

## **MST Therapist Adherence Measure – Revised (TAM-R): Guidelines for Interpretation**

The following guidelines are intended to be used by MST supervisors to give constructive feedback to MST therapists about their adherence to the MST treatment model, based on the results from the Therapist Adherence Measure - Revised (TAM-R). The requirement to collect TAM-Rs is based on research demonstrating that adherence monitoring adds significantly to program efforts to achieve outcomes for referred families and youth. Therefore, therapist adherence is tracked in an attempt to predict real-world, practical outcomes such as reduced arrests and reduced out of home placements.

In practical terms, the TAM score is a very reliable predictor in that the TAM has repeatedly predicted outcomes in several clinical trials. This relationship between therapist adherence and outcome was also supported in the Transportability Study that examined implementation of MST in real world settings. Results from this study indicated that the number of youth criminal charges was 36% lower for families with a maximum TAM-R score (i.e., 1) than for families with a minimum TAM-R score (i.e., 0) at around 2 years follow up. Data from the Transportability Study was also used to refine the measure used in earlier studies and create an improved measure of therapist adherence, the TAM-R. The TAM-R is currently being used by all licensed MST programs to monitor therapist adherence.

Before attempting to interpret the data from the TAM-R, it is important to assess whether there is sufficient data for interpretation. Research findings have shown that the ratings can be somewhat context specific. Specifically, they reflect the therapist's behavior within the context of a particular family. Therefore, when data is missing for a specific family, supervisors should not assume that they know what is happening with that family. As a result, MSTI is encouraging teams to set targets of collecting at least one TAM-R on 100% of families, and 70% of all interviews scheduled across all families. When a therapist has results from 12-15 administrations of the TAM-R across families, the MST supervisor has a sufficient number of TAM-Rs from families to begin to evaluate a therapist's overall adherence to the treatment model. Patterns of results indicating low adherence or high adherence can be used to identify a therapist's strengths and development needs.

For those agencies using the MSTI Enhanced web site, a variety of reports are available to assist programs in using the adherence data for continuous quality improvement. Detailed training on the use of the reports is available through the MST Institute. Some examples of how the reports can be used are as follows:

- TAM-R List Report provides an adherence score for each TAM-R collected. These reports are useful as a way to look for patterns in the TAM-R scores by particular families .
- The TAM-R Summary Reports are used to generate aggregate TAM-R scores. They can be

used in conjunction with the TAM-R List Report to easily compare teams within organizations, therapists within a team, or other comparisons of interest. Reports generated at the organization or team level are appropriate for reporting to stakeholders while therapist level reports are useful in development planning.

- The MST Therapist Adherence Report identifies items along a continuum of difficulty and provides an average level of adherence for each item across interviews within therapists on a team. It can be used to help identify specific areas the therapist may need to target for additional training/development.

Supervisors and program managers who are using TAM-R data to assess therapist performance should get assistance from the consultant or expert to ensure that accurate interpretations of the TAM-R data are made. One of the major improvements in the TAM-R is the development of a new scoring methodology based on Rasch analysis that allows for the identification of a “threshold” score. This threshold has been empirically shown to be predictive of outcomes. Families where the adherence score is above the threshold are more likely to have positive outcomes than those where the score is below the threshold. Note that even when an adherence score equals the threshold, there is still considerable room for the therapist to achieve higher levels of adherence.

**TAM-R scores are calculated as follows:**

- 1) A single adherence score is generated for each interview.**
  - a. Each question is rated by caregivers on a scale from 1 (Not at all) to 5 (Very much). In addition, two options are provided that are considered “missing” and are not included in the scoring (“Did not respond” or “Not an issue”). Rasch analysis of the scale indicated that collapsing the valid ratings into two categories, adherent and non-adherent, improved the scale qualities. A rating of “Very Much” is the only response that is rated “Adherent.”
  - b. The adherence score is calculated by dividing the # of items rated as adherent by the number of items that can be scored, i.e., are not “missing”
  - c. The adherence score will range from 0 to 1, with a score of 1 representing the highest level of adherence. **The threshold score is .61**
  - d. Only interviews with fewer than 5 missing items will be scored, but the interview can still be entered on the website. An adherence score of “9” will be displayed to indicate incomplete interviews with 5 or more missing items.
- 2) Average adherence scores are first calculated for each youth, and then averaged within other relevant entities for reporting purposes.** For example, averages can be provided by therapist, organization, etc. The methodology of first calculating an average youth score allows each youth to have equal weight in the Overall Average Adherence Score.
- 3) Percent of youth with average therapist adherence score above threshold**
  - a. This score is calculated by dividing the # of youth for which the average youth

adherence score is equal to or greater than .61 by the total # of youth for whom scores are available.

- b. This score provides a measure of consistency of therapist adherence across different cases.

These three types of scores (pattern of adherence on specific items, overall average adherence score, and percent of youth with average therapist adherence above threshold) will be used to monitor therapist adherence to the MST treatment principles. When results indicate challenges for a therapist with a particular family or a more generalized weakness in therapist skill, the MST Supervisor and therapist should analyze factors contributing to the score and design interventions to overcome the prioritized barriers in order to increase the therapist's ability to have productive family sessions. The therapist's progress in overcoming these barriers would be assessed by future administrations of the TAM-R. As always, any questions the MST Supervisor has concerning the use of the TAM-R or its interpretation can and should be discussed with the MST consultant or expert.

#### **Description of threshold score:**

When the TAM-R is administered, the adherence score answers the question, "What is the level of adherence?" However, another relevant question is, "What is an *acceptable* level of adherence?" To answer this, a formal "standard setting" procedure was required, which resulted in the current "threshold" score of .61. To arrive at this threshold score, two initial scores were computed (a criterion score and a mastery score) and combined. The criterion score reflects the content that is essential before a therapist can be considered adherent, i.e., what items must a therapist implement to be considered adherent? The mastery score is a rating that establishes how much overall adherence is needed for an acceptable level of adherence, with 100% being perfect mastery.

To arrive at these scores, thirty-five MST experts were enlisted to independently complete a survey. The experts rated each TAM-R item on how essential that item was to achieve "acceptable" adherence. For the essential items selected by the expert, the Rasch difficulty scores were summed to create the expert criterion score. These scores were then averaged across experts for the overall "criterion score". The experts were also asked to consider all aspects of implementing MST and provide a rating, from 0%-100%, of the overall level of adherence that is considered acceptable. The average of these expert ratings became the "mastery score". Finally, to evaluate evidence for the valid use of the threshold scores, the scores and associated descriptive statistics were reviewed by additional MST experts, and the threshold was tested in a series of statistical analyses to confirm that it was a meaningful predictor of key caregiver-reported MST outcomes.