwald, S.K., & Brondino, M.J., Multisystemic therapy: An effective violence prevention approach for serious juvenile offenders. Journal of Adolescence, 1996. 19(1): p. 47-61.
14. Huey, S.J., Jr., Henggeler, S.W., & Rowland, M.D., Predictors of Treatment Response for Suicidal Youth Referred for Emergency Psychiatric Hospitalization. Journal of Clinical Child and Adolescent Psychology, 2005. 34(3): p. 582-9.
15. Curtis, N.M., Ronan, K.R., & Borduin, C.M., Multisystemic Treatment: A Meta-Analysis of Outcome Studies. 2004: Journal of Family Psychology Vol 18(3) Sep 2004, 411-419.
16. Aos, S., Phipps, P., Barnoski, R., & Lieb, R., The comparative costs and benefits of programs to reduce crime: A review of national research findings with implications for Washington state. 2001, Washington State Institute for Public Policy: Olympia. p. 180.
17. Littell, J.H., Lessons from a systematic review of effects of multisystemic therapy. Children and Youth Services Review, 2005. 27(4 SPEC. ISS.): p. 445-463.
18. Miller, M.L., The multisystemic therapy after care program for juveniles. 2001, Connecticut Department of Children and Families (DCF): Wilmington, DE. p. 12.
19. Martin, G. & Morse, A., North American Family Institute, Inc. (NAFI)/Multisystemic Therapy (MST) Services: Year 3 Evaluation Report. 2004, Connecticut Department of Children and Families (DCF): Hartford, CT. p. 39.
20. Washington State Institute for Policy, Watching the bottom line: Cost-effective interventions for reducing crime in Washington. 1998, The Evergreen State College: Olympia, WA.
21. Dougherty, V., Thomalla, T., & Larson, J.G., State of Connecticut Juvenile Justice Programs: An Analysis of the Costs and Benefits. 2002, Connecticut Policy and Economic Council (CPEC). p. 19.
22. Addis, M.E., Wade, W.A., & Hatgis, C., Barriers to dissemination of evidence-based practices: Addressing practitioners' concerns about manual-based psychotherapies. 1999: Clinical Psychology: Science and Practice Vol 6(4) Win 1999, 430-441.
23. Backer, T.E., The failure of success: Challenges of disseminating effective substance abuse prevention programs. 2000: Journal of Community Psychology Vol 28(3) May 2000, 363-373.
24. Liddle, H.A., Rowe, C.L., Quille, T.J., Dakof, G.A., Mills, D.S., Sakran, E., & Biaggi, H., Transporting a research-based adolescent drug treatment into practice. 2002: Journal of Substance Abuse Treatment Vol 22(4) Jun 2002, 231-243.
25. Schoenwald, S.K. & Hoagwood, K., Effectiveness, transport ability, and dissemination of interventions: what matters when? Psychiatric Services, 2001. 52(9): p. 1190-7.
26. Simpson, D.D., A conceptual framework for transferring research to practice. 2002: Journal of Substance Abuse Treatment Vol 22(4) Jun 2002, 171-182.
27. Fixsen, D., Naoom, S., Blasé, K., Friedman, R., & Wallace, F., Implementation Research: A Synthesis of the Literature. 2005, Tampa, FL: National Implementation Research Network. 119.
28. Dougherty, V., Sieve, M., & Thomalla, T., State of Connecticut Juvenile Justice Programs: Recidivism Outcome Evaluation. 2002, The Connecticut Policy and Economic Council (CPEC): Hartford, CT.
29. Cunningham, A., One step forward: lessons learned from a randomized study of multisystemic therapy in Canada, in PRAXIS: Research from the Centre for Children and Families in the Justice System. 2002, Centre for Children and Families in the Justice System: London, Ontario. p. 32.
30. Timmons-Mitchell, J., Bender, M.B., Kishna, M.A., & Mitchell, C.C., An Independent Effectiveness Trial of Multisystemic Therapy With Juvenile Justice Youth. Journal of Clinical Child and Adolescent Psychology 2006. 35(2): p. 227-36.
31. Miller, M.L., The multisystemic therapy pilot program: Final evaluation. 1998, The Department of Services for Children, Youth and Their Families: Wilmington, DE. p. 12.