

Modular Approach to Therapy for Children with Anxiety, Depression, Trauma, or Conduct Problems

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CONNECTICUT'S EVIDENCE-BASED
TREATMENT COORDINATING CENTER



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This report was developed for the Connecticut Department of Children and Families (DCF) by the Child Health and Development Institute of Connecticut (CHDI).
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The authors retain full responsibility for all opinions and content.

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I. EXECUTIVE SUMMARY

The Modular Approach to Therapy for Children with Anxiety, Depression, Trauma, and Conduct problems (MATCH-ADTC) is an evidence-based treatment for four common behavioral health concerns among children: anxiety, depression, post-traumatic stress, and behavior problems. The MATCH-ADTC Coordinating Center (“Coordinating Center”), is located at the Child Health and Development Institute (CHDI). Funded by the Connecticut (CT) Department of Children and Families (DCF), the goal of the Coordinating Center is to expand access to high quality, evidence-based outpatient behavioral health treatment for children experiencing anxiety, depression, trauma, and/or conduct problems. Beginning in 2013 in a partnership with MATCH-ADTC developers at Harvard University, MATCH-ADTC has been disseminated across the state. The Coordinating Center now supports a network of 23 MATCH-ADTC providers throughout Connecticut and provides training, credentialing, implementation support, site-based consultation, data collection and reporting, and ongoing quality improvement.

This report summarizes the work of the Coordinating Center during fiscal year 2021 (July 1, 2020 through June 30, 2021) and includes some trends across the seven years of the initiative. This year MATCH-ADTC providers were impacted by the COVID-19 global pandemic due to a variety of factors, including stay-at-home orders, social distancing, limits on indoor gatherings and changes in service delivery through telehealth platforms. Statewide conversations on the pandemic related barriers and stressors faced by providers were prime concerns during this year as treatment sessions rapidly changed and service delivery adaptations were made to provide MATCH treatment. Despite the challenges posed by COVID-19 in behavioral health treatment and services generally, MATCH-ADTC demonstrated strong results in access, quality, and outcomes.

HIGHLIGHTS OF FY21:



595 children received MATCH-ADTC

Children completing MATCH-ADTC had positive clinical outcomes:

85% of children with critical functioning symptoms showed enough improvement to no longer score in the critical range at discharge

58% of caregivers reported remission in children’s internalizing/externalizing behaviors



49 new clinical staff were trained to deliver MATCH-ADTC

Caregivers (**92%**) and children (**89%**) reported **high satisfaction** with treatment



Two MATCH-ADTC

Train-the-Trainers completed a one-day training, enhancing site-based and state-level training capacity and sustainability across Connecticut.



KEY RECOMMENDATIONS:

- **Analyze and report** on use of MATCH-ADTC within the overall outpatient system to better understand who receives MATCH-ADTC and when within the overall outpatient episode.
- **Examine MATCH-ADTC** service rates across racial/ethnic groups compared to outpatient services.
- **Ensure implementation** of the Clinical Global Impressions scale including monitoring adherence to data requirements, incorporating the measuring into routine reporting, and establishing benchmarks for the improvement indicator. The CGI can support comparisons of MATCH-ADTC to treatment as usual to understand how severity of cases and level of improvement vary across treatment.
- **Examine the impact of COVID-19** on MATCH-ADTC access, use, and outcomes. While general trends are noted for FY2021, more detailed study is needed to look at data over time, both pre- and post-COVID, to understand how services were affected. Understanding how subgroups varied in rates of staying engaged in services, initially accessing services, severity of symptoms and presenting problems, and outcomes will provide valuable information for providers and the overall system on how delivery of EBTs like MATCH-ADTC can help support children.
- **Explore inclusion** of a racial trauma module or other adaptations to better address experiences of racism and discrimination in the MATCH-ADTC model.
- **Explore ways to enhance data systems** to make them easier to use and better able support and improve clinical workflow.
- **Collect information** on client satisfaction related to telehealth services as part of the service delivery, as these experiences can impact service outcomes.
- **Provide resources and support** to agencies in implementing best practices when providing a hybrid approach to treatment services.
- **Add assessment options** to measure conduct symptoms in children and guidance on appropriate assessment selection in the other protocols to support data-driven decision making and tracking of treatment progress.



II. INTRODUCTION

Children and adolescents seeking treatment often experience a variety of co-occurring problems and the course of treatment may need to change over time. Most treatments address one problem area at a time, although comorbidity and changing clinical needs commonly occur in practice. MATCH-ADTC is an evidence-based treatment to treat four common behavioral health concerns among children, including anxiety, depression, posttraumatic stress, and behavior problems. Appropriate for children 6-15 years of age, MATCH-ADTC is comprised of 33 modules (e.g., praise, rewards, etc.) representing treatment components that are frequently included in cognitive behavioral therapy (CBT) protocols for depression, anxiety (including posttraumatic stress), and behavioral parent training for disruptive behavior. MATCH-ADTC is designed to address broad practitioner caseloads, comorbidity, and changes in treatment needs during episodes of care, creating a foundation for successful outcomes.

The MATCH-ADTC Coordinating Center (“Coordinating Center”) is funded by the Connecticut Department of Children and Families (DCF) and located at the Child Health and Development Institute (CHDI) of Connecticut. Beginning in 2013 in a partnership with the model developers at Harvard University, MATCH-ADTC has been disseminated across the state through a series of Learning Collaboratives. The Coordinating Center provides centralized support for the statewide network of 23 MATCH-ADTC providers. The figure below illustrates the goals and primary activities of the Coordinating Center.¹



1. A detailed accounting of these activities during FY20 can be found in Appendix A.

Figure 1. Goals and Activities of the Coordinating Center

ACCESS



Increase Access to MATCH-ADTC

Activities: Maintaining a statewide network of provider agencies, training new clinicians in MATCH-ADTC, supporting systems screening for trauma.

Measured by: Children receiving MATCH-ADTC overtime and across the state.

QUALITY



Ensure Quality of MATCH-ADTC

Activities: Credentialing and certification of clinicians, site-based implementation and consultation, data collection & reporting.

Measured by: Clinicians meeting credentialing requirements; performance on quality improvement (QI) indicators and fidelity measures.

OUTCOMES



Improve Outcomes for Children Receiving MATCH-ADTC

Activities: Ongoing quality improvement work with agencies and periodic collection of assessment measures to monitor child symptom and track changes.

Measured by: Children experiencing reliable and significant reduction in PTSD symptoms, depression, anxiety, problem severity or increases in child functioning.

This report is framed around these three primary goals and the performance during FY2021. Amidst the challenges presented by COVID-19 and the shift to telehealth platforms for services delivery and online trainings for clinicians, there were many successes across the MATCH-ADTC network. The first two sections describe progress on ensuring Connecticut children have access to MATCH-ADTC (goal 1). The first section presents information on agency providers, training activities, and workforce development. The second section describes trends in service over time as well as a description of the population of children served. The third section details the clinical implementation, fidelity monitoring, and quality improvement activities that took place to ensure children received high-quality services (goal 2). The fourth section then describes symptom reduction and functional improvements for children who receive MATCH-ADTC with a careful consideration of demographic characteristics that might influence outcomes (goal 3). The final section provides conclusions and recommendations to guide the work in future years.

III. ACCESS TO MATCH-ADTC IN CONNECTICUT

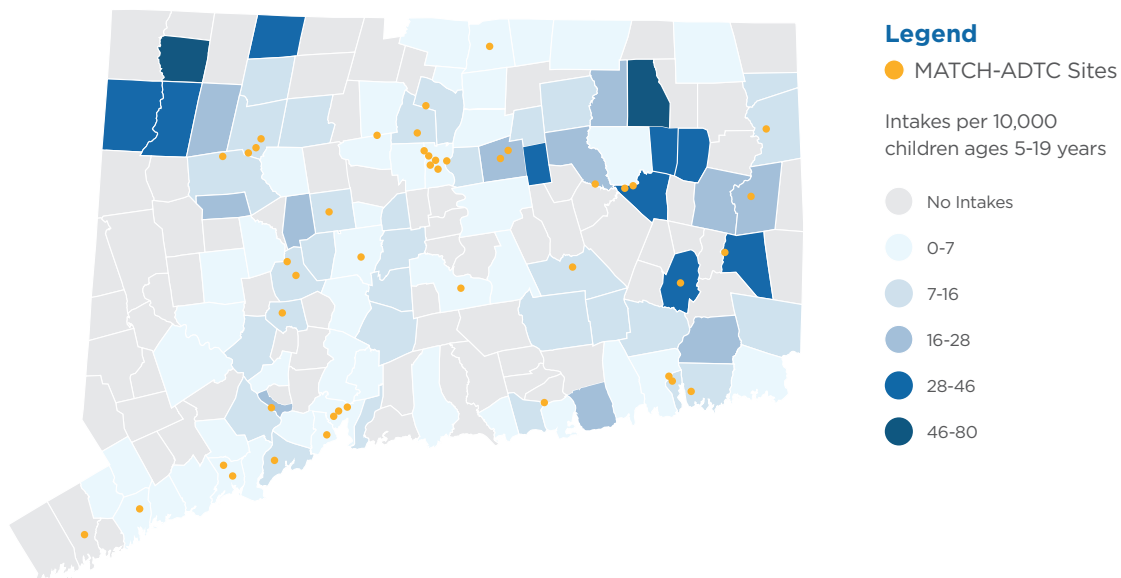
The first goal of the Coordinating Center and the statewide MATCH-ADTC initiative is to increase access to MATCH-ADTC in Connecticut. This begins with ensuring MATCH-ADTC is available by maintaining a provider network that serves many areas of the state and training new clinicians in the model. The total number of children and families receiving MATCH-ADTC, along with their demographics and characteristics, is a way of monitoring the reach of the model and the state's progress in providing MATCH-ADTC to the children who most need treatment.

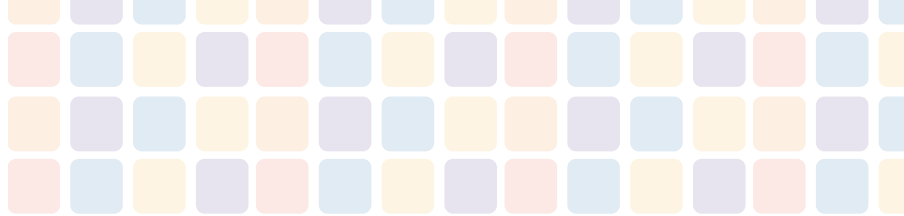
Availability Across the State

In FY21, Connecticut's MATCH-ADTC network consisted of 20 provider agencies and three private practices. Figure 2 shows the location of MATCH-ADTC sites across the state and Table 1 shows the trends in access over the past four years as well as cumulative totals. Since FY14, there have been 248 clinicians that have provided MATCH-ADTC. There were 171 clinicians on a MATCH-ADTC team during FY21, and 132 (77.2%) saw at least one MATCH-ADTC case, an increase from last FY (68.6%). On average, outpatient providers have 7 clinicians (range 1-13) on their MATCH-ADTC clinical teams, a decrease from last FY (average 9 clinicians, range 5-14).

Of the 171 clinicians on a MATCH-ADTC team, 30 (17.5%) left in the fiscal year. To address attrition, 39 new clinical staff were trained in MATCH-ADTC during the year. To support high quality delivery of services, 17 clinical staff attended booster training and 9 clinicians were credentialed. Additionally, 5 MATCH-ADTC Associate Trainers and 2 MATCH-ADTC train-the-trainers completed the process to be able to train at the state level, increasing the sustainability of the model in Connecticut.

Figure 2. Map of MATCH-ADTC sites and children served





Demographic characteristics of the 171 clinicians on MATCH-ADTC teams during FY21 are presented in Table 2. MATCH-ADTC clinicians are primarily White (61.4%) and female (88.9%). Aside from English, 14.6% of MATCH-ADTC clinicians also speak Spanish. Other languages reported include French, French Creole, and Portuguese.

Table 1. Trends in MATCH-ADTC Provider Network

	FY2018	FY2019	FY2020	FY2021	Cumulative Since 2014
Providers of MATCH-ADTC	20	19	23	23	24
New MATCH-ADTC Clinicians	56	54	40	37	325
Clinicians Providing MATCH-ADTC	113	137	116	132	248
# Credentialed/Certified	14	20	5	9	107

Table 2. Clinician Demographics (n=171)

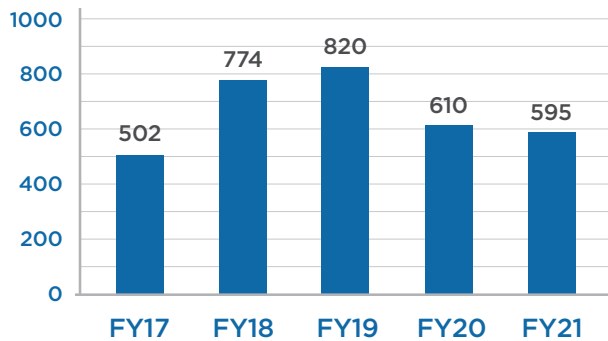
Race	%
Black or African American	8.8
Hispanic, Latino, or Spanish	18.1
White	61.4
Other Race/Ethnicity	1.2
Not Reported	10.5
Languages Spoken	
Spanish	14.6
Other	4.1

Many MATCH-ADTC clinicians practiced other EBTs. The most common additional model was Trauma-Focused Cognitive Behavioral Therapy (TFCBT), which was practiced by 40% of MATCH-ADTC clinicians. This is likely of relevance when looking at the modules used by MATCH-ADTC clinicians and seeing relatively lower rates of the trauma module. Attachment, Self-Regulation, and Competency (ARC) and Child Parent Psychotherapy (CPP), models disseminated in Connecticut with a focus on serving young children, was practiced by 12% and 7% of MATCH-ADTC clinicians, respectively. Few MATCH-ADTC clinicians also practice Bounce Back (2%) or Cognitive Behavioral Intervention for Trauma in Schools (CBITS) (2%), likely due those models largely being implemented in school settings.

Children Receiving MATCH-ADTC

In FY21, 595 children received MATCH-ADTC. This number was a slight decrease compared to the previous year (610) (see figure 3). This is likely due in large part to stay-at-home orders implemented at the end of Q3 FY20 for the COVID-19 pandemic, which continued throughout most of FY21. During that time, agencies mostly continued telehealth services and slowly reintroduced in-person and hybrid services towards the end of FY21 when the state began reopening.

Figure 3. Children served by fiscal year



A number of agencies shifted to a hybrid model to maintain treatment services. The hybrid model allowed agencies to safely offer in-person treatment and telehealth services either within the outpatient clinic or directly to a client's home. This hybrid approach was implemented later in FY21 as agencies gradually received guidance to safely open their clinics for in-person treatment and equip clinicians to offer this flexible treatment approach. To date, 2,573 children have received MATCH-ADTC since FY14.



Child Demographics

Table 3 contains demographic information for children receiving MATCH-ADTC in FY21, as well as comparisons to those served in outpatient services (as reported by the Provider Information Exchange [PIE] system) and the general CT population. Demographic results are similar to FY20. Throughout this report, indicators of access, quality, and outcomes are reported by demographic groups. Social and community context is highly related to service receipt and outcomes. Racism is part of that context that research has shown leads to inequities. Recognizing this, special consideration is given in this report to comparisons across racial and ethnic groups.



Table 3. Characteristics of Children Receiving MATCH-ADTC, with Comparisons (n=595)				
	MATCH-ADTC		OPCC ²	CT pop ³
	n	%	%	%
Sex (Male)	261	43.9	50.5	51.1
Race				
American Indian or Alaska Native	1	0.2	0.4	1.0
Asian	5	0.8	0.9	4.8
Black or African American	62	10.4	15.0	13.9
Native Hawaiian or Pacific Islander	1	0.2	0.1	0.2
White	359	60.3	53.7	66.6
Other Race/Ethnicity (Includes multiracial/ethnic)	25	4.2	2.8	13.4
Not Reported	142	23.9	27.0	N/A
Hispanic, Latino, or Spanish (Any Race) ⁴	196	32.9	35.7	25.5
Age (Years)				
Under 6 Years	14	2.4	10.4	32.0
6-11 Years	294	49.4	44.1	33.4
12-17 Years	286	48.1	45.5	34.6
Child welfare involvement during treatment	76	12.8	12.5	N/A
JJ involvement during treatment	2	0.3	0.8	N/A
Child Primary Language⁵				
Spanish	18	3.0	11.1	16.0
Neither Spanish or English	0	0.0	1.8	6.5
Missing Language Data	237	39.8	5.6	N.A
Caregiver's Language				
Does not speak English	59	9.9	N/A	N/A

2. OPCC data comes from DCF's PIE system and includes children that received MATCH-ADTC; therefore differences between MATCH-ADTC and OPCC might actually be of a greater magnitude if we were looking at OPCC excluding those receive MATCH-ADTC.

3. American Community Survey 2018 1 year estimates. Caution should be used with comparison to OPCC and MATCH-ADTC child demographics. Census race categories do not exclude Hispanic, therefore OPCC and MATCH racial demographics mirror the Census. Census language is only available by language spoken, not primary language. Age is percentage of children 0-17 years.

4. We recognize there are alternate terms for describing ethnicity. This report uses "Hispanic" and "Latino" to remain consistent with the way it is reported in the data system, which reflects the terminology in the U.S. Census.

5. Used Primary Language Inside of Home for child primary language.

Child Clinical Characteristics at Treatment Start

Information on baseline assessments is found in Table 4. Assessments were evaluated to determine if demographic factors were related to trauma exposure or scores on symptom measures at treatment start. Details of the tests, including an overview figure can be found in Appendix B.

TRAUMA EXPOSURE. Children report Children report experiencing an average of 4.75 types of potentially traumatic events; caregivers report their children having experienced 4.11 on average. Older children had higher rates of exposure by both child and caregiver report. Child reports of trauma were significantly higher for Hispanic children compared to White children ($\beta=0.821$, $p=.015$) and caregiver reports of children's trauma were significantly higher for Other, Non-Hispanic children compared to White children ($\beta=1.541$, $p<.001$). There is growing recognition of the impacts of racism and discrimination on behavioral health symptoms. Experiences of discrimination can lead to higher rates of PTS symptoms⁶. The assessment measures in MATCH-ADTC do not explicitly assess racism or discrimination, so the degree of racism and discrimination experienced by children receiving MATCH-ADTC and the effects on traumatic stress symptoms and treatment are not known.

BASELINE SYMPTOMS. Nearly all children (96.9%) receiving MATCH-ADTC in the fiscal year had a measure of baseline symptoms. Clinicians have flexibility in selecting the most appropriate symptom measure from a menu of assessment options. Clinicians were more likely to choose symptom measures for children in the trauma (91.6%) and conduct (91.8%) protocols. The high rate of choosing the indicated measure for the Conduct protocol is likely attributed to the overall high rates of Ohio completion; this is the only measure for Conduct as, unlike the other protocols, there is not an additional specific assessment. However, the use of the corresponding narrowband measure for children within each of the depression (40.6%) and anxiety (18.7%) protocol areas was relatively low. This trend may explain lower rates of PROMIS and SMFQ data collection for children in MATCH despite Anxiety and Depression being the most commonly reported protocol areas. These assessment options have been added to better match the measure used to the protocol area, but it appears many clinicians still rely on the old MATCH-ADTC assessment schedule that required the Ohios and CPSS.

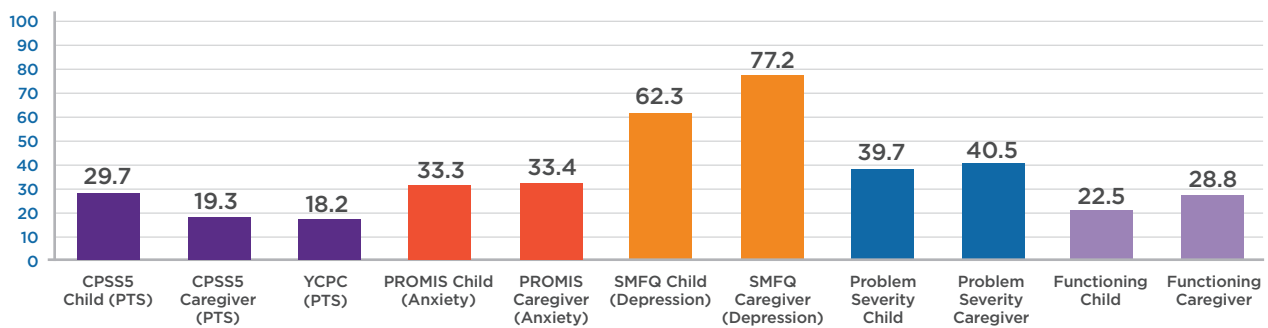


6. Bryant-Davis & Ocampo, 2006; Butts, 2002; Williams et al., 2014.

Figure 4 shows the elevation rates by measure. The highest rates of elevation were on depression symptoms, where 77.2% of caregivers and 62.3% of children reported scores indicating clinical elevation. The most commonly completed assessments were the Ohio Caregiver reports (91.1%). However, only 39.7% and 40.5% of children had scores suggesting clinical attention was needed on Problem Severity and Functioning scales, respectively.

Table 4. Intake Scores								
Measure	Child Report				Caregiver Report			
	N	Mean	SD	Elevated (n, %) ⁷	N	Mean	SD	Elevated (n, %)
THS sum	448	4.75	3.03	-	441	4.11	2.48	-
CPSS 5 Total Score	360	22.6	15.5	107, 29.7	363	19.00	13.60	70, 19.3
YCPC Total Score	-	-	-	-	22	16.73	12.47	4, 18.2
PROMIS Total Score	69	23.33	6.93	23, 33.3	61	21.75	14.35	21, 34.4
SMFQ Total Score	154	9.7	5.81	96, 62.3	134	9.07	5.26	98, 77.2
Ohio Problem Severity	306	22.6	12.56	215, 39.7	542	23.15	13.71	124, 40.5
Internalizing	299	13.43	8.22	224, 42.8	523	11.27	7.55	161, 53.8
Externalizing	295	9.04	6.63	216, 41.4	522	11.86	8.82	84, 28.5
Ohio Functioning	307	53.79	12.93	69, 22.5	542	51.62	13.71	156, 28.8

Figure 4. Percentage of children with elevated scores at intake, by measure



7. Defined as "above clinical cutoff" or "critical impairment". Does not include "high symptoms." Valid percentages reported.

IV. QUALITY: CONSULTATION AND CLINICAL IMPLEMENTATION

CHDI, in collaboration with DCF, works closely with agency providers, taking an agency-centered approach to consultation providing support and promoting activities aimed at sustainable implementation of MATCH-ADTC. The focus of these site visits varies based on the needs of individual agencies but generally focus on agency performance, service delivery and providing strategies to ensure fidelity and outcome benchmarks are met. To further support agencies with their implementation of MATCH-ADTC, the Coordinating Center and DCF collaboratively maintain a database to collect MATCH-ADTC data. Ongoing assistance is provided to clinicians to ensure timely, accurate, and usable data is entered, that is run by a database HelpDesk maintained by the Coordinating Center. The HelpDesk has fielded over 1,200 requests in FY21.

The data collected in the system and used in site visits tracks progress towards performance on Quality Improvement (QI) indicators (detailed below) as well as data at all levels of MATCH-ADTC implementation including MATCH-ADTC length of stay, the top problems identified by children and caregivers, symptom improvement and Connecticut MATCH certification status of MATCH clinicians.

MATCH-ADTC Data Systems

Most of the data used in consultation with sites is collected through a secure, web-based system. Originally, MATCH-ADTC data were collected in EBP Tracker. In October 2019, EBP Tracker functionality was integrated into DCF's Provider Information Exchange (PIE) system. Most episodes (approximately 94%) were successfully transferred from EBP Tracker to PIE. This integration resulted in two primary changes to EBT data: (1) EBT episodes data can now be linked to the rest of a child's outpatient episode including the use of date-based activity information to count TF-CBT sessions rather than monthly report and (2) EBT episodes now include identifying information (such as first and last name) to be entered into the PIE system.

During FY21 several improvements and additions were made to the PIE system. The first began in FY20 with the addition of assessments in Spanish. While versions of the assessments

were available in Spanish and provided in hard and soft copies to agencies, having them built into the system with the ability to easily toggle between English and Spanish made it possible for clinicians to simultaneously administer the assessments and directly enter the information. This enhancement was made at the end FY20 but was not fully implemented and used until this year.

Two additional changes that were made during FY21 that will have the biggest impact on MATCH-ADTC data were the addition of the Clinical Global Impressions (CGI) scale and the collection of telehealth information. The CGI scale is a two-question instrument used to measure severity of symptoms (CGI-Severity) and degree of improvement in symptoms (CGI - Improvement). The severity question will be asked at the start and end of a MATCH-ADTC episode; clinicians will also answer the improvement question at the end of the episode. This will allow for a broad measure of acuity and improvement that can be used

within MATCH-ADTC as well as to make comparisons across other EBT models and treatment as usual. Additionally, with the increase of telehealth sessions it was desirable to collect information on format. The date-based activity information entered for all outpatient cases will now include an option for the clinician to indicate if it was in-person or through telehealth.

These new data fields, CGI and telehealth, were phased in as requirements during the year. Of children served this fiscal year 51.6% (n = 307) have the CGI severity question available at intake. Due to being phased in mid-year, a smaller percentage of FY discharges have the severity (37.6%, n=120) question completed at discharge. However, most discharges (79.6%, n=254) have the improvement question available and of those 81.5% had clinicians report at least minimal improvement at discharge. As the number of episodes including this information increases, these fields will be added to reports and used in consultation work with the agencies.

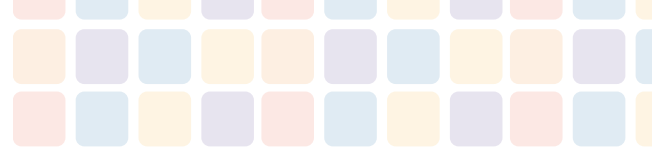
Implementation Consultation

This year, 59 consultation meetings were completed with providers. The agenda for these meetings is to review the statewide and provider level data to monitor and analyze the processes of delivering treatment, identifying areas for improvement and track progress towards improvement. The reports reviewed during consultation are the monthly dashboards and the QI Report. The cross-model dashboards



provide monthly and cumulative information on clients served. CHDI creates the QI Report twice annually while also providing quarterly updates on progress towards meeting the benchmark for each QI indicator. To address areas of concern, SMARTER goals are developed with the agency to identify strategies to improve child and family outcomes.

In Q3, guidance was provided to agencies on the Clinical Global Impressions scale that was introduced to the MATCH intake and discharge process including instruction on data collection. CHDI worked with DCF to support agency changes to service delivery to adopt a hybrid approach to offer in-person treatment and telehealth services. Further training and guidance on trauma screening was integrated in Q4 to the MATCH new clinician training. These screening considerations support the clinician's treatment approach when selecting the trauma protocol in MATCH-ADTC. CHDI shared resources, guidance and recommendations such as increased MATCH team meetings and supervision to provide additional support to teams who experienced a rise in at risk youth as well as increased caseloads due to staff attrition. CHDI provided opportunities for cross system collaboration and hosted several statewide meetings for agency coordinators to share resources, tips and considerations for MATCH-ADTC implementation.

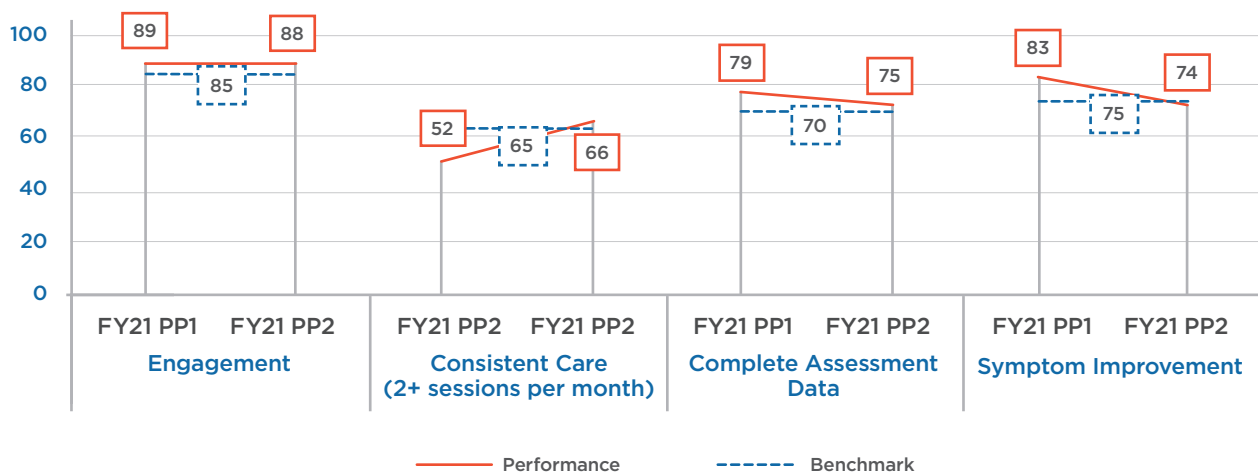


Quality Improvement & Model Implementation

Cases are reported while they are active and open, but most of the QI reporting and fidelity monitoring is calculated based on children that complete treatment in a given period. In FY21, 319 children had a MATCH-ADTC episode that ended. Children discharged from MATCH-ADTC attended a mean of 16.06 (SD=13.28) sessions within a mean treatment episode length of 7.84 (SD=6.37) months. For those completing MATCH, on average, clinicians spent 61.30% (SD=24.79%) of time with children alone, 26.35% (SD=22.36%) of time with caregivers alone, and 29.74% (SD=25.00%) of time with children and caregivers together. The following sections detail the QI indicators, use of the MATCH-ADTC model, and clinicians and family perspectives on MATCH-ADTC treatment at episode end.

Quality improvement (QI) indicators are calculated for six-month periods. Two out of four statewide QI benchmarks were met in both performance periods of FY21, engagement and completing assessment data. Consistent care increased 14 percentage points between PP1 and PP2 and was met in PP2. Although the symptom improvement benchmark was not met in PP2, it was still high (74%). It should be noted that the consistent care and outcomes benchmarks may have been impacted by changes in service provision and child symptomatology due to COVID-19. A summary of the performance indicators is in Figure 5.

Figure 5. Quality improvement in FY21



Top Problem Assessment

Of the 595 MATCH-ADTC treatment episodes open in FY21, 85.7% of caregivers identified at least one top problem to work on during treatment, and 90.2% of children identified at least one top problem. Figures 6 and 7 below show the general topic areas of the top problem areas for children and caregivers.

Figure 6. Child reported top problems



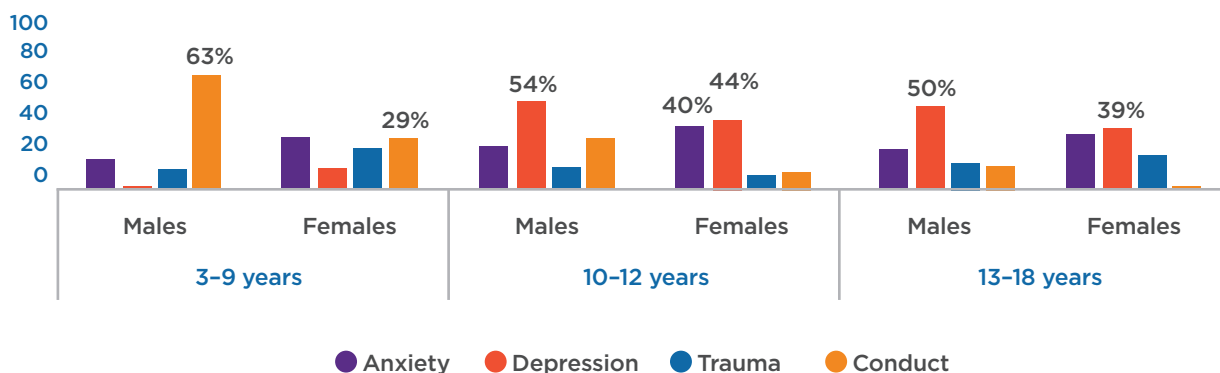
Figure 7. Caregiver reported top problems



Primary Protocol Area

Children completing MATCH-ADTC (n=319) in the fiscal year were most often treated with the Anxiety (94), Depression (89) protocol areas. Conduct (72) and trauma (53) were less common. This trend is consistent with previous years. The Trauma protocol may be least likely to be used because clinicians may be opting to provide TF-CBT instead as 40% of MATCH-ADTC clinicians also practice TF-CBT. Per the developers, the conduct protocol content caters more towards pre-adolescent children with conduct issues, clinicians are encouraged to use another EBP with adolescents (especially older adolescents) with conduct issues. This may explain why males in the 3-9 years age group were most commonly assigned the Conduct primary problem area.

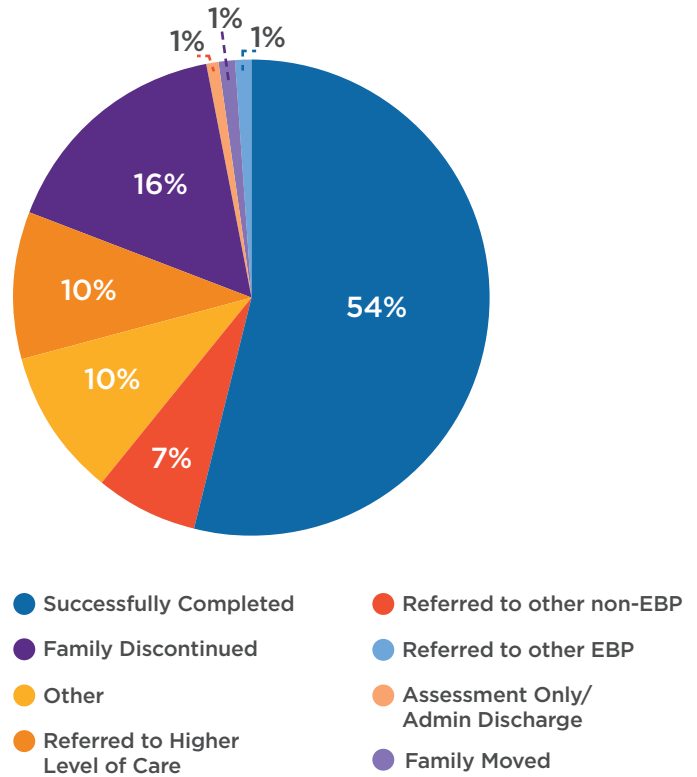
Figure 8. Primary Protocol Area (PPA) by age and sex (n= 319)



Discharge Reason

During the fiscal year, 319 children ended their MATCH-ADTC treatment episode. Clinicians rated half of children (54%) ending treatment as “completing all EBP requirements.” Children who did not complete all EBP requirements were most likely to not complete due to family discontinuing treatment. A binary logistic regression was performed in order to look at differences in successful discharge across demographic groups (age, sex, race/ethnicity) controlling for trauma exposure. Similar to FY20, Hispanic children were less significantly likely to successfully complete compared to White children. No other differences on race or other demographics were found.

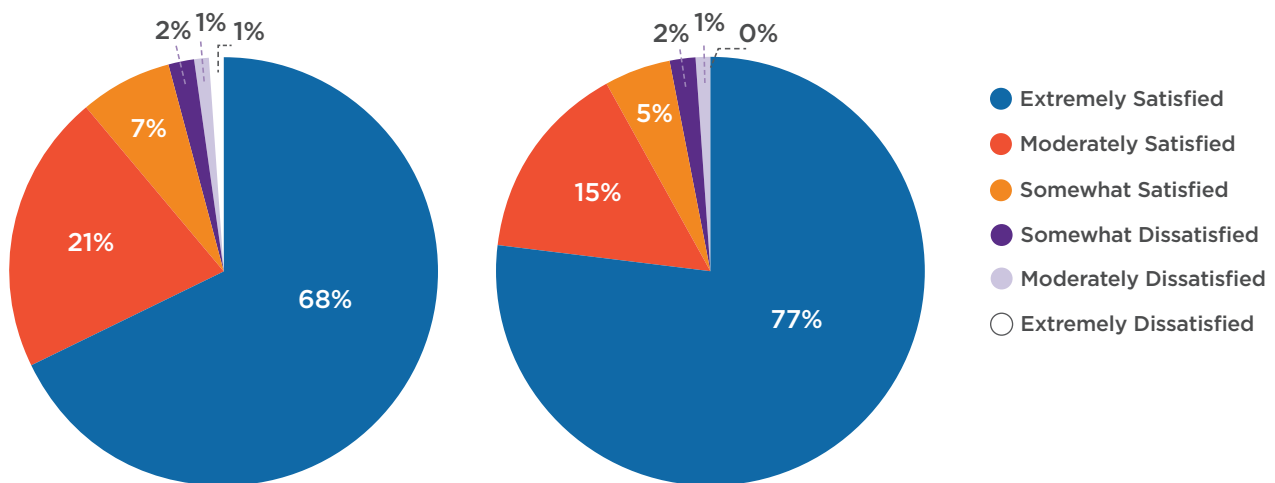
Figure 9. Reasons for discharge in FY21



Satisfaction

Caregivers report high levels of satisfaction with MATCH-ADTC treatment. In FY21, there were 141 (44.2%) Ohio Child Satisfaction completed and (55.5%) Ohio Caregiver Satisfaction forms completed. The responses to both measures are illustrated in Figures 10 and 11 below with 89% of children and 92% of caregivers indicating mostly or very satisfied with treatment.

Figures 10 & 11. Satisfaction categories, Child-report (left) Caregiver-report (right)



V. OUTCOMES: IMPROVEMENT FOR CHILDREN RECEIVING MATCH-ADTC

Children receiving MATCH-ADTC are assessed with a variety of measures selected to provide information on trauma history and severity of symptoms. At intake, children and their caregivers are each asked to complete the Trauma History Screen (THS), a measure of trauma symptoms, and a general behavioral measure appropriate to the age and symptoms of the child.

Each of the measures is listed along with the construct it measures and a summary of intake and discharge scores in Table 6 below. Also indicated in the table, where applicable, are the numbers of children whose score placed them in the clinical or critical range on a particular measure at intake and how many of those had moved out of that range by the last assessment. Change scores are given for each measure broken out by these two groups (those who started in the clinical range and those that did not). This is an important factor in examining change scores because greater change is possible and expected for children who begin treatment with greater symptom severity.

Improvement can be assessed for trauma symptoms, depressive symptoms, problem severity, or functioning. Each of these dimensions can have both a child and a caregiver report. When presenting changes in outcomes, we use two methods to summarize changes. The overall change scores, using t-tests, are presented as a general measure of significant shifts across all children served from intake to discharge. These are represented in the change scores in Table 6 below. Additionally, the Reliable Change Index (RCI) is also used. The RCI assigns a measurespecific point reduction threshold that represents significant change. An overview of the RCI with explanations on how and why it is used as well a table of relevant values by measure is included in Appendix E.



Rates of Outcome Data

Nearly three in four children (70.0%) discharged from MATCH-ADTC in the fiscal year had at least one first and last version of a child symptom assessment (child or caregiver report). Only 5.0% had a first and last measure of caregiver symptoms. Children receiving the conduct (66.6%) and trauma (71.7%) protocols were less likely to have outcome data compared to children receiving the depression (79.7%) or anxiety (78.7%) protocols. Children in the conduct protocol tend to be younger, and therefore may not be able to collect child-reported measure due to age requirements for the OHIOs.

In order to look at differences in rates of outcome data based on child demographics (age, race/ethnicity, sex) a binary logistic regression was performed controlling for trauma exposure and successful discharge. Only successful discharge was found to be significant where children without successful discharge were less likely ($\beta=-1.846$, $p<.001$) to have outcome data compared to children discharged successfully. Controlling for discharge reason and trauma exposure demographic characteristics did not have any significant effect on whether children had outcome data available. Binary logistic regression analyses are available in Appendix B.

Symptom Improvement

Children completing MATCH-ADTC demonstrated significant reductions in post-traumatic stress and problem severity symptoms and improvements in functioning (see Table 5). Remission rates and reliable change were similar across measures. Children receiving MATCH-ADTC were assessed on four different assessments of child symptoms across child and caregiver reporter versions. When children were assessed at two or more time points, changescores were calculated and the reliable change index (RCI) values were used to determine the percentage of children who experienced reliable change.

Children with Clinically High Symptoms at Baseline

Children who enter MATCH-ADTC with clinically high symptoms have higher rates of reliable symptom change after treatment. This trend was seen across all symptom categories (PTSD, externalizing/internalizing behaviors, and functioning). For problem severity (externalizing/internalizing) symptom outcome data, 53.7% of those with a caregiver report and 64.4% of those with a child report (54.6%) experienced problem severity symptom reduction. Comparatively, 81.9% of children with elevated caregiver-report at baseline and 73.8% of children with elevated child-report at baseline experienced reliable change in this symptom category. Similar trends were seen for children with elevated PTSD symptoms and functioning. Due to low response rates, we did not look at reliable change by critically high symptoms for depression symptoms. (See Figure 12 for overall reliable change percentages and Figures 13-15 for reliable change by critically high symptom category).

Figure 12. Percent of children with change, by measure

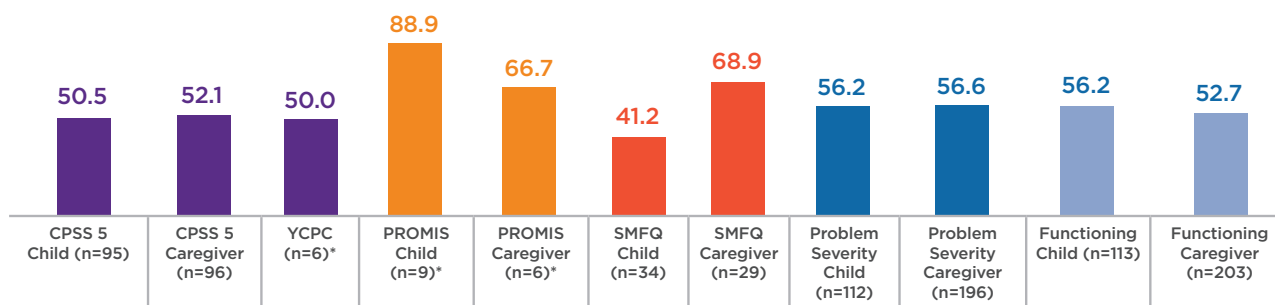


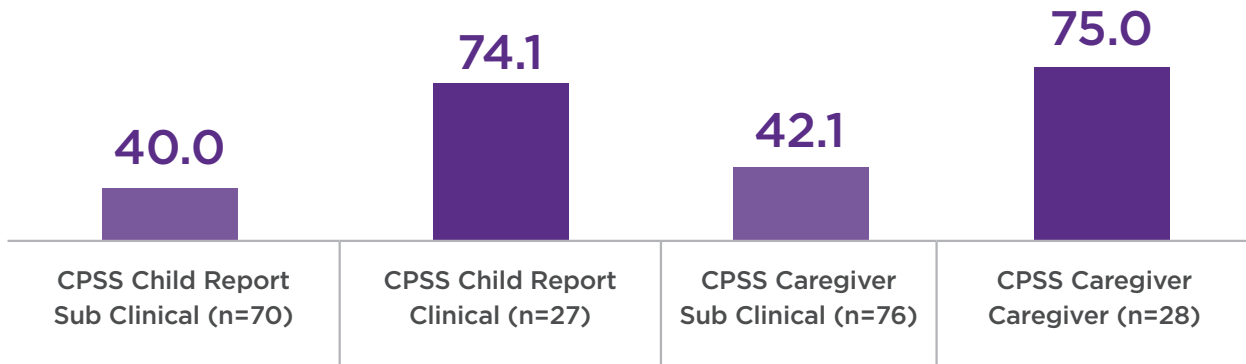
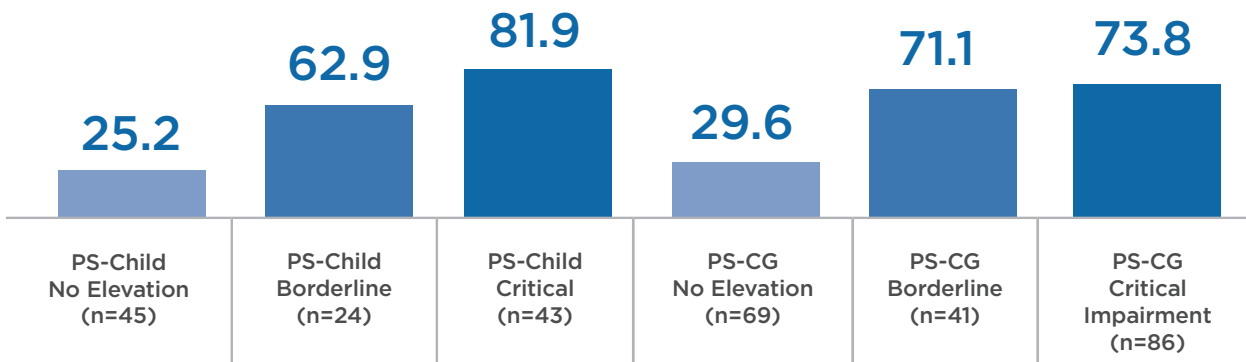
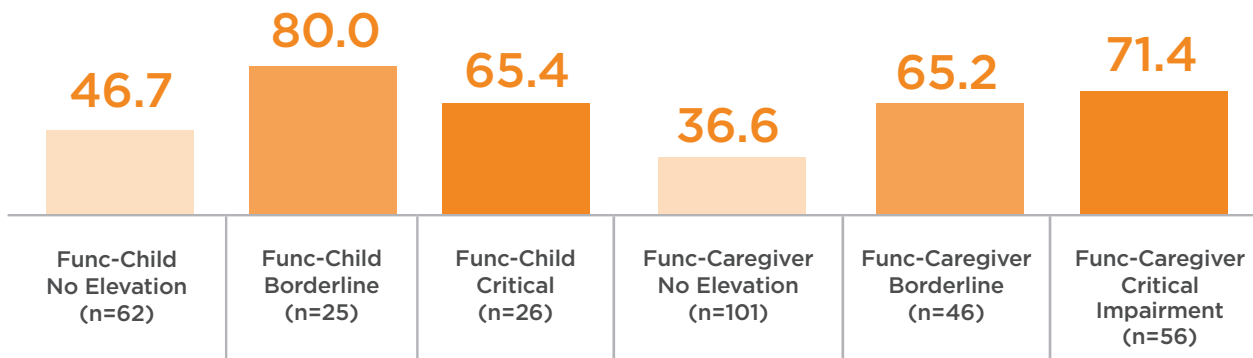
Figure 13. Percent of children with PTSD symptom reduction**Figure 14.** Percent with Ohio Problem Severity reduction**Figure 15.** Percent with Ohio Functioning improvement

Table 5. Descriptives and Change Scores for All Assessment Measures

Assessment Name ^a	Construct Measured	Above Cutoff	Intake Mean (S.D.)	Last Mean (S.D.)	Change Score	T-Score	Remission
THS Child (n=220)	Exposure to Potentially Traumatic Events	N/A	4.60 2.91	N/A	N/A	N/A	N/A
THS Caregiver (n=228)		N/A	4.28 2.48	N/A	N/A	N/A	N/A
CPSS V Child (n=95)	Trauma Symptoms	27 28.40%	24.5 16.50	15.45 14.09	-9.14**	5.92	15/27 55.60%
CPSS V Caregiver (n=96)		25 26.00%	22.42 14.49	14.05 13.44	-8.37**	6.41	10/25 40.00%
YCPC (n=6)		3 50.00%	23.17 13.91	11.67 7.15	-11.5	-	3/3 100.00%
PROMIS Child (n=107)	Anxiety Symptoms	4 44.40%	23.56 7.14	15.00 7.60	-8.56	-	3/4 75.00%
PROMIS Caregiver (n=6)		4 66.70%	26.50 9.85	17.00 9.89	-9.50	-	3/4 75.00%
SMFQ Child (n=34)	Depressive Symptoms	21 61.80%	8.85 5.63	5.76 5.42	-3.09	-	13/21 61.90%
SMFQ Caregiver (n=29)		N/A	10.62 6.37	6.03 6.12	-4.59	-	N/A
Ohio Problem Severity Child (n=112)	Severity of Internalizing/ Externalizing Behaviors	43 38.40%	22.37 13.37	15.21 11.55	-7.15**	5.68	25/43 58.10%
Ohio Problem Severity Caregiver (n=196)		86 43.39%	24.19 14.42	17.18 12.77	-7.01**	6.77	50/86 58.10%
Ohio Functioning Child (n=113)	Child's Adjustment and Functioning	26 23.00%	52.70 12.59	59.41 12.79	6.71**	-6.14	23/27 85.19%
Ohio Functioning Caregiver (n=203)		56 27.60%	51.46 13.60	56.82 13.47	5.36**	6.14	34/56 60.70%

8**. Indicated significance. Response rates for YCPC, SMFQ, and PROMIS too low for significance testing.

Clinical Improvements Across Groups

In addition to documenting the overall rates of symptom reduction and functional improvement, it is important to monitor if any subgroups are experiencing disproportionate outcomes. Multiple regressions were performed to look at the effect of demographics (age, race/ethnicity, sex) on overall, narrowband, and broadband symptom outcomes controlling for trauma exposure, initial symptom scores, and discharge reason. For overall symptom improvement, only successful discharge was found to be significant where children without successful discharge were less likely to have any reliable change across measures ($\beta=-1.46$, $p<.001$). For broadband change, only age and successful discharge were significant where older children were more likely to have reliable change and discharges without success were less likely to have reliable broadband symptom change. For narrowband change, only caregiver reports of trauma exposure ($\beta=0.246$, $p=.035$) were significant where higher trauma exposure was associated with greater likelihood of partial or greater reliable change. For specific measures, only caregiver reported functioning and PTS

symptoms had significant results, where Black children were found to have higher functioning at follow-up and older children higher PTS symptoms. These findings suggest that there may only be a few significant differences in symptom or functional improvement based on age, sex, or race/ethnicity. See Figure 16 below for a general overview. Details of the tests are in Appendix B.

Figure 16. Clinical improvement across groups

Measures		Demographic Values			
		Black Comparison	Hispanic Comparison	Age at Intake	Sex(m) Comparison
Broad Indicators	Measures Available ^{1,3}	● 0.458	● -0.041	● -0.082	● -0.042
	Successful Discharge ¹	● -0.608	▼ -0.988**	● 0.025	● 0.165
	Narrowband Reliable Change ^{1,3}	● -0.81	● 0.1	● 0.098	● -0.257
	Broadband Reliable Change ^{1,3}	● -0.792	● -0.281	▲ 0.148*	● 0.67
	Any Reliable Change ^{1,3}	● -0.352	● -0.012	● 0.039	● 0.218
Last Available Score	Ohio Functioning Child ^{1,2,3}	● 2.218	● -2.526	● 0.018	● 1.782
	Ohio Functioning Caregiver ^{1,2,3}	▲ 6.392*	● 0.665	● -0.197	● -2.711
	Ohio PS Child ^{1,2,3}	● -0.986	● 0.805	● 0.081	● -1.922
	Ohio PS Caregiver ^{1,2,3}	● -5.388	● 0.107	● -0.089	● 1.471
	CPSS5 Child ^{1,2,3}	● 4.53	● 1.946	● 0.343	● -1.713
	CPSS5 Caregiver ^{1,2,3}	● 6.995	● 4.61	▲ 0.762*	● 1.364

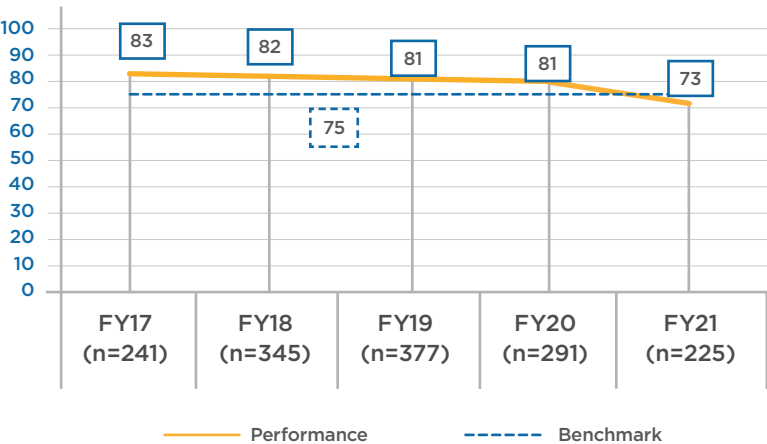
*P<.05, **P<.01 Compared to White Females
 Note: Other Non-Hispanic removed due to low n.
 Numbers represent regression coefficients

¹ Controlled for trauma exposure. ▲ Comparison is significantly higher compared to reference group.
² Controlled for baseline score. ▼ Comparison is significantly lower compared to reference group.
³ Controlled for discharge reason. ● Comparison is not significantly different than reference group.

Trends Over Time in Symptom Improvement

Symptom improvement, as measured by children who experienced reliable change, has declined this fiscal year and dipped slightly below the benchmark compared to the previous four fiscal years. (See figure 17 on the right). This dip in symptom improvement may be partially impacted by the COVID-19 pandemic as FY21 is the first full fiscal year during the pandemic and we are starting to see cases that started during the pandemic discharged in this time period.

Figure 17. Symptom improvement overtime



VI. SUMMARY AND CONCLUSIONS

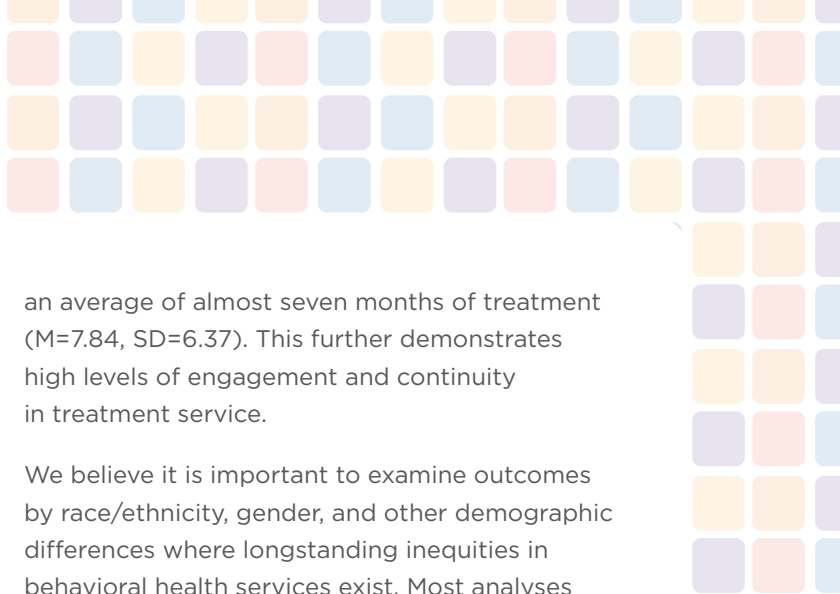
MATCH-ADTC is available across the state for children living with anxiety, depression, trauma, and/or conduct symptoms. In FY21, MATCH-ADTC was most commonly employed with 6-17 year-olds, which is consistent with the clinical model recommendations. Two thirds (67%) of Connecticut children who received MATCH-ADTC had clinically significant baseline scores across at least one symptom area (depression, posttraumatic stress, internalizing/externalizing behaviors, or functioning) with depressive symptoms being the most common. For children (especially male children) younger than 10, the Conduct Primary Protocol Area remained the most prevalent module employed, which parallels the design and utility of the MATCH-ADTC model. Finally, children generally began MATCH-ADTC with similar symptom profiles regardless of age, sex, and race/ethnicity.

There were 595 children receiving MATCH-ADTC in FY21 across 132 clinicians. This is an average of just over 4 children per clinician, a small decrease from last year (5) and a relatively small percentage of their overall case load. Lower MATCH caseloads and smaller MATCH team sizes (9 clinicians in FY20 vs. 7 in FY21) may explain the small decline in children served from FY20 (610) to FY21 (595). This was the first full fiscal year with COVID-19 and it's difficult to determine the full extent the pandemic has had on broad scale MATCH implementation. Anecdotally, providers have been reporting high staff turnover due to pandemic related stress, trauma, and secondary traumatic stress, a trend we are beginning to see in FY21 and may not see the full effect of until FY22 or beyond. Despite challenges related to the pandemic, this year we saw an increase in the percentage of active clinicians who saw a MATCH case (77% vs. 69%) demonstrating provider and clinician commitment to providing high-quality MATCH services despite pandemic-related barriers and stressors. Clearer expectations on caseloads and guidance on how to balance MATCH-ADTC with

other EBT models (nearly half are trained in an additional EBT model) has also helped ensure that more clinicians are using MATCH-ADTC after training and doing so frequently enough to maintain their clinical skills in the model.

Last year, COVID-19 and the resulting stay-at-home orders drastically changed the delivery of outpatient treatment, including MATCH-ADTC. Providers shifted to telehealth and worked to engage children and families under this new format. While many children were able to continue treatment, anecdotally there were children who ended treatment, had long gaps in being seen, or the stressors related to the pandemic changed treatment goals and the content of the sessions. Assessments were initially hard to administer though providers have worked hard to find ways to successfully collect this information electronically and through video or phone interviews. Recognizing the number of children receiving MATCH-ADTC slightly decreased from last year may be due to the pandemic related challenges and stressors, continued implementation support could benefit our network of providers conducting MATCH-ADTC treatment.

Anecdotally, MATCH-ADTC clinicians reported a notable increase in the acuity of behavioral and mental health symptoms, a trend echoed by providers statewide. This may be due to the impact of COVID-19 and the disruptions it brought to school routines, social interactions, treatment services and the overall unpredictability of the global pandemic. While baseline assessment scores in MATCH-ADTC did not show a clear pattern of increased elevation in FY21 compared to FY20, there were some measures that did show increased rates of elevation, including child reported depression symptoms (55.9% in FY20 to 62.3% in FY21), caregiver-rated problem severity (34.5% in FY20 to 40.5% in FY21).



Closer examination of these numbers over time, and within the broader OPCC population, is needed to determine if these are significant shifts. Additionally, there are likely other indicators of acuity that are not captured in the assessment scores alone. Trends in other factors that might indicate acuity (e.g., alcohol and substance use, Emergency Department visits) could also be examined over time to better understand how they might have shifted.

Despite the challenges presented due to the COVID-19 pandemic, MATCH-ADTC demonstrated strong outcomes. On the Ohio Problem Severity Scales, children with critical impairment experienced a significant reduction by caregiver and child report, 58.1% and 58.1% respectively. Children with critical impairment in functioning also had similar success with improvements, 85.19% and 60.7% respectively. The relatively low rates of elevated intake scores on the Ohio Scales suggest more targeted assessments, ones that directly measure one of the four protocol areas, might be more appropriate for children starting MATCH-ADTC treatment. In particular, encouraging clinicians to utilize the PROMIS and SMFQ measures for children with anxiety and/or depression will give a better picture of symptom improvement in MATCH-ADTC. Even with these limitations, MATCH-ADTC has consistently met or been close to meeting the outcome measure quality improvement benchmark since FY17 and this year was no exception.

In addition to the baseline and outcome data, quality of service remained high despite implementation challenges related to the COVID-19 pandemic. Engagement and assessment data completion indicators were met during both performance periods, and symptom improvement remained high (74% and higher). Further, client satisfaction remained high; over 90% of children and their caregivers reported either very satisfied or satisfied in on the Ohio Satisfaction. On average, children who completed MATCH-ADTC attended 16 sessions ($M=16.06$, $SD=13.28$) within

an average of almost seven months of treatment ($M=7.84$, $SD=6.37$). This further demonstrates high levels of engagement and continuity in treatment service.

We believe it is important to examine outcomes by race/ethnicity, gender, and other demographic differences where longstanding inequities in behavioral health services exist. Most analyses revealed no differences across racial/ethnic and other demographic groups for MATCH-ADTC. Rates of improvement were largely comparable across groups, after controlling for successful completion. However, Hispanic children were less likely to complete treatment compared to their White counterparts, a trend continuing from FY20. This suggests specific attention to the initial engagement process with these families might improve outcomes. The coordinating center, DCF, and providers can further examine this trend by doing additional analysis to understand what may be associated with dropout among Hispanic families, and to identify culturally-relevant strategies and interventions aimed at increasing engagement and participation of Hispanic children and families in MATCH-ADTC.

This year, we saw two significant differences in trauma exposure based on race/ethnicity where Hispanic children self-report higher rates of trauma exposure compared to White children and caregivers of Other, Non-Hispanic children also report higher rates of trauma exposure. The recognition of traumas related to racism and discrimination suggests these experiences might be having an effect. Working with MATCH-ADTC developers and trainers to develop modules and protocols on racial trauma would enable clinicians to have tools to address such experiences in treatment. Once clinicians have MATCH-ADTC-specific training on how to incorporate these pieces into the model, experiences of racism and discrimination should be explicitly asked about and addressed. Implementing screening questions about discrimination could provide a more accurate view of a child and family's

experience and in turn inform treatment, but it is essential that if such experiences are screened for that there are appropriate treatment protocols for clinicians to follow and support for them in implementing them. While outcomes were largely similar across groups, Hispanic children continue to be less likely to complete MATCH despite self-reporting higher trauma exposure. If during treatment the role of racism and discrimination is not discussed as a part of trauma, or if children's whole life experiences are not being valued, then that may contribute to decisions to pre-maturely end MATCH treatment.

Another noted potential disparity is in the rates of groups receiving MATCH-ADTC compared to the population receiving outpatient services. There was a high rate of race and ethnicity (24%) and language (40%) not being reported for MATCH-ADTC which makes it difficult to interpret other differences, such as 10% of MATCH-ADTC children being Black compared 15% of children in outpatient, or only 3% of children in MATCH primarily speaking Spanish compared to 11% of children in outpatient. The Coordinating Center supports a group of bilingual EBT clinicians that could review these data and potentially make suggestions. Assessments are available in hard copy in Spanish and this fiscal year an update to the PIE system allows clinicians to toggle assessment language between Spanish and English in real time.

Now that there is the ability to link MATCH-ADTC treatment information with the overall outpatient episode, there is an opportunity to better integrate analysis and reporting. It is now possible to examine who receives an EBT and, perhaps more importantly, who does not. Once children begin MATCH-ADTC, most outcomes are comparable across groups, but it is important to consider factors that might influence the opportunity for a child to be identified for and start an EBT. When outcomes are not similar, for example the finding that Hispanic youth are less likely to successfully complete, it is possible to see if this is a trend specific to MATCH-ADTC or

one that is present overall in outpatient treatment outcomes. Examining this data can identify ways agencies and communities can ensure EBTs are being used equitably.

Examining the data by groups is important but stops short of actively working to minimize bias in treatment delivery. As a network there is a need to continuously move forward in acknowledging and addressing how discrimination and racism impact mental health and taking steps to address disparities. One area of focus for DCF in the upcoming year is to partner with agencies in providing technical assistance in developing and refining agency Health Equity Plans (HEPs). CHDI can support this work by folding it into implementation consultation work and, in working with DCF and providers, providing additional training opportunities with a focus on how providers can engage across cultures more equitably and sustainably. Cultural considerations in working with diverse backgrounds using MATCH-ADTC could be explored more with providers and include an awareness of cultural influence in response to anxiety, trauma, depression and conduct problems. Working to become anti-racist and actively addressing disparities is consistent with the goals of DCF, CHDI and the provider agencies; supporting these efforts within MATCH-ADTC has been and will continue to be an important focus.



VII. RECOMMENDATIONS

The following recommendations are made for continued support of the MATCH-ADTC statewide network:

Coordinating Center:

- Analyze and report on use of MATCH-ADTC within the overall outpatient system to better understand who receives MATCH-ADTC and when within the overall outpatient episode; a particular emphasis should be on examining MATCH-ADTC service rates across racial/ethnic groups compared to outpatient services.
- Analyze data to better understand demographic factors and other characteristics that might influence MATCH-ADTC treatment, initial engagement, drop out, or differences in symptom reduction.
- Ensure implementation of the Clinical Global Impressions scale including monitoring adherence to data requirements, incorporating the measuring into routine reporting, and establishing benchmarks for the improvement indicator. The CGI information can support comparisons of MATCH-ADTC to treatment as usual to understand how severity of cases and level of improvement vary across treatment.
- Provide resources and continued implementation support to all agencies providing telehealth and in-person services to ensure consistency in service delivery to all children receiving behavioral health services.
- Provide education to child welfare staff and community providers about the value of evidence-based treatments and MATCH-ADTC for children with behavioral health needs including how to determine the type of treatment a child is receiving, and how to advocate for EBTs.
- Establish expectations on the number of children clinicians should use MATCH-ADTC with each year, taking into consideration other EBTs they might be practicing, to both ensure they have opportunities to improve their MATCH-ADTC clinical skills and increase the number of children that are receiving MATCH-ADTC.
- Continue to collect relevant financial data and support adequate reimbursement rates for the implementation and sustainability of MATCH-ADTC and other EBPs.
- Offer MATCH training opportunities in a hybrid format to accommodate changes brought on by COVID-19 to improve access to MATCH-ADTC across the state.
- In collaboration with DCF, re-evaluate the compensation plan for the Connecticut MATCH Associate Trainers to ensure adequate reimbursement rates are provided to conduct MATCH trainings and consultation.
- Offer support and consultation on cultural considerations with use of MATCH-ADTC and the cultural influence on the response to trauma, depression, and conduct.
- Further investigate lower rates of treatment completion among Hispanic children, and implement strategies to increase completion among Hispanic children based on results.
- Provide assessment recommendations during MATCH training and consultation, especially for children assigned to the Anxiety or Depression protocol areas to increase the appropriateness of measures used in the flexible assessment schedule.

Providers:

- Develop plans to monitor MATCH-ADTC caseloads for clinicians to ensure those trained are maintaining their MATCH-ADTC clinical skills and continuing to deliver the model with children and families.
- Continue to discuss and modify implementation plans as needed to accommodate changes brought on by COVID-19.
- Identify and implement strategies to improve workforce development and staff retention to support clinicians and agencies delivering EBTs.
- Hire and retain clinicians who will provide culturally sensitive care to diverse populations.

System:

- Examine the impact of COVID-19 on MATCH-ADTC access, use, and outcomes. While general trends are noted for FY 2021, more detailed study is needed to look at data over time, both pre- and post-COVID, to understand how services were affected. Understanding how subgroups varied in rates of staying engaged in services, initially accessing services, severity of symptoms and presenting problems, and outcomes will provide valuable information for providers and the overall system on how delivery of EBTs like MATCH-ADTC can help support children.
- Explore inclusion of a racial trauma module or other adaptations to better address experiences of racism and discrimination in the MATCH-ADTC model.
- Add assessment options to measure conduct symptoms in children, which will support data driven decision making to determine initial MATCH-ADTC protocol.
- Offer Portuguese language versions of assessments in electronic format within the PIE database system.
- Provide Reliable Change Index (RCI) values for all measures on the score profile report in PIE to demonstrate symptom reduction.
- Update terminology used in PIE (e.g., sex assigned at birth; Latino) to collect demographic information that complies with current best practices (e.g., sex assigned at birth and gender identity; Latinx).
- Expand collection of zip codes to nine digits in PIE to strengthen opportunities to merge PIE data with external data sources (e.g., Area Deprivation Index) to examine health disparities and inequities.
- Continue funding performance-based sustainment funds to improve capacity, increase access, and ensure quality of care; these incentives partially offset the increased agency costs of providing an EBT.
- Collect information on client satisfaction related to telehealth services as part of the service delivery, as these experiences can impact service outcomes.
- Explore ways to enhance data systems to make them easier to use and better able support and improve clinical workflow.
- Update collection method on MATCH-ADTC session data, either through requiring at discharge or adding back to the monthly session form in PIE, as consistent care rates have fallen which has largely seems to be attributable to changes in how the information is collected. This also has reduced our ability to accurately track caregiver involvement in treatment which is an important factor in MATCH-ADTC.
- Continue to disseminate, support, and integrate EBTs beyond MATCH-ADTC. This work could have a broader impact on the children's behavioral health system and could test and implement population-based strategies and models (e.g. for all children seen in OPCCs) through use of standardized assessment measures (measurement based care) and clinical and organizational strategies that are relevant for all children (e.g. engagement, behavioral rehearsal, use of supervision, self-care). The lessons learned from the implementation of MATCH-ADTC, which addresses the primary presenting problems seen in outpatient setting, provides a strong foundation for developing a model to improve care for all children in outpatient settings.

VIII. APPENDIX A: ACTIVITIES AND DELIVERABLES

The Coordinating Center has worked to support the MATCH-ADTC implementation goals through the following activities carried out in FY21.

1. Training, Consultation, & Credentialing

- Our contracted Harvard University trainer and Connecticut Associate Trainers provided two MATCH-ADTC trainings (14 days) in FY21 (40 new clinicians trained).
- Initiated one day MATCH-ADTC Booster Training for previously trained clinicians and 17 clinicians attended.
- In January 2021, two virtual sessions were provided to (5) MATCH supervisors to be trained as an in-house MATCH Associate consultants.
- MATCH-ADTC Associate Consultant Consultation started was initiated in February 2021 and (5) consultation meetings were conducted; consultation is scheduled to complete in the fall of FY22.
- The first year MATCH (9) consultation calls were led by a MATCH Associate Trainer to (5) newly trained MATCH clinicians.
- Connecticut Early Psychosis Learning Health Network provided a two-part webinar series on First Episode Psychosis (FEP). (2) Virtual sessions were offered to Connecticut Outpatient providers, with a total of 70 attendees.
- In July 2020, The Connecticut Early Psychosis Learning Health Network continued a consultation call group with outpatient providers on First Episode Psychosis (FEP); 16 calls were conducted during FY21.
- A cohort of two MATCH-ADTC trained individuals successfully completed the one day Train-the-Trainer Training.
- The Connecticut Associate Trainers conducted both MATCH-ADTC trainings in the Fall and Spring of FY21.
- Coordinated registration, attendance, and CEUs for MATCH-ADTC and OPCC Trainings.
- Maintained a statewide MATCH-ADTC clinician credentialing process and requirements to increase the number of clinicians that complete all training and case requirements; 59 clinicians were Connecticut credentialed by the end of FY21.
- Maintained a training record database to track training and consultation attendance of all MATCH-ADTC staff, as well as other credentialing requirements for all MATCH-ADTC clinicians; in FY21 there were 171 active clinicians.
- Convened thirteenth annual statewide EBP virtual Conference, an evolution of the original MATCH-ADTC Conference, for 549 participants from community providers, DCF, CSSD staff, and other partners in the initiative.

2. Implementation Support, Quality Improvement, & Technical Assistance

- Produced reports for two QI performance periods based on developed MATCH-ADTC QI indicators and benchmarks.
- Utilized a QI process of implementation consultation based on emerging implementation science field and needs of agencies.
- Developed agency-specific QI plans using SMARTER Goals focused on agency performance on QI benchmarks and strategies to improve access, quality and service delivery.

- Provided 59 implementation consultation support meetings with providers to ensure sustainment of high quality services.
- Implemented and convened 3 Coordinator meetings focusing on sharing implementation and successful meeting strategies.
- Provided updates to all MATCH-ADTC participants through a monthly Data Dashboard.
- Distributed additional MATCH-ADTC books, materials, and resources to all MATCH-ADTC teams and successful meeting strategies.
- Provided updates to all MATCH-ADTC participants through a monthly Data Dashboard.
- Distributed additional MATCH-ADTC books, materials, and resources to all MATCH-ADTC teams.

3. Data Systems

- System updated to provide MATCH-ADTC assessments in Spanish.
- Provided enrollment assistance to providers when MATCH clinicians registered for the new clinician training.
- Continued improvements to the PIE system have been made based upon agency feedback and as possible with available funding.
- Maintained a public directory site that provides a searchable, public listing of MATCH-ADTC providers through EBP Tracker (tinyurl.com/ebpsearch).
- Maintained a map, public listing of MATCH-ADTC providers on CHDI's website Monitored, maintained, and provided technical assistance for online data entry for all MATCH-ADTC providers in PIE.
- Provided site-based data assistance and reports as requested.

4. Agency Sustainment Funds

- Administered and distributed \$354,000 in performance-based sustainment funds to agencies (35.4% of total contract funds).
- Performance-based financial incentives to improve capacity, access and quality care.
- While these financial incentives are intended to partially offset the increased agency costs of providing an evidence-based practice, agency leadership reports that they do not adequately cover the costs of providing MATCH-ADTC (See Financial Incentive document in Appendix A for details).
- Developed, executed, and managed contracts with each of the 23 MATCH-ADTC providers eligible for financial incentives to detail implementation expectations, data sharing, and financial incentive details.
- Analyzed and reported financial incentives for each agency for two 6-month performance periods.

IX. APPENDIX B: REGRESSION TABLES

Figure 18. Overview of demographics and treatment incators.

Measures	Demographic Values				
	Black Comparison	Hispanic Comparison	Other Non-Hispanic Comparison	Age at Intake	Sex(m) Comparison
Trauma Exposure – Child	● 0.312	▲ 0.821*	● 1.085	▲ 0.327**	● 0.462
Trauma Exposure – Caregiver	● 0.081	● -0.128	▲ 1.541*	▲ 0.128**	● 0.5
Narrowband Baseline Elevated ¹	● -0.676	● 0.183	● -0.289	● 0.051	● -0.398
Broadband Baseline Elevated ¹	● -0.46	● 0	● 0.137	● 0.045	● 0.343
Measures Available ^{1,3}	● 0.458	● -0.041	–	● -0.082	● -0.042
Sucessful Discharge ¹	● -0.608	▼ -0.988**	–	● 0.025	● 0.165
Narrowband Reliable Change ^{1,3}	● -0.81	● 0.1	–	● 0.098	● -0.257
Broadband Reliable Change ^{1,3}	● -0.792	● -0.281	–	✚ 0.148*	● 0.67
Any Reliable Change ^{1,3}	● -0.352	● -0.012	–	● 0.039	● 0.218
1 st Score – Ohio Functioning Child ¹	● -2.438	● -3.304	–	● -1.239	● -1.962
1 st Score – Ohio Functioning Caregiver ¹	● -1.209	● 1.473	–	● 0.125	● -5.333
1 st Score – Ohio PS Child ¹	● 5.568	● 1.947	–	● -0.698	● -2.144
1 st Score – Ohio PS Caregiver	● 1.477	● 0.664	–	● -1.086	● 3.5
1 st Score – CPSS5 Child ¹	● -2.161	● 5.146	–	● 0.048	▼ -6.264*
1 st Score – CPSS5 Caregiver ¹	● -4.599	● -1.342	–	● -0.266	● -1.965
2 nd Score – Ohio Functioning Child ^{1,2,3}	● 2.218	● -2.526	–	● 0.018	● 1.782
2 nd Score – Ohio Functioning Caregiver ^{1,2,3}	▲ 6.392*	● 0.665	–	● -0.197	● -2.711
2 nd Score – Ohio PS Child ^{1,2,3}	● -0.986	● 0.805	–	● 0.081	● -1.922
2 nd Score – Ohio PS Caregiver ^{1,2,3}	● -5.388	● 0.107	–	● -0.089	● 1.471
2 nd Score – CPSS5 Child ^{1,2,3}	● 4.53	● 1.946	–	● 0.343	● -1.713
2 nd Score – CPSS5 Caregiver ^{1,2,3}	● 6.995	● 4.61	–	▲ 0.762*	● 1.364

*P<.05, **P<.001 Compared to White Females

¹Controlled for trauma exposure. ²Controlled for baseline score. ³Controlled for discharge reason.

▲ Comparison is significantly higher compared to reference group.

▼ Comparison is significantly lower compared to reference group.

● Comparison is not significantly different than reference group.

Table B1. Logistic regression analyses for predicting child has elevated scores on any narrowband measure from selected background characteristics, MATCH

Predictors	<i>N</i>	β	<i>SE</i>	<i>Wald</i>	<i>eB(95% CI)</i>
Hispanic	110	0.183	0.263	0.484	1.201 (0.717, 2.009)
Other Non-Hispanic	15	-0.289	0.582	0.246	0.749 (0.239, 2.344)
Black Non-Hispanic	33	-0.676	0.408	2.741	0.509 (0.229, 1.132)
Sex M	169	-0.398	0.253	2.477	0.672 (0.409, 1.103)
Child Age	327	0.051	0.043	1.362	1.052 (0.966, 1.145)
Trauma Exposure – THS, Child	327	0.102	0.053	3.775	1.108 (0.999, 1.229)
Trauma Exposure – THS, Caregiver	327	0.109	0.061	3.231	1.115 (0.99, 1.257)
Constant	-	-1.21*	0.572	4.47	0.298

*p<.05 As compared to White Females **p<.01

Table B2. Logistic regression analyses for predicting child has elevated scores on any broadband measure from selected background characteristics, MATCH.

Predictors	<i>N</i>	β	<i>SE</i>	<i>Wald</i>	<i>eB(95% CI)</i>
Hispanic	121	0	0.243	0	1 (0.621, 1.609)
Other Non-Hispanic	15	0.137	0.565	0.059	1.147 (0.379, 3.473)
Black Non-Hispanic	34	-0.46	0.384	1.433	0.631 (0.297, 1.341)
Sex M	151	0.343	0.237	2.098	1.41 (0.886, 2.243)
Child Age	357	0.045	0.04	1.219	1.046 (0.966, 1.132)
Trauma Exposure – THS, Child	357	0.024	0.047	0.251	1.024 (0.934, 1.123)
Trauma Exposure – THS, Caregiver	357	0.109	0.056	3.814	1.115 (1, 1.243)
Constant	-	-1.112*	0.533	4.354	0.329

*p<.05 As compared to White Females **p<.01

Table B3. Multiple regression analyses of selected demographic variables on child reported baseline scores, MATCH.

Predictors	1st Overall Severity, CPSS5 Child			1st Total Score, Ohio FX Child			1st Total Score, Ohio PS Child		
	β	SE	95%CI	β	SE	95%CI	β	SE	95%CI
Intercept	12.371	9.748	(-6.913, 31.654)	74.986**	9.028	(57.125, 92.846)	25.819**	9.175	(7.668, 43.969)
Hispanic	5.146	2.749	(-0.293, 10.585)	-3.304	2.547	(-8.342, 1.733)	1.947	2.588	(-3.173, 7.067)
Other Non-Hispanic	-	-	-	-	-	-	-	-	-
Black Non-Hispanic	-2.161	3.926	(-9.927, 5.605)	-2.438	3.636	(-9.631, 4.756)	5.568	3.695	(-1.742, 12.878)
Age at Intake	0.048	0.686	(-1.309, 1.406)	-1.239	0.635	(-2.496, 0.018)	-0.698	0.646	(-1.975, 0.58)
Sex M	-6.264*	2.952	(-12.103, -0.425)	-1.962	2.734	(-7.37, 3.447)	-2.144	2.778	(-7.641, 3.352)
Trauma Exposure - THS, Child	2.024	0.51	(1.014, 3.033)	-0.449	0.473	(-1.384, 0.486)	1.236**	0.48	(0.286, 2.186)
Trauma Exposure - THS, Caregiver	2.051	0.621	(-0.977, 1.478)	-0.048	0.575	(-1.185, 1.089)	-0.116	0.584	(-1.272, 1.039)
R ²	0.229	-	-	0.065	-	-	0.083	-	-
F	6.482	-	-	1.515	-	-	1.975	-	-

*p<.05 As compared to White Females **p<.01

Table B4. Multiple regression analyses of selected demographic variables on caregiver reported baseline scores, MATCH.

Predictors	1st Overall Severity, CPSS5 Caregiver			1st Total Score, Ohio FX Caregiver			1st Total Score, Ohio PS Caregiver		
	β	SE	95%CI	β	SE	95%CI	β	SE	95%CI
Intercept	16.523	9.589	(-2.447, 35.492)	48.476**	10.462	(27.779, 69.173)	31.064**	9.42	(12.428, 49.7)
Hispanic	-1.342	2.705	(-6.693, 4.008)	1.473	2.951	(-4.365, 7.311)	0.664	2.657	(-4.592, 5.921)
Other Non-Hispanic	-	-	-	-	-	-	-	-	-
Black Non-Hispanic	-4.599	3.862	(-12.239, 3.041)	-1.209	4.214	(-9.545, 7.126)	1.477	3.794	(-6.028, 8.983)
Age at Intake	-0.266	0.675	(-1.601, 1.069)	0.125	0.736	(-1.332, 1.582)	-1.086	0.663	(-2.398, 0.226)
Sex M	-1.965	2.904	(-7.709, 3.779)	-5.333	3.168	(-11.601, 0.934)	3.5	2.853	(-2.144, 9.143)
Trauma Exposure - THS, Child	0.807	0.502	(-0.185, 1.8)	0.031	0.548	(-1.052, 1.115)	0.303	0.493	(-0.672, 1.279)
Trauma Exposure - THS, Caregiver	1.113	0.610	(-0.095, 2.32)	0.596	0.666	(-0.722, 1.913)	0.515	0.6	(-0.672, 1.701)
R ²	0.101	-	-	0.034	-	-	0.073	-	-
F	2.464	-	-	0.772	-	-	1.727	-	-

*p<.05 As compared to White Females **p<.01

Table B5. Multiple regression analyses of selected demographic variables on Trauma History Screen, Child, and Trauma History Screen, Caregiver, assessments, MATCH.

Predictors	Trauma Exposure - THS, Child			Trauma Exposure - THS, Caregiver		
	β	<i>SE</i>	95%CI	β	<i>SE</i>	95%CI
Hispanic	0.821*	0.335	(0.162, 1.481)	-0.128	0.288	(-0.694, 0.438)
Other Non-Hispanic	1.085	0.768	(-0.426, 2.595)	1.541**	0.659	(0.245, 2.837)
Black Non-Hispanic	0.312	0.534	(-0.739, 1.363)	0.081	0.458	(-0.82, 0.982)
Age at Intake	0.327**	0.054	(0.222, 0.433)	0.128**	0.046	(0.037, 0.218)
Sex M	0.462	0.329	(-0.186, 1.109)	0.500	0.283	(-0.056, 1.055)
<i>R</i> ²	0.133	-	-	0.041	-	-
<i>F</i>	8.977	-	-	2.968	-	-

*p<.05 As compared to White Females **p<.01

Table B6. Multinomial logistic regression predicting child's first primary problem areas of Depression, Trauma, or Conduct from selected characteristic variables.

Predictors	Depression				Trauma				Conduct			
	β	<i>SE</i>	<i>Wald</i>	<i>e</i> ^B (95%CI)	β	<i>SE</i>	<i>Wald</i>	<i>e</i> ^B (95%CI)	β	<i>SE</i>	<i>Wald</i>	<i>e</i> ^B (95%CI)
Intercept	-4.225	1.3	10.63	-	-2.699	1.4	3.708	-	0.159	1.804	0.008	-
Age at Intake	0.26**	0.09	8.009	1.297 (1.083, 1.553)	-0.016	0.11	0.023	0.984 (0.8, 1.211)	-0.265	0.157	2.854	0.767 (0.564, 1.043)
Trauma Exposure - THS, Caregiver	0.117	0.11	1.047	1.124 (0.898, 1.407)	0.277*	0.13	4.759	1.319 (1.029, 1.691)	-0.031	0.177	0.030	0.97 (0.685, 1.372)
Trauma Exposure - THS, Child	0.327**	0.09	0.001	1.002 (0.834, 1.205)	0.125	0.11	1.374	1.133 (0.92, 1.396)	0.111	0.139	0.638	1.117 (0.851, 1.467)
Problem Severity, Externalizing, Caregiver	0.118**	0.04	9.088	1.125 (1.042, 1.214)	0.118*	0.04	9.088	1.115 (1.025, 1.213)	0.214**	0.053	16.413	1.238 (1.117, 1.373)
Problem Severity, Externalizing, Child	-	-	-	-	-	-	-	-	-	-	-	-
Problem Severity, Internalizing, Caregiver	-0.033	0.032	1.028	-0.033 (0.032, 1.028)	-0.033	0.03	1.028	0.948 (0.881, 1.02)	-0.199	0.063	9.949	-0.199 (0.063, 9.949)
Problem Severity, Internalizing, Child	-	-	-	-	-	-	-	-	-	-	-	-
Hispanic	-0.066	0.47	0.019	0.936 (0.371, 2.363)	0.271	0.58	0.221	1.311 (0.425, 4.046)	-0.135	0.716	0.036	-0.135 (0.716, 0.036)
Other Non-Hispanic	-	-	-	-	-	-	-	-	-	-	-	-
Black Non-Hispanic	-0.552	1.05	0.275	0.576 (0.073, 4.527)	1.753*	0.85	4.224	5.773 (1.085, 30.726)	0.659	1.1	0.359	0.659 (1.1, 0.359)
Sex	-0.46	0.48	0.922	0.631 (0.247, 1.614)	-0.79	0.57	1.928	0.454 (0.149, 1.384)	1.095	0.706	2.404	1.095 (0.706, 2.404)

*p<.05 As compared to White Females **p<.01

Table B7. Logistic regression analyses for predicting child discharged rated as "successful" from selected background characteristics, MATCH.

Predictors	<i>N</i>	β	<i>SE</i>	<i>Wald</i>	<i>e^B</i> (95%CI)
Hispanic	59	-0.988**	0.344	8.247	0.372 (0.19, 0.731)
Other Non-Hispanic	-	-	-	-	-
Black Non-Hispanic	19	-0.608	0.511	1.416	0.544 (0.2, 1.482)
Sex M	73	0.165	0.34	0.234	1.179 (0.605, 2.297)
Child Age	179	0.025	0.057	0.2	1.026 (0.917, 1.147)
Trauma Exposure – THS Child	179	0.016	0.067	0.056	1.016 (0.891, 1.159)
Trauma Exposure – THS Caregiver	179	-0.06	0.079	0.581	0.942 (0.807, 1.099)
Constant	-	0.56	0.738	0.575	1.751

*p<.05 As compared to White Females **p<.01

Table B8. Logistic regression analyses for predicting first and last measure available for any measure of child/caregiver symptoms except CAGE-AID from selected background characteristics, MATCH.

Variable	<i>N</i>	β	<i>SE</i>	<i>Wald</i>	<i>e^B</i> (95%CI)
Hispanic	59	-0.041	0.443	0.008	0.96 (0.403, 2.289)
Other Non-Hispanic	-	-	-	-	-
Black Non-Hispanic	19	0.458	0.73	0.393	1.58 (0.378, 6.613)
Sex	73	-0.042	0.453	0.008	0.959 (0.394, 2.333)
Child Age	179	-0.082	0.076	1.19	0.921 (0.794, 1.068)
Trauma Exposure – THS Child	179	0.106	0.091	1.371	1.112 (0.931, 1.328)
Trauma Exposure – THS Caregiver	179	-0.067	0.108	0.388	0.935 (0.756, 1.156)
Child Discharged "Unsuccessfully"	75	-1.89**	0.439	18.523	0.151 (0.064, 0.357)
Constant	-	3.152**	1.073	8.625	23.374

*p<.05 As compared to White Females **p<.01

Table B9. Logistic regression analyses for predicting any child symptom measure partial reliable change or better from selected background characteristics, MATCH.

Variable	N	β	SE	Wald	e ^B (95%CI)
Hispanic	59	-0.012	0.376	0.001	0.988(0.473, 2.064)
Other Non-Hispanic	-	-	-	-	-
Black Non-Hispanic	19	-0.352	0.557	0.398	0.703(0.236, 2.098)
Sex	73	0.218	0.367	0.355	1.244(0.606, 2.552)
Child Age	179	0.039	0.061	0.416	1.04(0.923, 1.172)
Trauma Exposure – THS Child	179	0.02	0.073	0.078	1.021(0.884, 1.178)
Trauma Exposure – THS Caregiver	179	0.206	0.093	4.907	1.229(1.024, 1.475)
Child Discharged "Unsuccessfully"	75	-1.459**	0.349	17.451	0.232(0.117, 0.461)
Constant	-	-.412	0.79	0.272	0.662

*p<.05 As compared to White Females **p<.01

Table B10. Logistic regression analyses for predicting broadband measure partial reliable change or better from selected background characteristics, MATCH.

Variable	N	β	SE	Wald	e ^B (95%CI)
Hispanic	42	-0.281	0.445	0.398	0.755 (0.315, 1.807)
Other Non-Hispanic	-	-	-	-	-
Black Non-Hispanic	14	-0.792	0.637	1.545	0.453 (0.13, 1.579)
Sex	57	0.67	0.426	2.474	1.953 (0.848, 4.5)
Child Age	136	0.148*	0.071	4.315	1.159 (1.008, 1.333)
Trauma Exposure – THS Child	136	0.022	0.088	0.063	1.022 (0.861, 1.214)
Trauma Exposure – THS Caregiver	136	0.112	0.099	1.281	1.118 (0.921, 1.357)
Child Discharged "Unsuccessfully"	45	-0.837*	0.418	4.01	0.433 (0.191, 0.982)
Constant	-	-1.356	0.879	2.38	0.258

*p<.05 As compared to White Females **p<.01

Table B11. Logistic regression analyses for predicting narrowband measure partial reliable change or better from selected background characteristics, MATCH.

Variable	N	β	SE	Wald	e ^B (95%CI)
Hispanic	29	0.1	0.513	0.038	1.106 (0.404, 3.023)
Other Non-Hispanic	-	-	-	-	-
Black Non-Hispanic	12	-0.81	0.712	1.291	0.445 (0.11, 1.798)
Sex	42	-0.257	0.488	0.278	0.773 (0.297, 2.012)
Child Age	101	0.098	0.079	1.535	1.102 (0.945, 1.286)
Trauma Exposure – THS Child	101	0.035	0.093	0.138	1.035 (0.862, 1.243)
Trauma Exposure – THS Caregiver	101	0.246*	0.116	4.451	1.279 (1.018, 1.606)
Child Discharged "Unsuccessfully"	36	-0.635	0.47	1.827	0.530 (0.211, 1.331)
Constant	-	-1.679	1.046	2.577	0.187

*p<.05 As compared to White Females **p<.01

Table B12. Multiple regression analyses of selected demographic variables on child reported outcome scores, MATCH.

Predictors	Last Overall Severity, CPSS5 Child			Last Total Score, Ohio FX Child			Last Total Score, Ohio PS Child		
	β	SE	95%CI	β	SE	95%CI	β	SE	95%CI
Trauma Exposure - THS, Child	-0.671	0.499	(-6.913, 31.654)	0.233	0.376	(-0.514, 0.98)	0.136	0.399	(-0.657, 0.929)
Baseline Score	0.49**	0.088	(-1.666, 0.323)	0.519**	0.084	(0.353, 0.686)	0.358**	0.088	(0.184, 0.532)
Discharged Successful	-7.188**	2.567	(0.314, 0.665)	7.358**	2.124	(3.135, 11.581)	-6.684**	2.17	(-10.999, -2.369)
Hispanic	1.946	2.793	(-12.299, -2.077)	-2.526	2.325	(-7.149, 2.096)	0.805	2.366	(-3.9, 5.51)
Other Non-Hispanic	-	-	(-3.615, 7.507)	-	-	-	-	-	-
Black Non-Hispanic	4.53	4.327	-	2.218	3.546	(-4.832, 9.268)	-0.986	3.693	(-8.329, 6.356)
Sex M	-1.713	2.707	(-4.086, 13.145)	1.782	2.221	(-2.632, 6.197)	-1.922	2.286	(-6.466, 2.622)
Child Age	0.343	0.42	(-7.102, 3.677)	0.018	0.346	(-0.671, 0.706)	0.081	0.358	(-0.632, 0.794)
Constant	7.294	5.67	(-0.493, 1.179)	26.445**	6.922	(12.685, 40.205)	9.835	5.184	(-0.472, 20.142)
R ²	.383	-	(-3.996, 18.585)	0.44	-	-	.286	-	-
F	-	-	-	9.791	-	-	4.859	-	-

*p<.05 As compared to White Females **p<.01

Table B13. Multiple regression analyses of selected demographic variables on caregiver reported outcome scores, MATCH.

Predictors	Last Overall Severity, CPSS5 Caregiver			Last Total Score, Ohio FX Caregiver			Last Total Score, Ohio PS Caregiver		
	β	SE	95%CI	β	SE	95%CI	β	SE	95%CI
Trauma Exposure - THS, Child	0.649**	0.08	(0.489, 0.809)	0.032	0.356	(17.937, 38.646)	-0.068	0.387	(-0.834, 0.697)
Baseline Score	-1.728**	0.473	(-2.671, -0.785)	0.541**	0.066	(-0.671, 0.735)	0.373**	0.07	(0.236, 0.51)
Discharged Successful	-5.33*	2.143	(-9.597, -1.062)	6.001**	1.771	(0.41, 0.672)	-6.576**	1.877	(-10.287, -2.865)
Hispanic	4.61	2.327	(-0.024, 9.245)	0.665	1.891	(2.501, 9.5)	0.107	2.024	(-3.894, 4.108)
Other Non-Hispanic	-	-	-	-	-	-	-	-	-
Black Non-Hispanic	6.995	3.597	(-0.17, 14.159)	6.392*	2.93	(-3.073, 4.402)	-5.388	3.126	(-11.568, 0.792)
Sex M	1.364	2.274	(-3.165, 5.893)	-2.711	1.868	(0.602, 12.182)	1.471	1.976	(-2.436, 5.378)
Child Age	0.762*	0.339	(0.087, 1.437)	-0.197	0.275	(-6.402, 0.98)	-0.089	0.301	(-0.684, 0.506)
Constant	0.573	4.788	(-8.963, 10.108)	28.292**	5.24	(-0.741, 0.347)	13.084**	4.684	(3.825, 22.334)
R ²	0.539	-	-	.406	-	-	.273	-	-
F	12.707	-	-	14.534	-	-	7.68	-	-

*p<.05 As compared to White Females **p<.01

X. APPENDIX C: RELIABLE CHANGE INDEX

Reliable change index (RCI) values were proposed by Jacobson and Traux (1991) as a way to identify when a change in scores is likely not due to chance. The value for a given instrument is calculated based on the standard deviation and reliability of the measure. Change scores are then calculated and when the change exceeds the RCI value, it is considered to be reliable and significant. When values exceed half of the RCI value, but do not meet the RCI value, that is considered partial RCI.

A review of available literature was conducted for the assessments included in this manual, which are used in EBP Tracker. If articles did not include an explicit RCI value, one was calculated using the equation proposed by Jacobson and Traux (1991) with the appropriate values indicated in the research. Values used in the calculation were drawn from literature on the assessment unless noted otherwise. The following table includes a summary of the appropriate RCI values for the assessments.

Measure		Full RCI	Partial RCI
Child Assessments	CPSS IV (retired)	11	6
	CPSS V	15	8
	PROMIS	6	3
	SMFQ	7	4
	UCLA	16	9
Ohio Scales	Ohio Problem Severity* (Child, Caregiver, & Worker versions)	10	5
	Ohio Functioning (Child, Caregiver, & Worker versions)	8	4
Caregiver Assessments	CESD-R	9	5
	CPSS IV (retired)	10	5
	CPSS V	15	8
	PCL-5	10	5
	PROMIS	6	3
	PSS	11	6
	SMFQ	6	3
	UCLA	11	6
	YCPC	18	9

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