Cognitive Behavioral Intervention for Trauma in Schools

CONNECTICUT'S EVIDENCE-BASED
TREATMENT COORDINATING CENTER

Child Health and
Development Institute
of Connecticut

DCF
CONNECTICUT

CONTENTS

I. EXECUTIVE SUMMARY

The Cognitive Behavioral Intervention for Trauma in Schools (CBITS) and Bounce Back (BB) treatment models are brief, evidence-based, manualized group interventions for young children or youth reporting post-traumatic reactions due to exposure to violence, abuse, and other forms of trauma. The CBITS Coordinating Center ("Coordinating Center") is located at the Child Health and Development Institute (CHDI). Funded by the Department of Children and Families (DCF), the initiative represents a partnership between DCF, CHDI, Sharon Hoover, Ph.D. (National CBITS Trainer), Wheeler Clearinghouse, and participating school-based health centers, schools, school districts, and community providers. The Coordinating Center now supports a network of 31 teams as they have been implementing CBITS and/or BB.

This report summarizes the work of the Coordinating Center for state fiscal year (FY) 2021 (July 1, 2020 through June 30, 2021). During this year, the COVID-19 pandemic continued to have a significant impact on schools, including staff and students. The Coordinating Center focused on supporting CBITS and BB programs including tailoring groups to the unique needs of districts and schools, such as use of virtual training and group delivery.

HIGHLIGHTS OF FY21:

CBITS/BB outcomes remained consistent across Black, Hispanic, and White children.

High satisfaction with CBITS/BB treatment among children **(94%)** and caregivers **(100%)**

812 students were screened for trauma exposure and associated symptoms.

521 students received CBITS or BB across **71 CBITS** and **54 BB** groups.

Most children receiving CBITS or BB who had clinically significant PTSD symptoms experienced reliable symptom reduction **(69.9% and 90.0%, respectively)** and likely remission of PTSD **(42.7% and 82.9%, respectively)** of symptoms.

Most children receiving CBITS or BB successfully completed treatment. **(73.4%)**

62.5% of statewide QI benchmarks were met for the year, with **100%** met in the second half of the year.

49 new clinicians were trained in CBITS and **42** new clinicians in BB.

Statewide CBITS/BB quality indicators showed improvement over the course of the year.

5 CBITS site-based trainers attended a new CBITS Racial Trauma Module training.
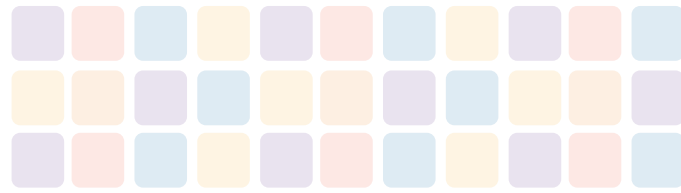
KEY RECOMMENDATIONS:

- **Ensure** CBITS/BB providers maintain high quality service delivery in telehealth, in-person, and hybrid formats that promote COVID-19 safety requirements.

- **Collect data** and examine outcomes between telehealth and in-person formats.

- **Expand resources and implementation support** for screening, consenting, treatment, and data entry protocols that strengthens access to CBITS and BB that improve service utilization by males and children of color.

- **Advance the integration of race equity** into CBITS/BB service delivery in practice and data systems through enhanced training and consultation.

II. INTRODUCTION

CBITS[1] is a brief, manualized, school-based, trauma-focused group intervention designed for children in grades 5 through 12 that are experiencing post-traumatic reactions due to exposure to violence, abuse, and other forms of trauma. Bounce Back (BB) is an adaptation of CBITS for elementary-aged children[2] in kindergarten through grade 5. Recognizing the need to provide school with resources for supporting students exposed to trauma in 2014, DCF partnered with CHDI to serve as the CBITS Coordinating Center. By the end of FY21, the network consisted of 31 partners. Recognizing the longstanding impacts of COVID-19 and resulting impacts on school-based services, CBITS partners grappled with distance learning and a hybrid care approach to telehealth and in-person services. The figure opposite illustrates the goals and primary activities of the Coordinating Center.[3]

1. Jaycox, L.H., Langley, A.K., Hoover, S.A. (2018). Cognitive Behavioral Intervention for Trauma in Schools, second edition (revised). Santa Monica, CA: RAND Corporation

2. Langley, A. K., Gonzalez, A., Sugar, C. A., Solis, D. & Jaycox, L. (2015). Bounce back: Effectiveness of an elementary school-based intervention for multicultural children exposed to traumatic events. *Journal of Consulting and Clinical Psychology*, 83(5), 853-865. Doi: 10.1037/ccp0000051.

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

Increase Access to CBITS

ACCESS

Activities: Maintaining a statewide network of provider agencies and school districts, providing pre-implementation support to all provider agencies and school districts, training new clinicians in CBITS and Bounce Back, and supporting systems screening for trauma.

Measured by: Children receiving CBITS or Bounce Back over time and across the state

Ensure Quality of CBITS

QUALITY

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

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

Improve Outcomes for Children Receiving CBITS

OUTCOMES

Activities: Ongoing quality improvement work with agencies and school districts, 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 the three primary goals as it relates to performance during FY2021. The first two sections of this report describe progress to ensure Connecticut children have access to these EBTs (goal 1). Information on agency providers, training activities, and workforce development is followed by a description of 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 describes symptom reduction and functional improvements for children who receive CBITS/BB (goal 3). The final section provides conclusions and recommendations to guide future work.

III. ACCESS TO CBITS/BB IN CONNECTICUT

The first goal of the Coordinating Center and the statewide CBITS initiative is to increase access to CBITS and BB in Connecticut. This begins with ensuring CBITS/BB are available by sustaining and growing a statewide provider network and training new clinicians in the model. The total number of children and families receiving CBITS/BB, geographic availability of CBITS/BB, and the demographics of children served are used to monitor access to CBITS/BB.

Availability Across the State

During FY21, CBITS was available at 43 schools and 3 community-based settings across 20 different providers; BB was available at 35 schools and 4 community-based settings across 17 different providers. A total of 71 CBITS and 54 BB groups were held in FY21.

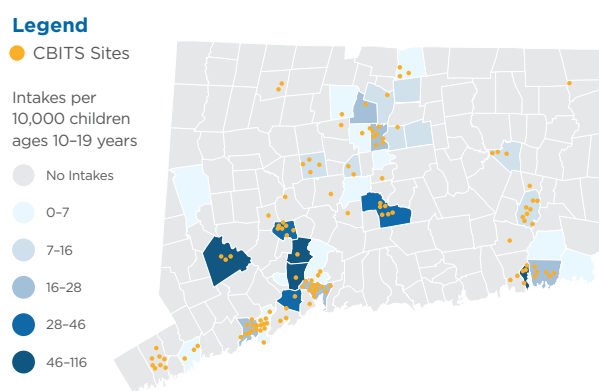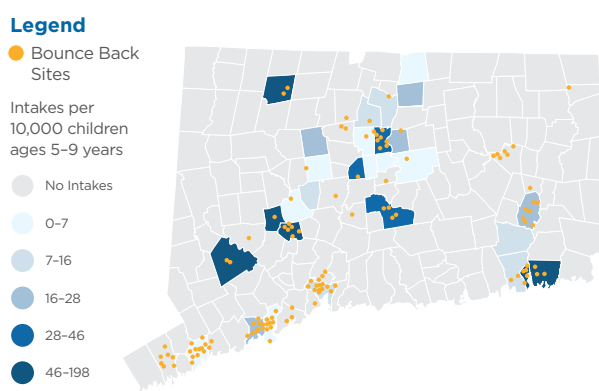**Figure 1.** Map of CBITS Sites and Children Served

Legend

● CBITS Sites

Intakes per 10,000 children ages 10–19 years

No Intakes

0–7

7–16

16–28

28–46

46–116

Figure 2. Map of BB Sites and Children Served

Legend

● Bounce Back Sites

Intakes per 10,000 children ages 5–9 years

No Intakes

0–7

7–16

16–28

28–46

46–198

Clinician Training and Certification

There were 49 new clinicians trained in CBITS and 42 new clinicians trained in BB during the fiscal year. The number of newly trained clinicians is lower than the previous fiscal year primarily due to COVID-19 related factors, including school-based partners allocating resources to address in-person vs. distance learning, digital access to the newly established virtual format for CBITS/BB new clinician training, and availability of staff due to workforce changes and turnover. There were two state-wide CBITS and BB new clinician trainings held in the first half of fiscal year, and two booster trainings were offered. One was for SBTs to discuss their needs and review skills for virtual implementation. The other was for EDT-based clinicians to focus on adapting groups for a non-school setting. In the second half of the fiscal year there was a SBT-led CBITS new clinician training. There was also a CBITS booster training and a BB booster training were offered. These trainings offered support and resources for virtual adaptation. New to SFY21 was a pilot of the CBITS Racial Trauma Module (RTM) at the end of FY21, a half-day training that integrates a novel group session to the CBITS model to identify stress and trauma due to racism and healing-centered support strategies. Five CBITS site-based trainers attended the RTM training in partnership with the Coordinating Center to determine the feasibility of scaling up the RTM into CT statewide trainings and anti-racism efforts. Participants shared preliminary positive feedback, and recommendations for RTM investment in practice and data systems in FY22 emerged. Tables 1 and 2 shows details about CBITS and BB teams.
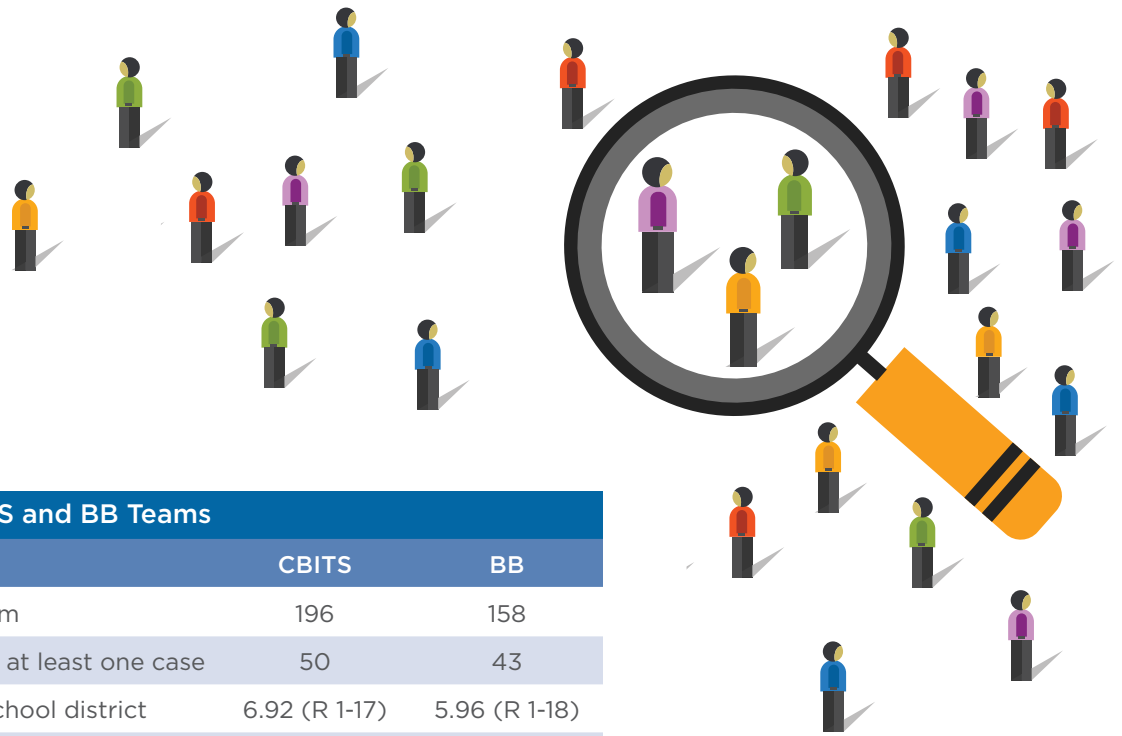
Table 1. FY21 CBITS and BB Teams

	CBITS	BB
# of clinicians on team	196	158
# of clinicians seeing at least one case	50	43
Average team size-school district	6.92 (R 1-17)	5.96 (R 1-18)
Average team size-community based	2.67 (R 1-4)	2.50 (R 1-5)

Table 2. Trends in CBITS/BB Provider Network

	FY 2019	FY 2020	FY 2021	Cumulative Since 2015
Schools				
CBITS	49	47	**54**	168*
BB	44	55	**35**	
School Districts				
CBITS	18	18	**16**	32*
BB	16	18	**17**	
Community-Based Settings**				
CBITS	6	6	**3**	16*
BB	6	5	**4**	
Newly Trained Clinicians				
CBITS	42	69	**49**	492*
BB	49	47	**42**	
# Newly Certified				
CBITS	10	0	**1**	31*
BB	5	0	**2**	
Clinicians Providing Treatment				
CBITS	69	59	**50**	231*
BB	56	60	**43**	

*Unique total (only counted once if trained in/certified in/provided both models, or if site provides both models

**Community based settings include outpatient clinical and extended day treatment settings

Clinician Demographics

The demographic characteristics of the 196 clinicians providing CBITS and 158 clinicians providing BB this year are presented in Table 3. CBITS and BB clinicians were primarily female and mostly White; 12% of CBITS clinicians and 15% of BB clinicians spoke Spanish.

Children Receiving CBITS/BB

In FY21, 812 children were screened for trauma exposure and traumatic stress (46% decrease from SFY20) and 486 (60% of those screened) were eligible to receive treatment; 295 children received CBITS and 226 children received BB during the year. Screen data is collected through a monthly survey and not entered into EBP Tracker; therefore, it is likely that more children screened eligible than reported here. The number of children receiving CBITS and BB since SFY19 is illustrated in Figure 3 below. To date, 2,044 children have received CBITS since 2015 and 1,193 children have received BB since 2017 (3,237 total children served).
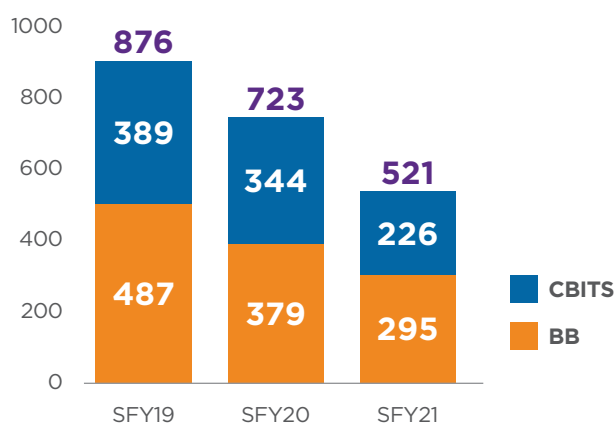
Figure 3. Children Served by Fiscal Year

Table 3. CBITS/BB clinician demographic characteristics (n=196/158)

	CBITS%	BB%
Sex		
Male	9.7	6.3
Female	89.3	93.7
Unknown	1.0	0
Race		
Black or African American	17.1	14.1
Hispanic, Latino, or Spanish	17.6	16.7
White	62.7	66
Other Race/Ethnicity	2.6	3.2
Languages Spoken		
Spanish	12.2	15.2
Other	2.8	3.9

Child Demographics

Table 4 provides descriptive statistics for children receiving CBITS and BB in FY21, as well as comparisons to those served in CT schools [as reported on Edsight.gov] and the general CT population. Most children who received CBITS/BB in FY21 were Female (60.6%), White (54.7%) and primarily spoke English (94.6%). Forty-five percent of children were also Hispanic. Higher rates of Hispanic children (any race) and Black children received CBITS/BB as compared to the percentage of Hispanic and Black children in the overall CT school and statewide populations.

The average age of youth who received CBITS is 13.3 years (SD=2.51), and 8.7 years for youth who received BB (SD=1.75). There were higher rates of children age 12-17 years who received CBITS and higher rates of children age 6-11 years who received BB as compared to the CT school population and general CT population, although this is expected based on the appropriate age range specified by each model.

Table 4. Characteristics of children receiving CBITS (n=295) and BB (n=226) with comparisons						
	CBITS		BB		Schools[i]	Child pop[ii]
	N	%	N	%	%	%
Sex					51.5	51.1
Male	97	32.9	108	47.8		
Female	193	65.4	116	51.3		
Intersex	0	0	0	0		
Other	0	0	0	0		
Unknown	5	1.7	2	0.9		
Race						
American Indian or Alaska Native	4	1.4	2	0.9	0.3	1.0
Asian	3	1	2	0.9	5.2	4.8
Black or African American	89	30.2	58	25.7	12.7	13.9
Native Hawaiian or Pacific Islander	1	0.3	0	0	0.1	0.2
White	152	51.5	133	58.8	49.9	66.6
Other Race/Ethnicity	46	15.6	31	13.7	4	13.4
Hispanic, Latino, or Spanish (any race)	126	42.7	106	46.9	27.8	25.5
Age (years)						
Under 6 years	2	0.7	9	4.0	N/A	32.0
6–11 years	77	26.1	214	94.7	N/A	33.4
12–17 years	211	71.5	3	1.3	N/A	34.6
Grade						
Elementary	43	14.6	219	96.9	44.6	
Middle	118	40	6	2.7	23.1	N/A
High	134	45.4	1	0.4	32.4	N/A
Child welfare involvement during treatment	20	6.8	20	8.8	N/A	N/A
JJ involvement during treatment	1	0.4	0	0	N/A	N/A
Child primary language						
English	198	90.8	111	93.3	N/A	81.5
Spanish	20	9.2	7	5.9	N/A	11.1
Neither Spanish nor English	0	0	1	0.8	N/A	1.8
Unknown	0	0	0	0	N/A	5.6
Caregiver speaks English (no)	35	13.6	31	18.1	N/A	N/A

[i]Data obtained from CT Dept. of Education: edsight.ct.gov for 2020–21 school year. Age and language spoken not available

[ii]American Community Survey 2019 1 yr. estimates. Caution should be used with comparison to CT schools and CBITS/BB child demographics. Census language is only available by language spoken, not primary language. Age is percentage of children 0–17 years.

Child Clinical Characteristics at Treatment Start

Information on baseline assessments for children receiving CBITS and BB is found in Tables 5 and 6. Youth assessments were also evaluated to determine if there were demographic factors that influenced reports of trauma exposure or scores on symptom measures at treatment start. The Trauma Exposure Checklist (TEC) is a 17-item measure that assesses exposure to potentially traumatic events and required for youth screening prior to CBITS or BB services. Two assessments occur during the initial and discharge phases of group treatment: the Child Posttraumatic Stress Scale (CPSS-V) and the Ohio Scales. The CPSS-V is a 20-item measure of PTSD symptoms and the Ohio Scales include 40 items that measure problem severity behaviors and overall functioning. All measures are completed by the youth.

TRAUMA EXPOSURE. Youth who received CBITS reported an average of 7.2 (out of 17) different types of potentially traumatic events, while those who received BB reported an average of 5.4 (out of 17) potentially traumatic events on the TEC. Regression analyses were performed to determine if reports of exposure to potentially traumatic events was associated with child demographic factors. The full results are reported in Tables B1 and B2 in Appendix B. There was a significant difference in TEC scores by race/ethnicity group and sex for children who received CBITS; Hispanic

children reported exposure to a greater number of traumatic events compared to White children. Older youth also reported greater exposure to traumatic events. There were also significant differences in TEC scores by sex for BB, such that males had higher exposure to trauma than females. Details of the tests can be found in Tables B1 and B2 in Appendix B.

BASELINE SYMPTOMS. Summaries of intake symptom scores are presented in Tables 5 and 6. Over half of children who received CBITS/BB reported clinically high PTSD symptoms (CPSS-V) and problem severity scores (Ohio scales), and clinically low functioning scores (Ohio Scales) at the start of treatment. Figure 4 shows the rates of elevations graphically by measure and reporter.

In CBITS, children were more likely to report PTSD symptoms at the clinical level (66.1%) than problem severity (51.7%). This is a different pattern than the BB child report where PTSD symptoms (50.2%) and problem severity (53.1%) were similarly elevated. Child-reported functioning was less likely to be elevated than the other scores, but CBITS had higher rates (25.7%) than BB (15.6%). Caregivers reported high rates of clinical impairment in functioning for CBITS; a number higher than their rating of problem severity. This pattern is in contrast to that of the child-report for CBITS, where there percent in the clinical range was much higher for problem severity than functioning. The high clinical range for caregiver functioning is also in contrast to the pattern in BB. While 67.3% of caregivers rated it at the clinical level for CBITS, it was only 23.3% for BB, a percentage similar to the caregiver ratings of problem severity.

Those who were not in the clinical range at intake still reported PTSD symptoms that were high enough to make them eligible for CBITS/BB group participation. Scores considered high enough to meet eligibility for invitation to CBITS/

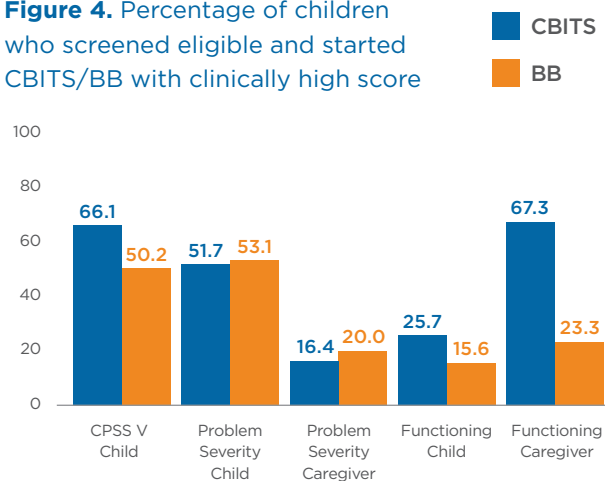**Figure 4.** Percentage of children who screened eligible and started CBITS/BB with clinically high score

CBITS | BB

Table 5. Child and Caregiver Clinical Assessment Scores at Intake (CBITS)

Measure	Construct	Child Report				Caregiver Report			
		N	Mean	SD	Elevated* n(%)	N	Mean	SD	Elevated* n(%)
TEC sum	Exposure to potentially traumatic events	292	7.15	3.37	-	-	-	-	-
CPSS 5 Total Score	Traumatic stress symptoms	286	38.6	14.4	189 (66.1)	-	-	-	-
Ohio Problem Severity	Severity of child behaviors	269	26.77	14.33	139 (51.7)	55	13.09	17.29	9 (16.4)
Ohio Functioning	Child's adjustment and functioning	269	51.28	11.37	69 (25.7)	55	25.36	25.6	37 (67.3)

Table 6. Child and Caregiver Clinical Assessment Scores at Intake (BB)

Measure	Construct	Child Report				Caregiver Report			
		N	Mean	SD	Elevated* n(%)	N	Mean	SD	Elevated* n(%)
TEC sum	Exposure to potentially traumatic events	218	5.40	2.73	-	-	-	-	-
CPSS 5 Total Score	Traumatic stress symptoms	217	31.71	12.42	109 (50.2)	19	18.37	14.35	4 (21.1)
Ohio Problem Severity	Severity of child behaviors	96	24.43	12.74	51 (53.1)	30	14.6	11.84	6 (20.0)
Ohio Functioning	Child's adjustment and functioning	96	57.26	11.85	15 (15.6)	30	50.87	18.08	7 (23.3)

BB fall within at least the moderate range of post traumatic symptoms on either the CPSS IV or CPSS-5. Multiple regression analyses were used to examine demographic differences in baseline scores. Full results are reported in Tables B3 and B4 in Appendix B. Some statistical differences for males and females existed for CBITS youth. For children who received CBITS, males had statistically lower baseline CPSS-5 scores and Ohio Problem Severity scores compared to females, which reflects lower reported symptoms despite statistically higher scores on the TEC. These findings may suggest that symptom severity is underreported for males despite their level of exposure to traumatic events.

Some age and race-related statistical differences existed for both CBITS and BB youth. Older children in CBITS reported statistically lower problem severity symptoms compared to younger children. Older children in BB also reported statistically lower problem severity symptoms, and statistically higher functioning compared

to their younger counterparts. There were no differences in functioning by age for children in CBITS. There was however a statistical difference in functioning by race for children in CBITS; Hispanic children reported statistically higher baseline symptoms compared to White children.

A binary logistic regression was also used to look for demographic differences in critically high baseline scores on groups of measures. The first group was the Ohios, combining across Problem Severity and Functioning as well as reporters. The second group were narrower measures that were more specific to particular symptoms; this was largely the CPSS for PTSD symptoms though included some SMFQ scores on depression. For CBITS, males were less likely to have a critically high score at baseline on both Ohios as well as the symptom-specific measures compared to females. The opposite trend was found for BB; males were more likely to be critical at baseline compared to females. Full results are reported in tables B11 through B14.

IV. QUALITY: CONSULTATION AND CLINICAL IMPLEMENTATION

CHDI staff work closely with each team and meet quarterly to provide consultation. The focus of site visits varies based on the time of year and the specific needs or barriers faced by each team. Given the longstanding impacts of COVID-19 and utilization of distance learning across Connecticut schools, CBITS/BB statewide implementation efforts focused on novel strategies to ensure accurate screening; safe and effective service delivery that incorporated virtual, in-person, or hybrid formats; and clinical consultation and coaching on how best to manage COVID-19 related impacts on services, children, and families. New supports and resources offered for CBITS/BB providers in FY21 included virtual clinical trainings, consultation, and implementation meetings. Additionally, CBITS/BB partners were supported in providing virtual clinical groups that included children across different sites, which allowed more effective group membership formulation and maintained the unique clinical benefits of the CBITS/BB model.

Similar to previous years, the focus of the first half of the FY includes streamlining screening, referral, and consenting protocols, brainstorming solutions to anticipated barriers, and developing a staff and caregiver engagement strategy for each site in which a team plans to implement. During the second half of the fiscal year, consultation typically shifts to reviewing performance related to QI benchmarks and other key indicators as teams complete implementation and move toward completing associated discharge documentation. CHDI maintained its role in sharing resources and recommendations from CBITS/BB model experts, and coordinated interagency collaboration via statewide leadership meetings for senior leaders and coordinators to co-share resources, and clinician support calls to offer space for clinicians to discuss the impact of COVID-19 on service delivery.

Implementation Consultation

This year, 132 virtual site visits and 37 formal follow-up consultations (virtual or telephonic) were completed. The typical agenda for these meetings is split between discussing any barriers that arose throughout the course of implementation and reviewing team performance on recent dashboards (e.g., QI report, monthly dashboards). SMARTER goals are developed following consultation meetings to address any QI indicators that did not meet the established benchmark. These worksheets are also used to assist teams in monitoring pre-implementation tasks that are not monitored through QI reports or other data outputs. For FY21, a total of 125 SMART worksheets were created in collaboration with CBITS/BB teams. Project Coordinators provided support to leadership and clinicians. Over 80 resources were created and/or disseminated to the network, most disseminated via a secure Google Drive folder that was maintained and updated throughout the year.

Data Systems to Support Implementation

Most of the data used in consultation with sites is collected through DCF's secure web-based EBP Tracker data system. To support clinicians and ensure we have timely, accurate, and usable data, the Coordinating Center maintains a Help Desk that has fielded thousands of requests from users since it was created. Project Coordinators created and offered EBP Tracker Crash Courses to support accurate and timely data entry by Initiative teams, including 20 virtual EBP Tracker support sessions. EBP Tracker includes reports for clinicians and teams to help them monitor and track their progress toward goals throughout the year. Finally, CHDI coordinated EBP Tracker system enhancements that supported user experience and more effective functionality.

Figure 5. QI indicators in FY21
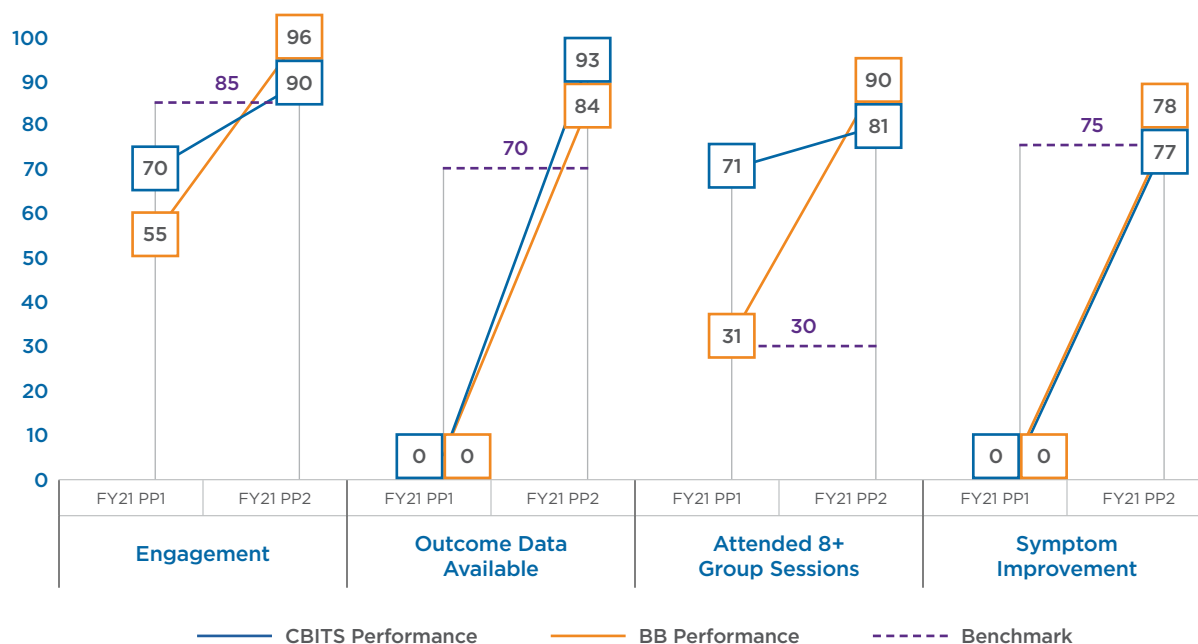
Treatment Dose and Duration

Of children who completed treatment, CBITS recipients attended a mean of 8.83 (SD=2.02) group sessions and a mean of 1.16 individual sessions (SD=.83), and BB recipients attended a mean of 9.53 group sessions (SD=.92) and a mean of 2.02 individual sessions (SD=1.18). Children receiving CBITS/BB are intended to complete 10 group sessions, and 1-3 individual sessions. The average group length was 4.1 months for CBITS, and 3.9 months for BB. Altogether, for CBITS, 669 group sessions, 279 child sessions, and 87 caregiver sessions were provided during the year. For BB, 511 group sessions, 339 child sessions, and 160 caregiver sessions were provided during the year. A total of 54 BB and 71 CBITS groups ran this fiscal year.

Quality Improvement Indicators

In FY2021, CHDI continued utilizing the CBITS/BB quality improvement (QI) biannual report in site consultations. QI indicators guide CHDI Project Coordinators' work with the sites and often are the focus of the goals set during consultation visits. The definition and explanations of each of the four QI indicators and the prepared reports showing each provider's results over the two FY21 Performance Periods (PP) are included in Appendix D.

Engagement was below the benchmark in both models in PP1 (70% for CBITS and 55% for BB). These numbers increased in PP2 to 90% and 98%, respectively. Given the widespread use of distance learning across CT schools during PP1, CBITS/BB providers focused their efforts in developing and implementing effective service delivery strategies for the entire academic year. Providers across Connecticut made significant progress and strides by PP2 as evidenced by dramatic improvements and exceeding benchmark expectations across all QI indicators.
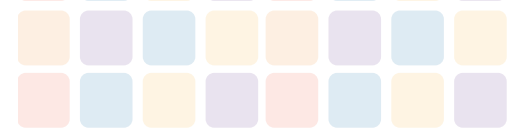
Session Ratings

Clinicians are asked to indicate how well they are meeting group, child, and caregiver session objectives by rating the objectives on a scale of 1 (not at all met) to 4 (completely met). Overall, clinicians rated group, child, and caregiver session objectives highly for both CBITS and BB, with all session ratings being above the "mostly met" cutoff. See Figure 6 for a breakdown of group, child, and caregiver session objective scores.

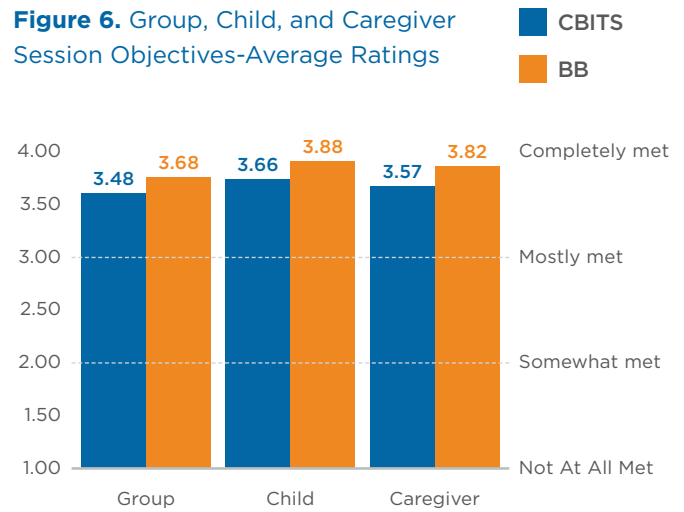**Figure 6.** Group, Child, and Caregiver Session Objectives-Average Ratings

CBITS
BB

	Group	Child	Caregiver
CBITS	3.48	3.66	3.57
BB	3.68	3.88	3.82

Scale: 4.00 Completely met, 3.00 Mostly met, 2.00 Somewhat met, 1.00 Not At All Met

Figure 7. Reasons for discharge in FY21 (CBITS)

1%
10%
11%
4%
74%

Figure 8. Reasons for discharge in FY21 (BB)

1%
1%
14%
7%
3%
73%

- ● Sucessfully Completed
- ● Family Discontinued
- ● Other
- ● Referred to Other Non-EBP
- ● Family Moved
- ● Referred to Higher Level of Care
- ● Referred to other EBP
- ● Assessment Only/Admin Discharge
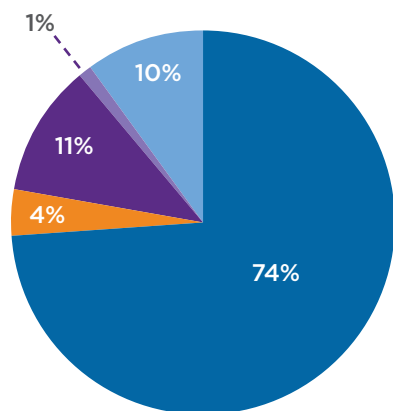- ○ Referred to Other Agency
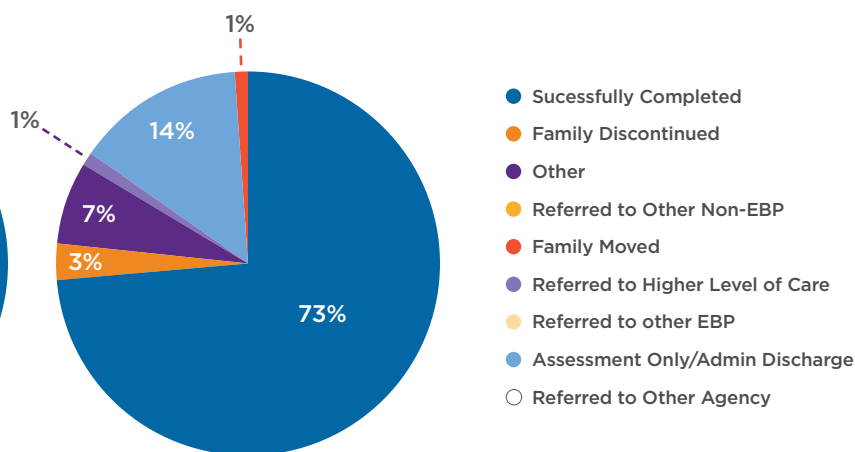
Discharge Reason

During the fiscal year, 297 children ended their CBITS treatment episode, and 206 children ended their BB treatment episode. A total of 54 BB and 71 CBITS groups were completed this year. As shown in Figures 7 and 8, the majority of children across both CBITS and BB successfully completed treatment (73.4%). Binary logistic regression analyses were conducted to determine which factors were associated with successful discharge. Results are reported in Tables B5 and B6 in Appendix B. Black and Hispanic children were less likely to successfully complete treatment compared to White children in CBITS. For BB, the only significant finding was that older age was associated with a higher likelihood of successful treatment completion.

Satisfaction

Children report high levels of satisfaction with their CBITS/BB treatment. In FY21, 52 children completed Ohio Satisfaction assessments about their CBITS/BB group. As shown, 94% of those completing the Ohio Child Satisfaction indicating being satisfied (23%) or very satisfied (75%) with treatment. Seventeen caregivers completed the Ohio Caregiver Satisfaction measure; 100% of these caregivers indicated that they were moderately or extremely satisfied with treatment.

V. OUTCOMES: IMPROVEMENT FOR CHILDREN RECEIVING CBITS/BB

Children receiving CBITS/BB are assessed with measures of trauma history, severity of symptoms at intake, and symptom change by discharge. The availability of outcome data (having both intake and discharge data) is an important indicator in accurate interpretation of change across treatment. Of those who do have sufficient data, trends in symptom change are presented for both overall and across groups. For a full description of the measures used and how change is calculated in CBITS/BB, please see Appendix E.

Rates of Outcome Data

Seventy-one percent of children discharged from CBITS in the fiscal year had both an intake and discharge trauma symptom measure child report (CPSS-5), and 69.0% had both an intake and discharge Ohio Problem Severity and Functioning child report. For BB, 67.9% of children had both an intake and discharge trauma symptom measure child report (either version), and 25.7% had both an intake and discharge Ohio Problem Severity and Functioning child report. Binary logistic regression analyses were conducted to determine which factors were associated with having outcome data. Results are reported in Tables B7 and B8 in Appendix B. The only statistical difference in outcome data availability was for Black youth who received BB, who had significantly lower rates of outcome data.

Symptom Improvement

Children experienced significant reductions in PTSD and problem severity symptoms as well as significant gains in functioning (see Tables 7 and 8). For children who received CBITS/BB, the highest rates of reliable change and remission were in post-traumatic stress and problem severity symptoms.

Children with Clinically High Symptoms at Baseline

Children receiving CBITS/BB were assessed on three measures. When children were assessed at two time points, change scores were calculated and RCI values were used to see the percentage of children who experienced reliable change.

Figure 9, 10, and 11 below show the relative rates of improvement across measures. **The greatest change was in post-traumatic stress symptoms.**

Children who entered CBITS/BB 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). In the full sample of children completing CBITS with available PTSD symptom outcome data, 67.3% experienced trauma symptom reduction. Comparatively, 69.9% of children with elevated child-report at baseline experienced reliable change in this symptom category. In the full sample of children completing BB with available PTSD symptom outcome data, 80.7% experienced trauma symptom reduction, and 90.0% of children with elevated-child report at baseline experienced reliable change in this symptom category. Similar trends were seen for children with elevated problem severity (externalizing/internalizing) symptoms, and Functioning impairments.

Figure 9. Percent of children with symptom reduction, PTSD

CBITS / BB legend; y-axis 0 to 100. Trauma Symptoms (CPS S) Sub-Clinical n=5 n=7; Trauma Symptoms (CPS S) Clinical n=100 n=63
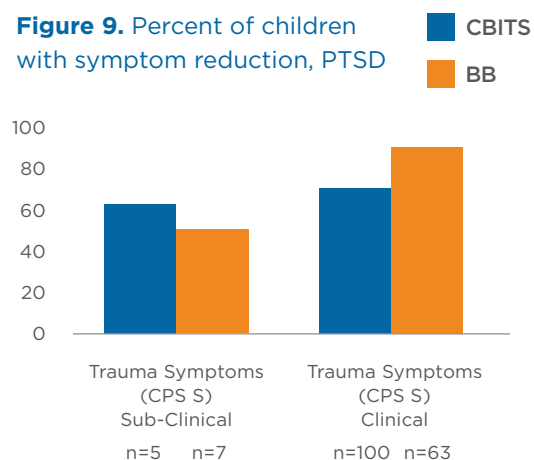
Table 7. Descriptives and Change Scores for All Assessment Measures (CBITS)

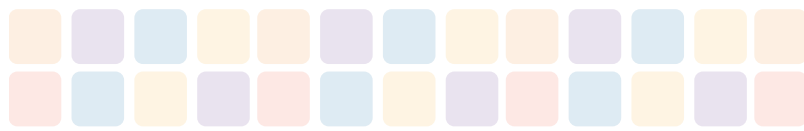| Assessment Name	Construct	Above Cutoff	Intake Mean (S.D.)	Discharge Mean (S.D.)	Change Score	t-score	Remission
TEC Child (n=292)	Count of child exposure to potentially traumatic events	n/a	7.15 (3.37)	n/a	n/a	n/a	n/a
CPSS 5 Child (n=211)	Trauma symptoms	143 (67.8%)	39.78 (14.23)	27.25 (16.06)	-12.53	14.46***	61/143 (42.7%)
Ohio Problem Severity Child (n=205)	Severity of internalizing/ externalizing behaviors	109 (53.2%)	27.41 (14.88)	21.54 (12.24)	-5.87	7.15***	48/109 (44.0%)
Ohio Problem Severity Caregiver (n=15)		1 (6.7%)	6.60 (10.96)	6.93 (17.18)	+.33	-0.093	1/1 (100%)
Ohio Functioning Child (n=205)	Child's adjustment and functioning	54 (26.3%)	51.35 (11.78)	55.15 (12.42)	+3.80	-4.93***	32/54 (59.3%)
Ohio Functioning Caregiver (n=15)		12 (80.0%)	15.13 (22.79)	16.93 (26.00)	+1.80	-1.01	0/12 (0.00%)

Table 8. Descriptives and Change Scores for All Assessment Measures (BB)

Assessment Name	Construct	Above Cutoff	Intake Mean (S.D.)	Discharge Mean (S.D.)	Change Score	t-score	Remission
TEC Child (n=218)	Count of child exposure to potentially traumatic events	n/a	5.40 (2.73)	n/a	n/a	n/a	n/a
CPSS 5 Child (n=140)	Trauma symptoms	70 (50%)	32.34 (10.95)	16.76 (9.91)	-15.6	17.29***	58/70 (82.9%)
CPSS 5 Caregiver (n=12)		2 (16.7%)	17.58 (15.6)	9.75 (9.99)	-7.83	3.7***	2/2 (100%)
Ohio Problem Severity Child (n=53)	Severity of internalizing/ externalizing behaviors	31 (58.5%)	24.77 (10.25)	13.53 (9.07)	-11.24	9.64***	28/31 (90.3%)
Ohio Problem Severity Caregiver (n=20)		4 (20.0%)	15.45 (11.38)	10.25 (9.97)	-5.20	3.55***	3/4 (75.0%)
Ohio Functioning Child (n=53)	Child's adjustment and functioning	8 (15.1%)	56.96 (11.69)	65.55 (9.44)	+8.58	-6.18***	8/8 (100%)
Ohio Functioning Caregiver (n=20)		4 (20.0%)	54.55 (12.27)	60.30 (12.09)	+5.75	-6.21***	2/4 (50.0%)

***p<.001

Figure 10. Percent of children with symptom reduction, problem severity

CBITS / BB

PS-No Elevation n=20 n=7
PS-Borderline n=21 n=7
PS-Critical n=79 n=28
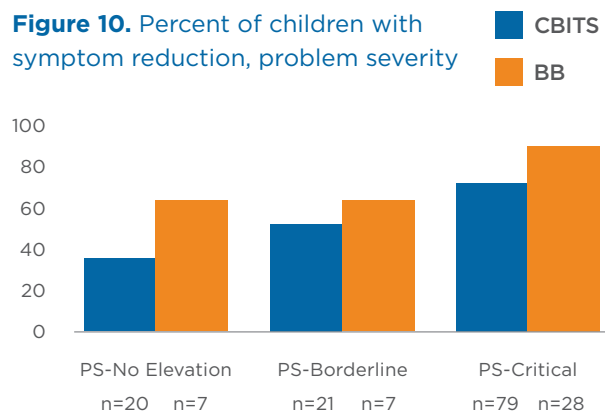
Figure 11. Percent of children with symptom reduction, functioning

CBITS / BB

Func-No Elevation n=35 n=23
Func-Borderline n=35 n=7
Func-Critical n=37 n=8
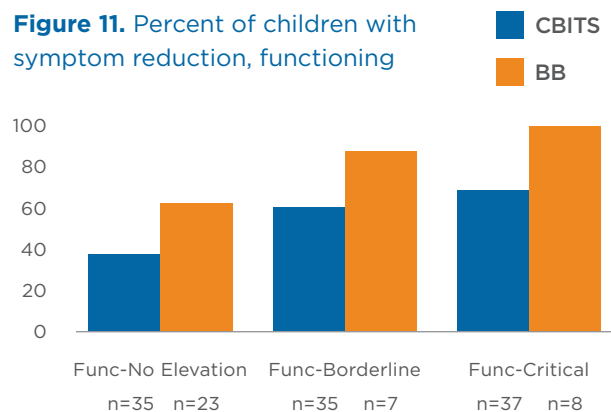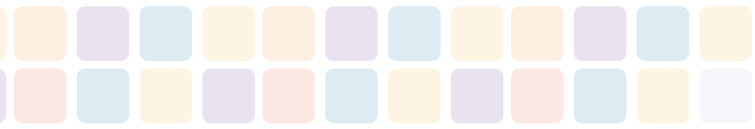
Outcomes by Demographics

In addition to documenting the overall rates of symptom reduction and functional improvement, we examined whether subgroups experienced disparate outcomes. Multiple regressions were performed to explore the effect of race categories, age, and sex on discharge scores, controlling for initial scores and trauma exposure. The only statistically significant finding for race was that youth who identified their race as "other" reported lower PTSD symptoms at discharge compared to White youth in CBITS. Males also reported statistically lower PTSD and problem severity symptoms at discharge compared to females in CBITS. There no significant findings for findings for age, sex, or race for youth who received BB. Details of the tests can be found in Appendix B (Tables B9 and B10).

A binary logistic regression was conducted to explore the possible impact of demographics on partial/reliable change for both Ohios overall and the symptom-specific measures, as well as partial/reliable change on any measure. There were no significant differences by age, sex, or race/ethnicity for CBITS or BB. Results of these regressions can be found in tables B15 through B20. An overview of the regression analyses by demographic variables can be found in Figures 12 and 13.

Figure 12. Overview of Regression Analysis for Broad Indicators and Outcome Measures (CBITS)

	DVs	Demographic Variables				
		Black Comparison	**Hispanic Comparison**	**Other Non-Hispanic Comparison**	**Age at Intake Comparison**	**Sex (m) Comparison**
Broad Indicators	Symptom-Specific Reliable Change [1,3]	● 0.142	● 0.059	● 1.072	● 0.062	● -0.118
	Ohios Reliable Change [1,3]	● -0.109	● 0.073	● -0.728	● -0.086	● 0.217
	Any Reliable Change [1,3]	● 0.147	● 0.223	● 0.824	● 0.002	● 0.044
	Measures Available [1,3]	● -0.073	● -0.008	● -0.145	● -0.058	● -0.499
	Sucessful Discharge [1]	▼ -1.259*	▼ -1.022*	● -1.06	● 0.072	● 0.123
Specific Outcome Measures^	OHIO PS Child [1,2,3]	● -2.698	● -0.345	● **-4.434**	● 0.031	▼ **-4.375****
	OHIO Functioning Child [1,2,3]	● 1.309	● -0.784	● 0.325	● -0.100	● 2.15
	CPSS5 Child [1,2,3]	● -2.687	● -2.062	▼ **-10.778***	● 0.081	▼ **-5.727***

Figure 13. Overview of Regression Analysis for Broad Indicators and Outcome Measures (BB)

	DVs	Demographic Variables			
		Black Comparison	**Hispanic Comparison**	**Age at Intake Comparison**	**Sex (m) Comparison**
Broad Indicators	Symptom-Specific Reliable Change [1,3]	● -0.722	● -0.187	● -0.034	● -0.349
	Ohios Reliable Change [1,3]	● -0.272	● -0.553	● -0.055	▲ **0.68***
	Any Reliable Change [1,3]	● -0.647	● -0.065	● -0.034	● 0.389
	Measures Available [1,3]	▼ **-2.339***	● -1.116	● -0.132	● 0.719
	Sucessful Discharge [1]	● -0.518	● -0.079	● 0.212	● -0.203
Specific Outcome Measures^	OHIO PS Child [1,2,3]	● 1.688	● 1.526	● -0.748	● -1.268
	OHIO Functioning Child [1,2,3]	● -3.516	● -0.555	● 0.903	● 0.604
	CPSS5 Child [1,2,3]	● -2.029	● -0.56	● -0.272	● -2.152

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

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

▲ Comparison is significantly higher compared to reference group.
▼ Comparison is significantly lower compared to reference group.
● Comparision is not significantly different than reference group.

^Last available measure score. Lower scores are desired except for functioning where a higher score means less symptomatic.

VI. SUMMARY AND CONCLUSIONS

CBITS and BB are trauma-informed behavioral health services available to Connecticut's youth and families through school- and community-based locations. The CBITS/BB Coordinating Center at CHDI works with model developers and trainers, CT providers, and DCF to ensure service access across the state. Given the longstanding effects of the COVID-19 pandemic, FY21 became a pivotal year for CBITS/BB service delivery in capacity and capability. Despite significant impacts on schools and community providers, CBITS/BB partners provided services with robust outcomes and high quality, trauma-informed care.

Given the shift to telehealth and strategies that support virtual implementation amid COVID-19, attention in the first half of the FY (July – December, 2020) helped ensure appropriate child identification (screening, consenting) that facilitated service delivery in the second half of the year (January – June, 2021). Similar to previous implementation years, higher service delivery volumes in the second half of the FY is common. To ensure effective service delivery, the **CBITS/BB initiative expanded the total number of participating partners (N=31), which is higher than previous years** (FY20, N=26; FY19, N=23). Despite this expansion, there were fewer active clinicians across the state and fewer new clinicians trained in FY21 when compared to the previous year. These workforce dynamics (e.g., shortages, availability) were not unique to the CBITS/BB initiative[4], particularly since many school-based staff's day-to-day responsibilities shifted to meet the challenges of distance learning in school settings and other COVID-19 related impacts.

In FY21, **CBITS/BB providers screened over 800 youth, served 521 youth and achieved strong outcomes,** including reductions in PTSD symptoms for children completing CBITS (69.9%) and BB (90.0%). Quality Improvement (QI) benchmarks for engagement, available outcome data, attending 8+ group sessions, and symptom improvement all improved dramatically over the course of the year, such that **all QI benchmarks for both CBITS and BB were surpassed in the second half of the year.** Finally, the majority of both CBITS (74%) and BB (73%) youth successfully completed treatment, and satisfaction with groups was reported by children (98%) and caregivers (100%).

In comparison to FY20, statewide partners conducted nearly the same number of CBITS groups, but less BB groups in FY21. Recognizing the impact of COVID-19 on service delivery, providers described unique complexity in offering BB to younger children, such as more difficulty in engagement and higher need for caregiver involvement when using telehealth formats.

4. Massey, O. T., Vroom, E. B., & Weston, A. N. (2021). Implementation of school-based behavioral health services over time: A longitudinal, multi-level qualitative study. *School Mental Health*, 13, 201–212.

Additional consultation and coaching helps providers and families decide how to incorporate telehealth and in-person formats in care. Factors that may influence such decisions including clinical acuity, family and/or provider preferences, and access to digital equipment and technology.

As in previous years, CBITS and BB services were provided to children of color at proportionally higher rates than White children, based on statewide demographics. Overall improved outcomes and symptom reduction were mostly consistent across race, age, and sex, which indicates equitable treatment outcomes. Specific to CBITS service delivery, two areas worth noting include males and children identified with a race as "other" reported significantly better outcomes in their PTSD severity symptoms at discharge, though careful interpretation should be placed due to the smaller sample sizes for these two youth subgroups.

Despite these strong outcomes, several areas of attention remain vital for improved access and equitable outcomes in CBITS and BB service delivery. First, males receiving CBITS had lower rates of receiving treatment (approximately 50% lower than females) and lower reported baseline PTSD and problem severity scores, despite higher reported exposures to trauma than females. Second, Black and Hispanic children were less likely to successfully complete treatment compared to White children in CBITS. Further, Black youth who received BB had significantly lower rates of outcome data. These results suggest that males may experience unique access barriers (e.g., problem identification, symptom detection, and stigma) in service utilization and less data exists for children of color. Recognizing the strong outcomes measured in this report, additional effort to improving access for males and ensuring data collection for youth of color should remain a focus for future CBITS and BB service delivery.

Given the amount of implementation barriers that occurred in SFY21, the CBITS/BB providers have established the ability to provide quality and high volume service delivery. Since the impact of the COVID-19 pandemic endures well beyond SFY21, CBITS/BB providers, DCF, and the CBITS/BB Coordinating Center should continue to implement and evaluate best practices in telehealth, in-person, and hybrid formats for service delivery to ensure flexible and appropriate access for CT youth and families.

VII. RECOMMENDATIONS

The following recommendations are made for continued support of the network of providers, schools, and districts involved in the CBITS Initiative

Coordinating Center:

- CHDI ensures virtual clinical trainings and consultation formats as needed, and explore the implementation of hybrid formats to ensure COVID-19 safety requirements are met.

- CHDI works collaboratively with DCF and other partners to enhance screening, consenting, treatment, and data entry protocols to support student access during the COVID- 19 pandemic and hybrid models of service delivery. Enhancements will include telehealth triage tool; screening tool extenders to assess grief, loss, adversity and trauma; clinical considerations for supporting youth in accessing care; and best practice strategies for schools to strengthen a culture of collaboration and mutual support.

- CHDI provides opportunities for training and consultation on topics identified in this report and by network providers as areas for development, including virtual and hybrid group implementation, best practices in trauma screening, caregiver engagement, chronic and/or complex trauma, and health equity.

- CHDI will examine the feasibility of integrating the Racial Trauma Module in CBITS service delivery by evaluating the implementation benefits and costs for the CBITS statewide initiative. Activities may include expanding CBITS provider access to Racial Trauma Module training and building the module into EBP Tracker for clinical use.

Providers/Districts/State:

- Providers modify implementation plans to support accommodations during COVID-19 (e.g., school-based safety requirements).

- Senior Leaders and Coordinators enhance guidance for clinical team members to conduct screening, intake, and group and individual treatment protocols virtually, in-person, or hybrid while managing COVID-19 safety requirements.

- The state and school districts develop a broader socio-emotional learning framework within schools that incorporate CBITS/BB services (e.g., Multi-Tiered System of Supports). This may include workforce development for all school staff in mental health and trauma, and screening students for mental health/trauma.

- Senior Leadership advocates for adequate reimbursement rates to sustain EBTs.

- Schools strengthen community-based partnerships to support students having access to resources that support both academic needs and clinical services.

- Executive leadership and senior leaders prioritize staff wellness and resilience through trauma-informed supports, such as reflective supervision/consultation groups, Secondary Traumatic Stress prevention, and flexible organization policies that incorporate client and frontline worker preferences for service delivery.

- DCF and SDE will expand opportunities for collaboration that enhance school-based behavioral health services that promote socio-emotional learning and align with a Multi-tiered System of Support model.

System:

- DCF, CHDI, model developers, and providers expand investments in addressing the cultural, economic, and social barriers, particularly for BB access for younger children, males who may under-report symptoms, successful treatment completion by Black and Hispanic children.

- DCF, CHDI, model developers, and providers maintain attention on how the impact of the COVID-19 pandemic are impacting students' experience of CBITS/BB. Explore the development of a toolkit to assist in managing these experiences for CBITS/BB providers.

- DCF and CHDI continue re-evaluating how performance-based sustainment funds may facilitate capacity building, access, and high quality care.

- DCF, CHDI, and providers utilize data collected on the use of telehealth formats and Clinical Global Impression scale to inform CBITS/BB best practices and implementation.

- DCF and CHDI will integrate incentives into the Sustainability Performance Period payments to providers for trauma screening and early symptom detection to strengthen access to CBITS/BB services.

VIII. APPENDIX A: ACTIVITIES AND DELIVERABLES

The Coordinating Center has worked to support the CBITS/BB implementation goals through the following activities carried out in FY21.

1. Training, Consultation, & Credentialing

- Coordinated three CBITS and two BB statewide new clinician trainings, and one Racial Trauma Module training for CBITS site-based trainers.

- Trained 79 unduplicated persons in either CBITS/BB or both (49 CBITS and 42 BB persons trained) and trained 5 CBITS site-based trainers in the novel Racial Trauma Module.

- Maintained 50 active CBITS clinicians and 43 active BB clinicians.

- Coordinated a CBITS Booster training for 26 clinical staff.

- Coordinated a BB Booster training for 16 clinical staff.

- Coordinated fifteen CBITS clinical consultation call groups with 99 total calls for 127 clinical staff.

- Coordinated twelve BB clinical consultation call groups with 86 total calls for 115 clinical staff.

- Developed, executed, and managed contracts for Site Based Trainers (SBT) to conduct statewide training and consultation calls to increase Initiative sustainability.

- Implemented a protocol for internal SBT trainings and consultation support that enabled SBTs, SBT agencies, and CHDI to organize the onboarding of new clinicians in a standardized manner that mirrors statewide training structures.

- Maintained a training and certification record database to track training and consultation attendance of all CBITS/BB providers.

- Implemented a cross-model certification application protocol that enables clinicians to monitor and apply for certification across multiple DCF-funded EBTs in an efficient manner.

- Convened the 13th annual EBP and Best Practice conference in virtual format series of 17 workshops. A total of 549 unique participants from community providers, DCF, CSSD, and other partners attended the conference.

2. Implementation Support, Quality Improvement, & Technical Assistance

- Utilized QI plans and SMARTER goals to enhance pre-group planning, performance on QI benchmarks, and strategies to improve access, quality and service delivery.

- Provided 132 virtual implementation consultation visits and 37 virtual or telephonic follow-up consultations with providers to ensure access to quarterly support, and assist teams with sustainment of high-quality services.

- Onboarded 5 new district-based provider teams; Winchester Schools, Norwich Public Schools, New London Public Schools, Pomperaug Public Schools, and Community Health Resources.

- Continued CBITS/BB Leadership Call Series in response to Senior Leaders and Coordinators requests. Calls focused on Initiative news, fidelity and successful implementation support, and network community-building.

- Provided updates via monthly Data Dashboards and Quarterly team-specific QI reports.

- Disseminated over 40 resource materials that support distance learning transitions during the COVID-19 school closures.

3. Data Systems

- Continued development and maintenance of a secure, HIPAA compliant, online database that meets the needs of the increasing number of CBITS/BB providers and the children and families they serve, EBP Tracker.

- Continued improvements to EBP Tracker 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 CBITS and BB providers through EBP Tracker (https://ebp.dcf.ct.gov/ebpsearch/).

- Monitored, maintained, and provided technical assistance for online data entry for all CBITS and BB providers via the use of ebptrackerhelpdesk@uchc.edu, which resulted in quicker access to support for users in need of additional assistance.

- Continued data-driven reporting and ad hoc data support requests as needed.

4. Agency Sustainment Funds

- Analyzed and reported aggregated and team-specific financial incentive reports that detailed the financial incentives received for each of two 6 – month performance periods.

- Administered biannual performance-based sustainability funding to improve capacity, access, and quality care - incentives are intended to partially offset the increased agency costs of providing an evidence-based practice.

- Developed, executed, and managed contracts with each of the providers eligible for financial incentives to concretize implementation expectations, data sharing, and financial incentive details.

- Developed, executed, and managed contracts with each of the providers that are not eligible for financial incentives to detail implementation expectation and data sharing guidelines.

- Distributed $211,660 in performance-based sustainment funds to agencies. 43.9% of our total contract funds were disseminated.

IX. APPENDIX B: REGRESSION TABLES

Table B1. Multiple regression analyses of selected demographic variables on Trauma Exposure Checklist, Child report (CBITS)

Predictors	β	SE	95%CI
Intercept	3.848	1.187	(1.511, 6.184)
Hispanic	1.104*	0.476	(.166, 2.042)
Other Non-Hispanic	0.444	1.035	(-1.594, 2.482)
Black Non-Hispanic	0.177	0.542	(-.891, 1.245)
Age at intake	0.2*	0.08	(.043, .358)
Sex	0.316	0.419	(-.509, 1.141)
R^2	0.04		
F	2.318		

*p<.05 As compared to White Females **p<.001

Table B2. Multiple regression analyses of selected demographic variables on Trauma Exposure Checklist, Child report (BB)

Predictors	β	SE	95%CI
Intercept	3.694	0.969	(1.784, 5.603)
Hispanic	-0.496	0.421	(-1.327, .334)
Black Non-Hispanic	-0.154	0.530	(-1.199, .891)
Age at intake	0.163	0.104	(-.042, .368)
Sex	1.044*	0.371	(.313, 1.775)
R^2	0.05		
F	2.697		

*p<.05 As compared to White Females

**p<.001 Other Non-Hispanic cases removed from analysis due to low n

Table B3. Multiple regression analyses of selected demographic variables on child reported baseline scores (CBITS)

Predictors	1st Total Score, Ohio PS Child			1st Total Score, Ohio FX Child			Overall Severity, CPSS 5 Child		
	β	SE	95%CI	β	SE	95%CI	β	SE	95%CI
Intercept	32.323	5.282	(21.921, 42.724)	51.366	4.57	(42.367, 60.366)	20.761	5.144	(10.630, 30.891)
Hispanic	-0.18	1.925	(-3.972, 3.612)	-3.862*	1.666	(-7.143, -.581)	2.387	1.875	(-1.306, 6.080)
Other Non-Hispanic	-7.665	4.761	(-17.041, 1.712)	-1.809	4.119	(-9.922, 6.303)	3.380	4.637	(-5.752, 12.512)
Black Non-Hispanic	-3.059	2.143	(-7.261, 1.143)	-2.043	1.846	(-5.678, 1.593)	2.148	2.078	(-1.945, 6.240)
Age at Intake	-.987*	0.353	(-1.683, -.292)	0.239	0.306	(-.363, .841)	0.452	0.344	(-.225, 1.130)
Sex	-7.665**	1.706	(-11.025, -4.304)	2.531	1.476	(-.376, 5.439)	8.093**	1.662	(-11.365, -4.820)
Trauma Exposure, TEC Child	1.576**	0.244	(1.095, 2.057)	-.242	0.211	(-.659, .174)	1.811**	0.238	
R^2	0.222			0.043			0.266		
F	12.05			1.904			15.357		

*p<.05 As compared to White Females **p<.001

Table B4. Multiple regression analyses of selected demographic variables on child reported baseline scores (BB)

Predictors	1st Total Score, Ohio PS Child			1st Total Score, Ohio FX Child			Overall Severity, CPSS 5 Child		
	β	SE	95%CI	β	SE	95%CI	β	SE	95%CI
Intercept	42.144	7.102	(28.023, 56.265)	38.296	6.662	(25.050, 51,542)	30.490	7.262	(16.051, 44.929)
Hispanic	.231	2.725	(-5.186, 5.649)	.224	2.556	(-4.858, 5.306)	1.127	2.786	(-4.412, 6.666)
Black Nonhispanic	4.137	3.611	(-3.042, 11.316)	-5.974	3.387	(-12.708, .761)	-2.578	3.692	(-9.919, 4.763)
Age at intake	-2.983**	.795	(-4.565, -.1402)	2.928**	.746	(1.445, 4.412)	-.969	.813	(-2.586, .649)
Sex	.873	2.451	(-4.000, 5.746)	1.307	2.299	(-3.264, 5.878)	-.974	2.506	(-5.956, 4.009)
Trauma Exposure, TEC Child	1.449*	.433	(.587, 2.310)	-1.346*	.406	(-2.154, -.538)	1.911**	.443	(1.031, 2.792)
R^2	.202			2.14			.201		
F	4.299			4.628			4.273		

*p<.05 As compared to White Females **p<.001 Other Non-Hispanic cases removed from analysis due to low n

Table B5. Logistic regression analyses for predicting successful discharge from selected background characteristics (CBITS)

Variable	N	β	SE	Wald	eB(95%CI)
Hispanic	120	-1.022*	0.404	6.409	.360(.163, .794)
Other Nonhispanic	13	-1.060	0.705	2.258	.346(.087, 1.381)
Black Nonhispanic	66	-1.259*	0.43	8.576	.284(.122, .659)
Sex m	94	.123	0.305	0.162	1.131(.622, 2.057)
Child age	281	.072	0.057	1.596	1.075(.961, 1.202)
Trauma Exposure, TEC Child	281	0.036	0.043	0.696	1.036(.953, 1.127)
Constant		0.716	0.870	0.677	2.046

*p<.05 As compared to White Females **p<.001

Table B6. Logistic regression analyses for predicting successful discharge from selected background characteristics (BB)

Variable	N	β	SE	Wald	eB(95%CI)
Hispanic	96	-0.079	0.39	0.041	.924(.430, 1.985)
Black Nonhispanic	36	-0.518	0.479	1.170	.596(.233, 1.523)
Sex m	98	-0.203	0.342	0.353	.816(.417, 1.596)
Child age	196	0.212*	0.099	4.563	1.236(1.018, 1.500)
Trauma Exposure-TEC Child	196	-0.185*	0.067	7.673	.831(.729, .947)
Constant		0.564	0.861	0.429	1.757

*p<.05 As compared to White Females **p<.001

Table B7. Logistic regression analyses for predicting measure available for any measure of child symptoms from selected background characteristics (CBITS)

Variable	N	β	SE	Wald	eB(95%CI)
Hispanic	120	-0.008	0.715	0.00	.992(.244, 4.031)
Other Nonhispanic	13	-0.145	1.292	0.013	.865(.069, 10.895)
Black Nonhispanic	66	-0.073	0.784	0.009	.930(.200, 4.325)
Sex m	94	-0.499	0.592	0.711	.607(.190, 1.937)
Child age	281	-0.058	0.109	0.288	.943(.762, 1.167)
Trauma Exposure, TEC Child	281	0.078	0.082	0.904	1.081(.921, 1.270)
Child Discharged "Unsuccessful"	69	-5.709**	0.605	89.085	.003(.001, .011)
Constant		3.7	1.665	4.939	40.454

*p<.05 As compared to White Females **p<.001

Table B8. Logistic regression analyses for predicting measure available for any measure of child symptoms from selected background characteristics (BB)

Variable	N	β	SE	Wald	eB(95%CI)
Hispanic	96	-1.116	0.669	2.786	.328(.088, 1.215)
Black Nonhispanic	36	-2.339*	0.771	9.199	.096(.021, .437)
Sex m	99	0.719	0.517	1.93	2.052(.744, 5.658)
Child age	201	-0.132	0.133	0.979	.876(.675, 1.138)
Trauma Exposure, TEC Child	201	-0.125	0.093	1.810	.882(.735, 1.059)
Child Discharged "Unsuccessful"	51	-4.926**	0.678	52.868	.007(.002, .027)
Constant		4.885	1.429	11.681	132.285

*p<.05 As compared to White Females **p<.001 Other Non-Hispanic cases removed from analysis due to low n

Table B9. Multiple regression analyses of selected demographic variables on child reported outcome scores (CBITS)

	Last Total Score, Ohio PS Child			Last Total Score, Ohio FX Child			Last Overall Severity, CPSS 5 Child		
	β	SE	95%CI	β	SE	95%CI	β	SE	95%CI
Constant	9.148	4.932	(-.579, 18.875)	27.81	5.589	(16.785, 38.834)	5.897	5.338	(-4.629, 16.422)
Trauma Exposure, TEC Child	0.269	0.232	(-.189, .728)	-0.366	0.215	(-.790, .057)	-0.162	0.268	(-.691, .367)
Baseline Score Child	.594**	0.056	(.484, .704)	0.577**	0.063	(.453, .702)	0.724**	0.066	(.593, .854)
Child Discharged "Unsuccessful"	-4.879*	1.680	(-8.194, -1.565)	1.682	1.658	(-1.588, 4.952)	-4.148	1.877	(-7.849, -.447)
Hispanic	-0.345	1.806	(-3.907, 3.218)	-0.784	1.803	(-4.341, 2.772)	-2.062	2.03	(-6.065, 1.941)
Other Nonhispanic	-4.434	3.578	(-11.490, 2.622)	0.325	3.493	(-6.564, 7.214)	-10.778*	3.961	(-18.589, -2.968)
Black Nonhispanic	-2.698	2.085	(-6.810, 1.414)	1.309	2.047	(-2.729, 5.347)	-2.687	2.325	(-7.272, 1.898)
Sex	-4.375*	1.602	(-7.535, -1.215)	2.150	1.535	(-.878, 5.177)	-5.727*	1.796	(-9.270, -2.185)
Child age	0.031	0.302	(-.566, .627)	-.100	0.293	(-.678, .479)	0.081	0.333	(-.577, .738)
R²	0.504			0.367			0.498		
F	24.498			13.995			24.713		

*p<.05 As compared to White Females **p<.001

Table B10. Multiple regression analyses of selected demographic variables on child reported outcome scores (BB)

	Last Total Score, Ohio PS Child			Last Total Score, Ohio FX Child			Last Overall Severity, CPSS 5 Child		
	β	SE	95%CI	β	SE	95%CI	β	SE	95%CI
Constant	6.073	6.092	(-6.204, 18.349)	36.287	7.396	(21.380, 51.193)	6.136	4.424	(-2.617, 14.889)
Trauma Exposure, TEC Child	0.659	0.413	(-.173, 1.492)	0.005	0.458	(-.918, .928)	0.23	0.320	(-.404, .863)
Baseline Score Child	.414**	0.094	(.224, .604)	.386**	0.112	(.161, .611)	0.387**	0.069	(.250, .524)
Hispanic	1.526	2.354	(-3.219, 6.270)	-0.555	2.667	(-5.930, 4.820)	-0.560	1.737	(-3.997, 2.877)
Black Nonhispanic	1.688	3.015	(-4.389, 7.764)	-3.516	3.416	(-10.401, 3.368)	-2.029	2.241	(-6.463, 2.406)
Sex	-1.268	2.096	(-5.493, 2.957)	0.604	2.359	(-4.149, 5.358)	-2.152	1.547	(-5.213, .910)
Child age	-.748	0.583	(-1.923, .427)	0.903	0.662	(-.431, 2.237)	-0.272	0.412	(-1.086, .543)
R²	0.447			0.341			0.259		
F	5.934			3.799			6.391		

*p<.05 As compared to White Females **p<.001 Other Non-Hispanic cases removed from analysis due to low n

There was no variation in the "unsuccessful" variable, therefore it was removed from the analysis

Table B11. Logistic regression analyses for predicting if baseline score was critically high on any narrowband measure (CBITS)

Variable	N	β	SE	Wald	eB(95%CI)
Hispanic	116	0.197	0.343	0.33	1.218(.622, 2.384)
Other Nonhispanic	12	0.572	0.739	0.599	1.771(.416, 7.534)
Black Nonhispanic	69	0.702	0.39	3.234	2.018(.939, 4.337)
Sex m	95	-1.297**	0.299	18.796	0.273(.152, .491)
Child Discharged "Unsuccessful"	65	-.215	0.343	0.394	0.806(.412, 1.580)
Child age	281	0.089	0.058	2.35	1.093(.976, 1.224)
Trauma Exposure, TEC Child	281	0.257**	0.05	26.954	1.293(1.174, 1.425)
Constant		-2.013	0.889	5.123	0.134

*p<.05 As compared to White Females **p<.001

Table B12. Logistic regression analyses for predicting if baseline score was critically high on any broadband measure (CBITS)

Variable	N	β	SE	Wald	eB(95%CI)
Hispanic	122	0.048	0.311	0.02	1.049(.570, 1.931)
Other Nonhispanic	12	-2.142*	0.863	6.162	0.117(.022, .637)
Black Nonhispanic	69	0.146	0.35	0.174	1.157(.583, 2.299)
Sex m	97	-0.887*	0.275	10.439	0.412(.241, .705)
Child Discharged "Unsuccessful"	71	-.660*	0.301	4.811	0.517(.287, .932)
Child age	287	-0.073	0.054	1.818	0.929(.836, 1.034)
Trauma Exposure, TEC Child	287	0.147**	0.041	12.931	1.159(1.069, 1.256)
Constant		0.659	0.808	0.666	1.934

*p<.05 As compared to White Females **p<.001

Table B13. Logistic regression analyses for predicting if baseline score was critically high on any narrowband measure (BB)

Variable	N	β	SE	Wald	eB(95%CI)
Hispanic	100	-0.187	0.340	0.303	0.829(.426, 1.615)
Black Nonhispanic	39	-0.722	0.440	2.686	0.486(.205, 1.152)
Sex m	100	-0.349	0.307	1.295	0.705(.386, 1.287)
Child Discharged "Unsuccessful"	61	-.229	0.338	0.461	0.795(.410, 1.542)
Child age	207	-0.034	0.084	0.164	0.967(.820, 1.139)
Trauma Exposure, TEC Child	207	0.303**	0.063	22.947	1.354(1.196, 1.533)
Constant		-0.767	0.807	0.905	0.464

*p<.05 As compared to White Females **p<.001 Other Non-Hispanic cases removed from analysis due to low n

Table B14. Logistic regression analyses for predicting if baseline score was critically high on any broadband measure (BB)

Variable	N	β	SE	Wald	eB(95%CI)
Hispanic	101	-0.553	0.358	2.39	0.575(.286, 1.160)
Black Nonhispanic	41	-0.272	0.446	0.371	0.762(.318, 1.827)
Sex m	68	0.68*	0.327	4.327	1.974(1.040, 3.747)
Child Discharged "Unsuccessful"	64	-.363	0.368	0.97	0.696(.338, 1.432)
Child age	101	-0.055	0.094	0.349	0.946(.788, 1.137)
Trauma Exposure, TEC Child	101	0.026	0.062	0.173	1.026(.908, 1.159)
Constant		-0.6	0.866	0.481	0.549

*p<.05 As compared to White Females **p<.001 Other Non-Hispanic cases removed from analysis due to low n

Table B15. Logistic regression analyses for predicting if there was partial or reliable change on any narrowband measure (CBITS)

Variable	N	β	SE	Wald	eB(95%CI)
Hispanic	86	0.059	0.34	0.03	1.061(.545, 2.063)
Other Nonhispanic	9	1.072	0.845	1.611	2.921(.558, 15.292)
Black Nonhispanic	44	0.142	0.398	0.127	1.152(.529, 2.511)
Sex m	70	-0.118	0.307	0.149	0.888(.487, 1.621)
Child age	209	0.051	0.062	0.694	1.053(.933, 1.188)
Trauma Exposure, TEC Child	209	.072	0.047	2.38	1.075(.981, 1.178)
Child Discharged "Unsuccessful"	6	-.283	0.844	0.112	.754(.144, 3.938)
Constant		-0.912	0.95	0.922	0.402

*p<.05 As compared to White Females **p<.001

Table B16. Logistic regression analyses for predicting if there was partial or reliable change on any broadband measure (CBITS)

Variable	N	β	SE	Wald	eB(95%CI)
Hispanic	81	0.073	0.36	0.04	1.076(.531, 2.179)
Other Nonhispanic	7	-0.728	0.823	0.783	0.483(.096, 2.423)
Black Nonhispanic	44	-0.109	0.409	0.071	0.897(.402, 2.000)
Sex m	65	0.217	0.331	0.431	1.242(.650, 2.376)
Child age	200	-0.086	0.067	1.626	0.918(.804, 1.047)
Trauma Exposure, TEC Child	200	.107*	0.049	4.853	1.113(1.012, 1.225)
Child Discharged "Unsuccessful"	3	.179	1.242	0.021	1.196(.105, 13.654)
Constant		0.854	1.029	0.688	2.349

*p<.05 As compared to White Females **p<.001

Table B17. Logistic regression analyses for predicting if there was partial or reliable change on any narrowband measure (BB)

Variable	N	β	SE	Wald	eB(95%CI)
Hispanic	68	0.342	0.405	0.71	1.408(.636, 3.116)
Black Nonhispanic	18	0.532	0.612	0.754	1.702(.512, 5.652)
Sex m	68	0.094	0.378	0.062	1.099(.524, 2.306)
Child Discharged "Unsuccessful"	5	-0.285	0.96	0.088	0.752(.115, 4.932)
Child age	136	-0.021	0.105	0.039	0.98(.797, 1.204)
Trauma Exposure, TEC Child	136	.125	0.078	2.588	1.133(.973, 1.320)
Constant		0.01	0.975	0.000	1.010

*p<.05 As compared to White Females **p<.001 Other Non-Hispanic cases removed from analysis due to low n

Table B18. Logistic regression analyses for predicting if there was partial or reliable change on any broadband measure [BB]

Variable	N	β	SE	Wald	eB(95%CI)
Hispanic	38	-0.882	0.766	1.33	0.414(.092, 1.857)
Black Nonhispanic	9	-0.294	1.056	0.078	0.745(.094, 5.903)
Sex m	33	0.888	0.643	1.904	2.429(.689, 8.572)
Child age	67	-0.311	0.188	2.737	0.732(.507, 1.059)
Trauma Exposure, TEC Child	67	.200	0.128	2.455	1.222(.951, 1.569)
Constant		3.225	1.914	2.839	25.162

*p<.05 As compared to White Females **p<.001 Other Non-Hispanic cases removed from analysis due to low n

Table B19. Logistic regression analyses for predicting if there was partial or reliable change on any measure (CBITS)

Variable	N	β	SE	Wald	eB(95%CI)
Hispanic	120	0.223	0.372	0.36	1.25(.603, 2.591)
Other Nonhispanic	13	0.824	0.893	0.853	2.28(.396, 13.114)
Black Nonhispanic	94	0.147	0.43	0.117	1.159(.499, 2.693)
Sex m	69	0.044	0.333	0.018	1.045(.545, 2.006)
Child age	281	0.002	0.065	0.001	1.002(.882, 1.137)
Trauma Exposure, TEC Child	281	.053	0.049	1.193	1.054(.959, 1.160)
Child Discharged "Unsuccessful"		-4.298**	0.623	47.657	0.014(.004, .046)
Constant		0.553	0.986	0.315	1.739

*p<.05 As compared to White Females **p<.001

Table B20. Logistic regression analyses for predicting if there was partial or reliable change on any measure (BB)

Variable	N	β	SE	Wald	eB(95%CI)
Hispanic	96	-0.065	0.395	0.027	0.937(.432, 2.032)
Black Nonhispanic	36	-0.647	0.502	1.656	0.524(.196, 1.403)
Sex m	98	0.389	0.353	1.216	1.476(.739, 2.947)
Child Discharged "Unsuccessful"	50	-3.576**	0.633	31.895	0.028(.008, .097)
Child age	196	-0.034	0.101	0.112	0.967(.794, 1.177)
Trauma Exposure, TEC Child	196	-0.008	0.068	0.012	0.992(.869, 1.134)
Constant		1.076	0.939	1.312	2.932

*p<.05 As compared to White Females **p<.001 Other Non-Hispanic cases removed from analysis due to low n
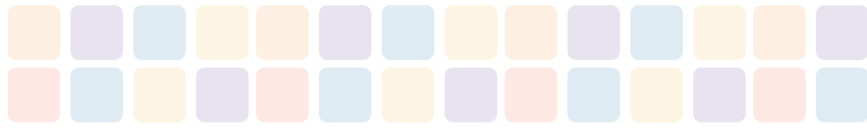
X. APPENDIX C: RELIABLE CHANGE INDEX

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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