

Center for Evidence-based Partnerships  
Virginia MST Fidelity and Outcome Report  
Coverage Period: October-December 2023

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## Statement of Purpose

Multisystemic Therapy (MST) is an evidence-based program (EBP) for youth ages 12-17 and their families aimed at reducing substance use, law involvement, and out-of-home placements. The current report is prepared by the Center for Evidence-based Partnerships in Virginia (CEP-Va) and presents relevant fidelity and outcome data in the state of Virginia per the Family First Prevention Services Act (FFPSA) from October 1, 2023 through December 31, 2023. Subsequent reports will be issued quarterly.

## The CEP-Va Fidelity Model for MST

CEP-Va has developed fidelity and outcome models for fidelity reporting for all evidence-based programs (EBPs) in the Family First Prevention Plan developed by Virginia’s Department of Social Services (VDSS) and approved by the Children’s Bureau. For each model, we used the empirical literature and recommendations from the treatment developer. Pragmatic issues were also considered when developing the models, including data availability and burden on provider companies, practitioners, and/or families. All final models were approved by the EBP developer or the EBP training company selected by VDSS as well as by VDSS.

The MST fidelity model is depicted in Table 1; variables included in the current report are listed in bold type. Not all variables included in the model were available for the current report.

**Table 1.** *CEP-Va’s Variable-level Fidelity Model for MST*

| Fidelity or outcome | Domain             | Variable                                                                                    |
|---------------------|--------------------|---------------------------------------------------------------------------------------------|
| Fidelity            | Adherence          | Average TAM-R score by team                                                                 |
| <b>Fidelity</b>     | <b>Adherence</b>   | <b>Percentage of teams with TAM-R above threshold</b>                                       |
| <b>Fidelity</b>     | <b>Team health</b> | <b>Active full-time employees</b>                                                           |
| <b>Fidelity</b>     | <b>Team health</b> | <b>Avg cases/therapist</b>                                                                  |
| <b>Fidelity</b>     | <b>Other</b>       | <b>Percentage of youth completing treatment</b>                                             |
| <b>Fidelity</b>     | <b>Other</b>       | <b>Percentage of youth discharged due to lack of engagement</b>                             |
| Outcome             | Permanence         | Percentage of cases without an out of home placement within 12 months from start of MST     |
| Outcome             | Permanence         | Percentage of cases without an out of home placement within 12 months from end of MST       |
| Outcome             | Safety             | Percentage of children with abuse/ neglect reports within 6 and 12 months from start of MST |
| Outcome             | Safety             | Percentage of children with abuse/ neglect reports within 6 and 12 months from end of MST   |

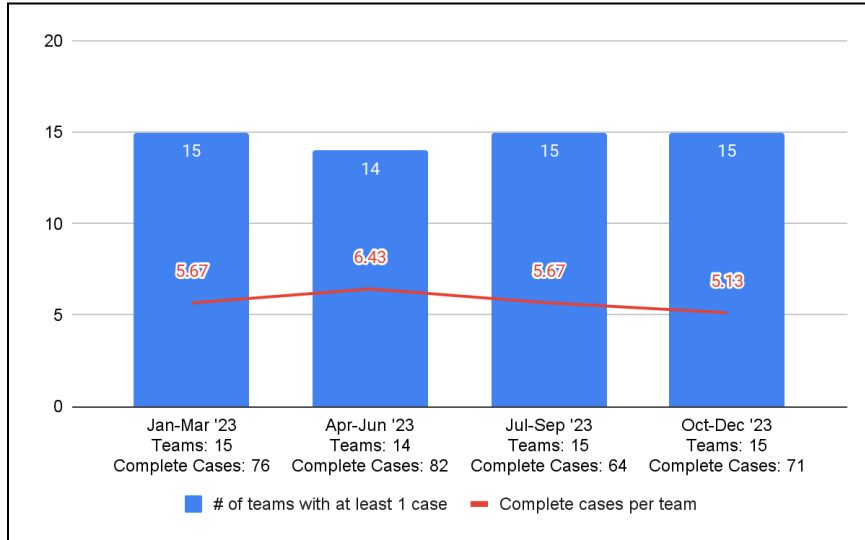
|                |                        |                                                                                                                    |
|----------------|------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>Outcome</b> | <b>Wellbeing-Youth</b> | <b>Percentage of youth living at home</b>                                                                          |
| <b>Outcome</b> | <b>Wellbeing-Youth</b> | <b>Percentage of youth in school/working</b>                                                                       |
| <b>Outcome</b> | <b>Wellbeing-Youth</b> | <b>Percentage of youth with no arrests</b>                                                                         |
| Outcome        | Wellbeing-Youth        | CANS Scores (Life Domain Functioning, Child Strengths, Child Behavioral/Emotional Needs, and Child Risk Behaviors) |
| Outcome        | Wellbeing-Caregivers   | CANS scores (Caregiver Strengths/ Needs, CW Module Caregiver Strengths)                                            |

*\* Data presented are the aggregated team versions of fidelity and outcome measures collected at the youth level. Bolded values are available and included in this report.*

## Current and Historical Status of Virginia MST Team Workforce and Caseloads

### Team and Case Data

**Figure 1.** Active Teams with Average Caseload Across Virginia



From October to December 2023, 15 teams were operating across the state, 14 of which had at least one active MST case. Figure 1 shows the total number of active teams overlaid with the average number of completed cases per team per quarter for the last year.

A more detailed breakdown of team statuses captures more variability across quarters, as seen in Table 2.

**Table 2.** Team Status Detail

| Quarter      | Total open teams | New Teams | Closed Teams | Teams w/ ≥1 case in treatment | Teams w/ ≥1 case completing treatment | Open team with 0 cases discharged during reporting period |
|--------------|------------------|-----------|--------------|-------------------------------|---------------------------------------|-----------------------------------------------------------|
| Jul-Sep 2021 | 14               | -         | 0            | 14                            | 14                                    | 0                                                         |
| Oct-Dec 2021 | 14               | 0         | 0            | 14                            | 13                                    | 1                                                         |
| Jan-Mar 2022 | 16               | 2         | 0            | 13                            | 13                                    | 3                                                         |
| Apr-Jun 2022 | 16               | 1         | 1            | 13                            | 13                                    | 3                                                         |
| Jul-Sep 2022 | 16               | 0         | 0            | 15                            | 15                                    | 1                                                         |
| Oct-Dec 2022 | 17               | 1         | 0            | 16                            | 14                                    | 3                                                         |
| Jan-Mar 2023 | 15               | 0         | 2            | 15                            | 14                                    | 1                                                         |
| Apr-Jun 2023 | 14               | 1         | 2            | 14                            | 14                                    | 0                                                         |
| Jul-Sep 2023 | 15               | 2         | 1            | 13                            | 13                                    | 2                                                         |
| Oct-Dec 2023 | 15               | 1         | 1            | 14                            | 11                                    | 4                                                         |

To best serve state goals while maintaining a level of anonymity for individual provider companies, team activity is also presented at the regional level in Table 3. This quarter, the Piedmont region lost one team. The Northern and Central regions both gained one team, though neither team had open cases to include in this analysis.

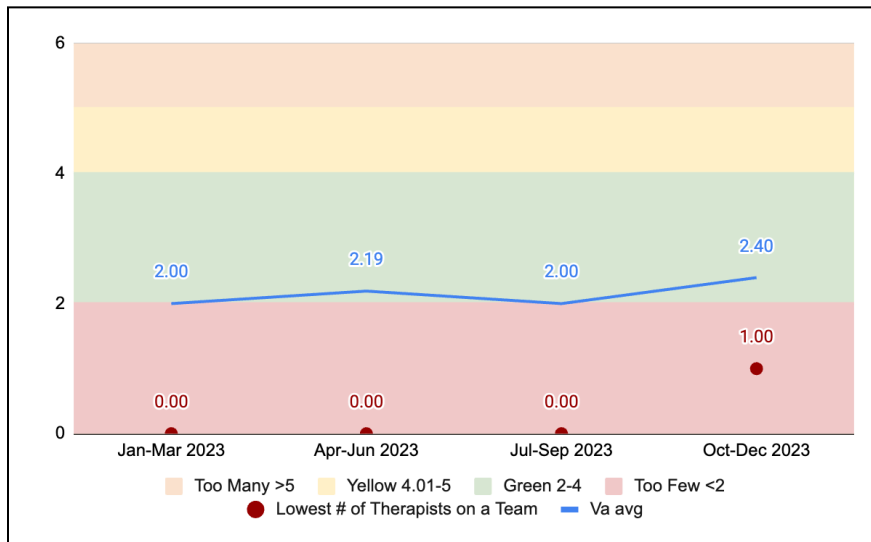
**Table 3. Regional Breakdown of VA Teams**

| Quarter      | Central | Eastern | Northern | Piedmont | Western |
|--------------|---------|---------|----------|----------|---------|
| Jul-Sep 2021 | 3       | 3       | 3*       | 4        | 2       |
| Oct-Dec 2021 | 3       | 3       | 3*       | 4        | 2       |
| Jan-Mar 2022 | 3       | 4*      | 4*       | 3        | 1       |
| Apr-Jun 2022 | 3       | 4       | 4*       | 3*       | 1       |
| Jul-Sep 2022 | 3       | 4       | 4        | 3        | 2*      |
| Oct-Dec 2022 | 3       | 4       | 4        | 4*       | 2       |
| Jan-Mar 2023 | 3       | 4       | 4        | 3        | 1       |
| Apr-Jun 2023 | 3       | 3       | 4        | 3        | 1       |
| Jul-Sep 2023 | 4*      | 3       | 5*       | 2        | 1       |
| Oct-Dec 2023 | 4*      | 4*      | 4*       | 2*       | 1       |

\*Contains at least one team that is open with no cases completing treatment

## Full-time Therapists

**Figure 2.** Average Number of VA Team Therapists

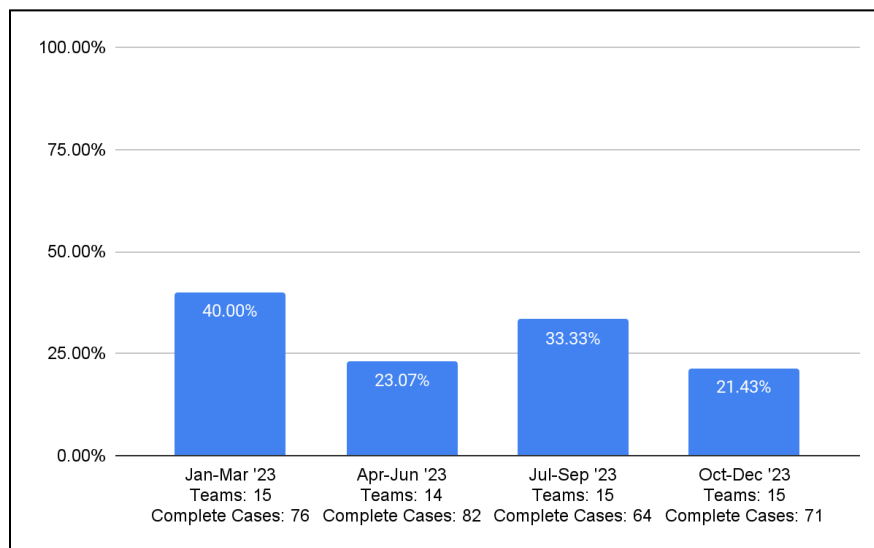


The Multisystemic Therapy Institute (MSTI) has set a target of two to four therapists per team, represented in the green area of Figure 2. The average number of therapists per team rose to a high of 2.4 for 2023.

*Note:* Partial numbers in Fig. 2 represent practitioners not carrying a full caseload, for example, a supervisor who carries some cases.

## Cases per Therapist

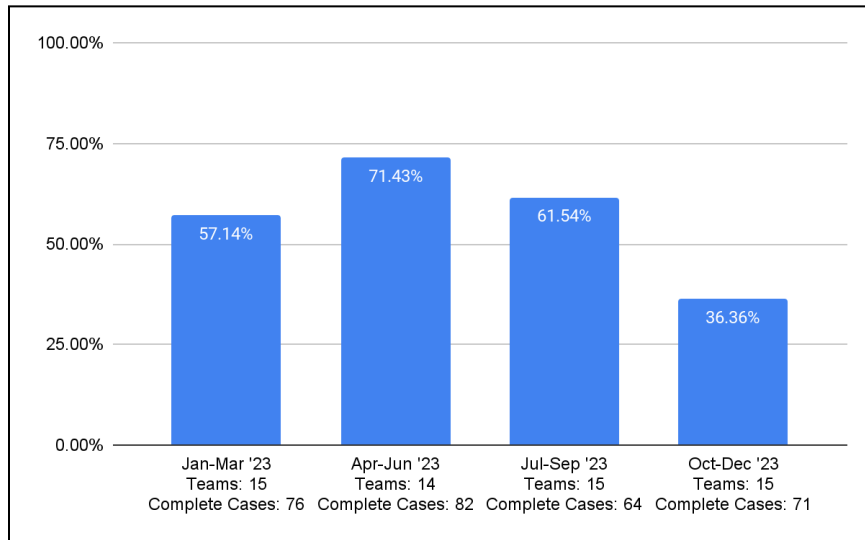
**Figure 3.** Percent of VA Teams with an Average of 4-6 Cases per Therapist



Each therapist is expected to have between four and six cases in their caseload. Figure 3 displays the ratio of teams in Virginia that meet the target. The share of teams meeting or exceeding this expectation dipped to 21% this quarter. According to MSTI, teams reported staffing difficulties as the primary problem contributing to low utilization.

## Cases Completing Treatment

**Figure 4.** Percent of Virginia Teams Meeting or Exceeding the Case Completion Target

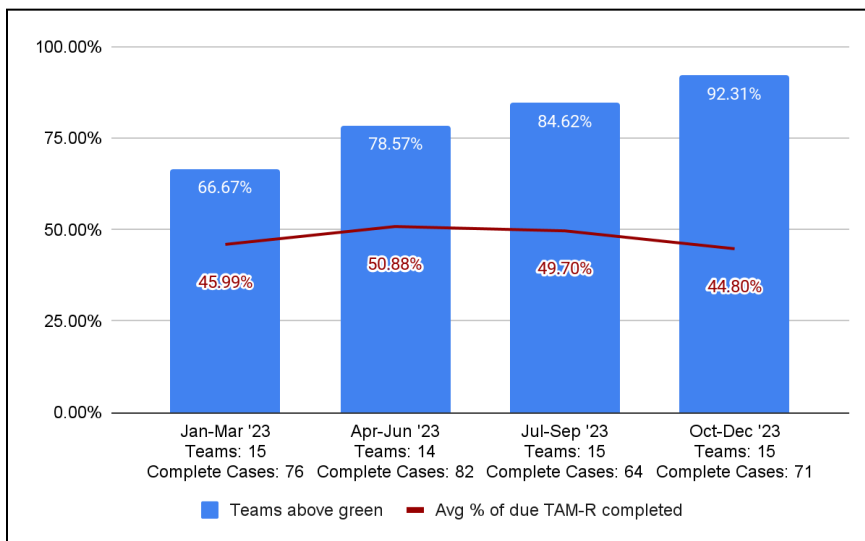


Case completion is characterized by mutual agreement between a youth's primary caregiver(s) and the MST team to discharge the youth from treatment because there is evidence that 1) treatment goals have been sustained for 3-4 weeks, or 2) treatment goals have not been met and are unlikely ever to be met.

Figure 4 shows the share of teams in Virginia meeting the target of at least 84% of cases completing treatment, which was an annual low of 37%. When considering the variability of these percentages, the low number of cases per team (between five and seven active cases, on average) should be considered (e.g., with a caseload of five, one case not completing treatment in a positive manner would lead to a failure on this metric).

## Measures of Fidelity using the Therapist Adherence Measure-Revised (TAM-R) Adherence Scores Across Teams

**Figure 5.** Percent of VA Teams Meeting or Exceeding the Average TAM-R Score Target



The Therapist Adherence Measure – Revised (TAM-R) is a 28-item measure administered to caregivers during the second week of therapy and every subsequent four weeks. The TAM-R measures how well caregivers believe the therapist to adhere to MSTI's model, with an acceptable level of adherence considered 0.61 or greater.

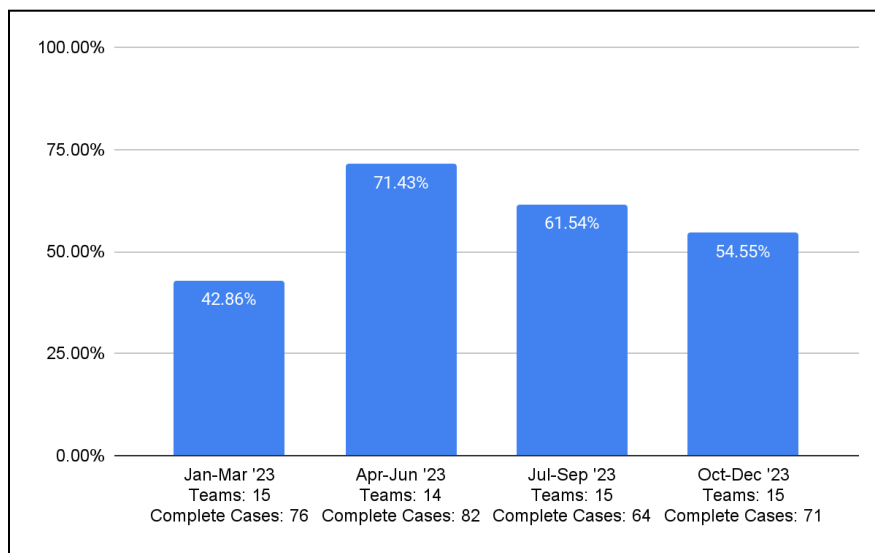
Figure 5 depicts the percentage of teams averaging the MSTI minimum of 0.61 on the TAM-R in a given quarter. The red line superimposed on the bars reflects the percentage of completed TAM-R questionnaires that were submitted. For Q4 of 2023, 92% of teams met or exceeded the benchmark TAM-R score and in the same quarter, 44% of expected TAM-R were returned.

### Ultimate Outcome Measures

An intent-to-treat approach is applied to these data; in other words, families were included whether or not their treatment was completed in a planned fashion. Exceptions to this include cases withdrawn for funding or other administrative reasons, cases where the family moved out of the service area, or with placements that resulted from actions carried out before the start of treatment.

#### *Living at Home*

**Figure 6.** *Percent of VA Teams Meeting or Exceeding the Target for Youth Living at Home Upon Discharge*



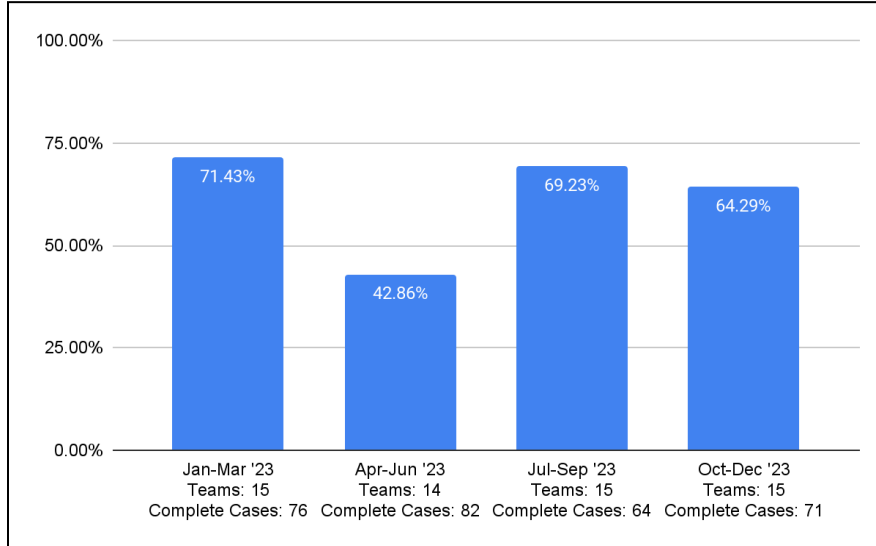
MSTI defines *at home* as the home of a parent or approved relative or friend of the family; youth in runaway status (i.e., youth left home without caregiver permission) or a foster care placement are not considered *at home*. In this reporting period, 55% of teams met the threshold of 88% of youth completing treatment living at home upon discharge. As mentioned earlier, small caseloads make success on

this and other ultimate outcome metrics more challenging.



### *In School or Working*

**Figure 7.** *Percent of VA Teams Meeting or Exceeding the Target for Youth in School or Working Upon Discharge*



For this indicator, MSTI targets 85% of youth discharged from the service to be in school or working. A youth is considered in school or working if they are attending school, a school equivalency program, a vocational program, or working part-time to full-time. Correctional or treatment facilities with vocational or educational components are not included in the definition. The share

of teams who met the MSTI established threshold this quarter is 64%.

### *No New Arrests*

**Figure 8.** *Percent of VA Teams Meeting or Exceeding the Target for Youth Having No New Arrests Upon Discharge*

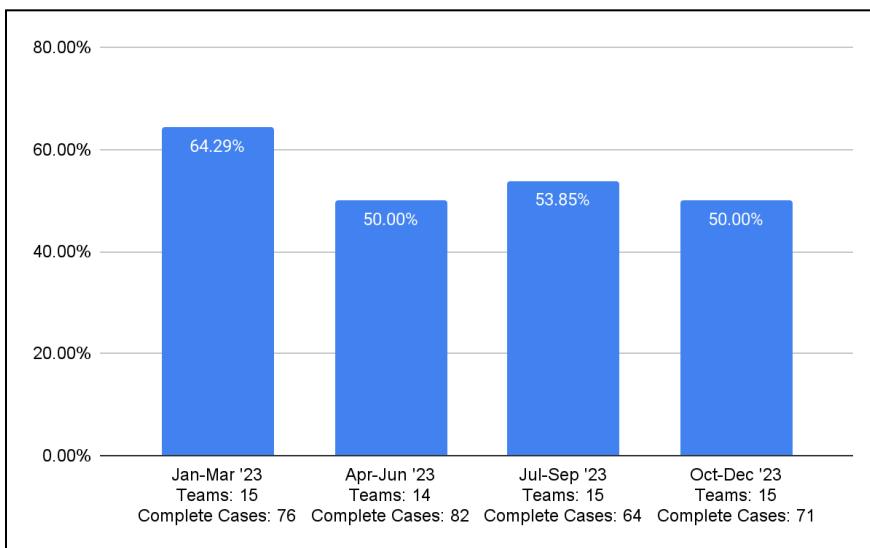


Figure 8 illustrates the share of teams in Virginia that met the target of 85% of youth completing treatment with no new arrests. During this reporting period, 50% of teams across the state met the 85% target.

## Funding Source

**Figure 9.** Funding Source for Active and Closed MST Cases in Virginia Excluding “Not Specified”

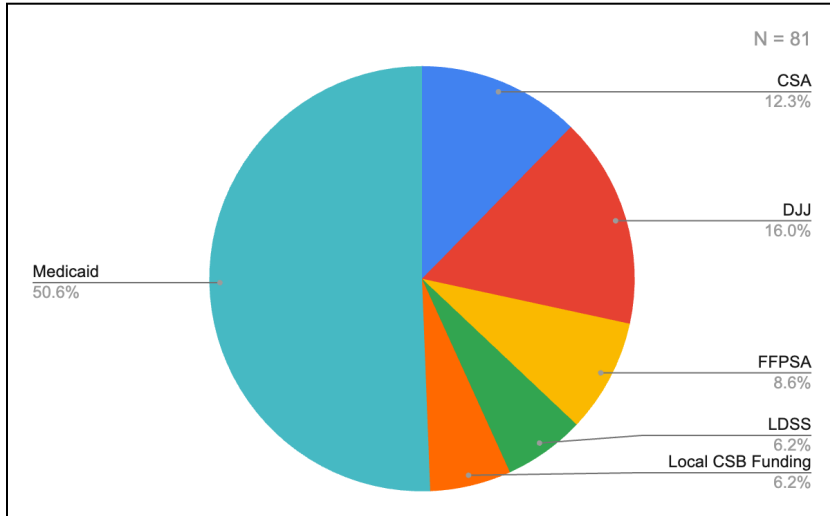


Figure 9 shows the funding breakdown by case for all known sources (81 out of 121 total cases). Medicaid is the top funder in the state at 50%, followed by the Department of Juvenile Justice and CSA.