Mental Health Services Act

Early Intervention Evaluation

Final Report: Cluster 1

Programs Servicing Children and Youth Displaying Emotional Disturbance as a Result of Trauma

(Deliverable 2E)

Original Submitted March 19, 2014
Revision Submitted March 31, 2014
Revision Submitted April 14, 2014
Revision Submitted April 29, 2014

Prepared by:

THE UNIVERSITY OF CALIFORNIA · UCLA

CENTER FOR HEALTHIER CHILDREN, FAMILIES & COMMUNITIES

This report was supported by:

MHSOAC
Mental Health Services
Oversight & Accountability Commission

Table of Contents

Introduction

Mental Health Services Act (MHSA) requirements for Prevention and Early Intervention (PEI) programs describe early intervention services as those intended for individuals and families for whom a mental health condition is in its early manifestation.[1] To provide greater understanding of the impact of PEI funding across California on early manifestation of mental illness, the Mental Health Services Oversight and Accountability Commission (MHSOAC) contracted with UCLA's Center for Healthier Children, Families, and Communities (UCLA – CHCFC) to investigate the impact of clusters of similar types of early intervention services implemented across the state. This report describes the results of evaluating a cluster of early intervention programs serving children and youth displaying emotional disturbance as a result of trauma (herein referred to as Cluster 1), supported by the PEI component of the MHSA.

Identifying Early Intervention Programs for Study

To guide the identification of programs appropriate for study, the evaluation team developed four criteria for establishing the appropriateness of an early intervention program for inclusion in each study cluster. These criteria were developed in accordance with the study purposes specified by the MHSOAC and through consultation with stakeholders.

Evaluation Inclusion Criteria

1. *Early intervention programs:* Programs selected for the evaluation were focused on early intervention, defined as serving individuals with early onset of a mental illness or emotional disturbance. Programs that included a mix of both prevention and early intervention elements were eligible for inclusion; however, the focus of the study was on the early intervention elements of programs.
2. *PEI funding:* Programs selected provide early intervention services at least partially supported by MHSA PEI funds; programs that use PEI funds only for training and outreach, for example, did not meet this criterion.
3. *Consumer population identified by clinical assessment:* Programs selected serve the early onset population of interest, as determined by a systematic assessment (i.e., validated measure) that uses clinical cut-offs. Further, the clinical cut-offs are consistent with the definition of the consumer population of interest (e.g., showing clinical signs of early onset of a mental disorder or emotional disturbance).
4. *Program components and implementation:* Programs selected employ promising or evidence-based treatment components found to be effective for the consumer populations under study, as identified in a thorough review of the literature (i.e., peer reviewed literature published in the last 5 years) conducted by the evaluation team. In addition, program staff documented (e.g., reports, training materials, service records, and correspondence) that they delivered the selected evidence-based practices with fidelity.

For Cluster 1, the evaluation team conducted a careful process of identifying county programs that meet the inclusion criteria and serve children and youth displaying emotional disturbance as a result of trauma. Programs selected for inclusion are detailed in the following section of this report.

A Stakeholder-Informed Evaluation

To ensure the most relevant, useful, and methodologically sound evaluation approaches were employed, the evaluation team worked with counties, their early intervention programs, and a diverse group of stakeholders (herein referred to as the Evaluation Advisory Group), made up of practice/research experts, county/provider agency staff, and individuals with lived experience of mental illness and treatment in the public sector. The evaluation team collaborated with counties, Cluster 1 programs, and the Evaluation Advisory Group throughout the study development and implementation to: 1) identify early intervention programs meeting cluster inclusion criteria, 2) identify data elements available to examine PEI program participant outcomes, 3) focus analysis approaches, and 4) provide input regarding the conclusions and implications of study results.

Cluster 1 Program Descriptions – Early Intervention Programs Serving Children & Youth Displaying Emotional Disturbance as a Result of Trauma

Early Intervention Population

Children and youth with early manifestations of emotional and behavioral disturbance as a result of trauma were the focus of the first study cluster. Types of trauma experienced by this consumer population include: child abuse (e.g., physical, sexual, and emotional abuse), neglect, domestic violence, community or school violence, medical trauma, war zone or refugee trauma, disaster, terrorism, traumatic grief, and complex trauma (i.e., children's exposure to multiple or prolonged traumatic events).

Traumatic experiences can be dehumanizing, shocking or terrifying, singular or multiple compounding events over time, and often include betrayal of a trusted person or institution and a loss of safety. Some children will have prolonged problems after a traumatic event. Symptoms of a mental disorder resulting from trauma can include depression, anxiety, dissociation, acute stress disorder, and post-traumatic stress disorder (PTSD), which can negatively affect mood regulation, self-concept, behavior, cognition, and relationships.[23] Unaddressed, trauma can have an extremely severe negative impact on a child's development and functioning in all realms.

Children and youth can have varied reactions to trauma.[4] Young children may become more fearful under stressful situations such as separations. They may show regression in behavior such as bed wetting and engaging in baby talk, and may have aggressive outbursts and sleep disruptions. School-age children may display extreme behaviors such as being withdrawn or aggressive. Like young children, they also may experience sleep disruptions, which can lead to being tired during the day, and hence, interfere with learning. Youth also may display extreme behaviors in terms of avoidance or risky behaviors. At one end of the spectrum, they may exhibit extreme avoidant behavior that can sidetrack their development; on the other, they may engage in risky behaviors that put themselves or others in danger. To deal with post-trauma emotions, youth may also use substances. These are serious problems wherein early intervention can contribute to the reduction, severity, and duration of emotional and behavioral disturbance.

Early Intervention Program Models

There are many trauma-informed treatments and other interventions for emotional and behavioral disturbance that are evidence-based.[5] These interventions overlap in terms of their content and approaches, and they share the overall aim of reducing the impact of trauma on children and youth. Some of the core components of trauma-informed treatment and interventions through different modalities (e.g., individual, group, and family therapy) include:

- Screening and triage

- Systematic assessment, case conceptualization, and treatment planning
- Psycho-education
- Addressing children's and families' traumatic stress reactions and experiences
- Trauma narration and organization
- Enhancing emotional regulation and anxiety management skills
- Facilitating adaptive coping and maintaining adaptive routines
- Parenting skills and behavior management
- Promoting adaptive developmental progression
- Addressing grief and loss
- Promoting safety skills
- Relapse prevention
- Evaluation of treatment response and effectiveness
- Engagement/addressing barriers to service seeking.

Based on review of early intervention programs serving children and youth experiencing early manifestation of emotional and behavioral disturbance due to trauma, the evaluation focused on counties implementing two program models that include specific components of trauma-informed treatment**:** Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) and the Cognitive Behavioral Intervention for Trauma in Schools (CBITS). These interventions address a variety of disorders, including: post-traumatic stress disorder, acute stress disorder, mood disorders (e.g., major depression), anxiety disorders, impulse control disorders, learning disorders, attachment disorders, dissociative disorders, sleeping disorders, and eating disorders.

Trauma-Focused Cognitive Behavioral Therapy (TF-CBT)

Trauma-Focused Cognitive Behavioral Therapy involves 12-25 sessions of therapy with a child or youth (ages 3-21) and their parent or caregiver.[6] [7] The primary trauma types addressed include sexual abuse, domestic violence, traumatic grief, disaster, terrorism, and multiple or complex traumas. The treatment has been modified to address the needs of Latino, Native American, deaf and hearing impaired, military, and many international populations. TF-CBT addresses the multiple domains of trauma impact, listed above and addressed by other programs or practices included in this cluster. TF-CBT establishes a therapeutic relationship with a child or youth and their parent or caregiver, and uses gradual exposure throughout treatment. Evidence indicates this treatment is effective in achieving several outcomes, including developing skills for regulating affect, behavior, thoughts, relationships, trauma processing, enhancing safety, trust, parenting, and family communication.[8] Other practice components within TF-CBT include:

- Psycho-education about child trauma and trauma reminders
- Parenting component including parenting skills
- Relaxation skills individualized to youth and parent
- Affective modulation skills tailored to youth, family, and culture
- Cognitive coping: connecting thoughts, feelings, and behaviors
- Trauma narrative and processing
- In vivo mastery of trauma reminders
- Conjoint youth-parent sessions
- Enhancing safety and future developmental trajectory
- Traumatic grief components.

The TF-CBT training includes the use of specific outcome measures, which address many of the MHSA PEI goals and outcomes defined in statute.[9] Four of the counties in Cluster 1 implementing TF-CBT have been trained to implement and evaluate TF-CBT by the California Institute for Mental Health (CiMH)[10]. These counties work directly with CiMH to collect and analyze their program data. CiMH has developed standard and streamlined protocol for data collection, submission, analysis, and reporting. In addition to demographic and service variables, counties collect and submit outcome data using the UCLA Post-Traumatic Stress Disorder Reaction Index (PTSD-RI) and the Youth Outcome Questionnaires (YOQ and YOQ-SR).

Cognitive Behavioral Intervention for Trauma in Schools (CBITS)

The Cognitive Behavioral Intervention for Trauma in Schools program is typically ten group sessions (6-8 children) of approximately an hour in length for children or youth (ages 10-15), conducted once a week in a school setting.[11] The CBITS intervention has also been delivered in other settings, such as mental health clinics. CBITS is a skills-based, child group intervention aimed at relieving symptoms of Posttraumatic Stress Disorder (PTSD), depression, and general anxiety among children exposed to multiple forms of trauma. The primary types of trauma addressed by the treatment include community violence and domestic violence. The treatment, and training regarding the treatment, includes the use of culturally appropriate examples. CBITS has been found to be an effective intervention for underserved racial or ethnic minority students who frequently do not receive services due to a host of barriers to traditional mental health services (e.g., access, cost, or stigma).[12] CBITS was originally developed in a community-based participatory research partnership with school-based clinicians, clinician researchers, and community members. This influence has enhanced the intervention's relevancy for school communities. As such, CBITS is delivered in a variety of school settings, from urban public schools serving majority racial or ethnic minority student populations to rural religious private schools providing outreach to immigrant communities. CBITS has been successfully employed in a variety of communities because it can be flexibly implemented to address barriers such as transportation, language, and stigma; as well as barriers to parent and family involvement that are common in many communities.

One unique aspect of CBITS is the focus on trauma from the child's perspective. CBITS addresses trauma through teaching six cognitive-behavioral techniques:

- Cognitive therapy
- Stress or trauma exposure
- Relaxation training
- Education about reactions to trauma
- Real life exposure
- Social problem solving.

Parental permission is sought for children to participate in a CBITS program. A screening procedure is recommended to assist in identifying children in need of the program. Several instruments are used for identification purposes, including:

- Semi-structured intake interview
- Child Behavior Checklist (parent form)
- Eyberg Child Behavior Inventory
- Parenting Stress Index (short form)
- Dyadic Parent-Child Interaction Coding System
- Sutter-Eyberg Student Behavior Inventory (as appropriate).

Cluster 1 Evaluation Methods

Design

A pre-post design approach was primarily employed to assess the impact of early intervention programs serving children and youth displaying emotional disturbance as a result of trauma. The evaluation focused on assessing outcomes measured by these programs and in line with MHSA PEI goals and outcomes[13] (see Table 1 for MHSA PEI goals and outcomes to be assessed). The evaluation team attempted to facilitate additional guidance (i.e., identification of appropriate instruments, protocols, and training materials) for programs to collect data on MHSA PEI outcomes for which no data was available. While many programs expressed interest in additional data collection, and the evaluation team consulted with counties regarding measurement options for PEI outcomes, lack of resources and time prevented any programs from collecting additional information within the scope of this project. Cluster 1 programs collect outcome data at pre, mid, and post-intervention points for many measures. As such, the evaluation team employed a pre-post no control group design, within and across county programs, fiscal years, and demographic groups, with the estimation that service populations greater than 20 would provide sufficient power to detect moderate effects. To help address the lack of an appropriate control or comparison group for this cluster of programs, the pattern and size of effects found across programs and service years was examined to identify the statistical and practical significance of effects. This design was employed utilizing secondary analysis of existing program data, so as to limit burden on individual counties and their programs.

Sample

A purposive sample was identified for Cluster 1 that included children and youth (ages 2-21) displaying emotional disturbance as a result of trauma who received trauma-informed treatment in one of the eight county programs that met study inclusion criteria (detailed above) and agreed to participate in the study (see Table 1).[14] Parents were included in the service population under study given that they were either part of the treatment process, or provided demographic, service, and outcome information for their child or youth. Outcome data was received from Cluster 1 programs for service years (FY) 2009-10 to 2012-13, and complete annual program population sizes range from 9 to 10,632.

Table 1. Counties and Program Participating in Cluster 1

County	Program / Practice
Contra Costa	TF-CBT
Imperial	TF-CBT
Los Angeles	TF-CBT
Riverside	CBITS
Santa Clara	TF-CBT
Shasta	TF-CBT
Tehama	TF-CBT
Tulare	TF-CBT

Data Collection Procedures

Data for the Cluster 1 evaluation was collected from multiple sources, including county representatives, early intervention program staff, local program evaluators and other technical assistance and support agencies (e.g., CiMH) who collect and maintain relevant information regarding program participant outcomes. The evaluation team worked with counties to systematically identify data currently collected, and outcomes for which additional collection may be appropriate, through a measurement matrix tailored for each county program and completed in collaboration with program staff. For participating programs that submitted a measurement matrix (final submission deadline was June 30th, 2013), the evaluation team reviewed the provided information and submitted specific data requests (i.e., measures, instruments, items, and service years). Participating counties then provided feedback regarding the data they concurred was available and appropriate for capturing the impact of their early intervention programs on specified MHSA PEI goals.

The evaluation team shared memoranda specifying the request and timeline for participation, and data sharing protocol (e.g., confidentiality and formatting), with counties, their programs, and other evaluation support staff (e.g., local evaluators and CiMH). As each county, program, and support organization has a somewhat unique protocol for data sharing and collaboration, agreements were arranged via memoranda or more formal contractual agreements.

The evaluation team created an aggregated Cluster 1 database in which information from disparate sources, and in varying formats, was prepared for analysis (e.g., reviewed for missing or out-of-range information, recoded for consistency across counties and programs, and aggregate variable created). To ensure data quality and reliability the evaluation team addressed any concerns that arose as part of ongoing discussions with programs and evaluation support organizations. However, the evaluation team also conducted an independent review of data quality and reliability, described in the Analytic Approach section below.

Measures

Participating Cluster 1 programs provided information regarding which of their available measures would address goals emphasized by the MHSOAC and other stakeholders as important for establishing the effectiveness of interventions intended to prevent or limit negative outcomes resulting from early onset mental illness (see Table 2 for measurement areas). Based upon MHSA PEI goals and outcomes identified in statute[15] and the data provided by Cluster 1 programs, the outcomes feasible to analyze were determined by factors such as service years available, participant population size, and data collection instruments administered. Table 2, below, details MHSA PEI goals and outcomes that were feasible to evaluate based upon the data collected by Cluster 1 programs and provided to the evaluation team.

Table 2. Measures of Cluster 1 PEI Program Participant Outcomes

MHSA Goals	Outcomes	Measures	Instrument/Data Source
Prevent mental illness from becoming severe and disabling[16]	Change in the severity of mental illness	Assessment of emotional symptoms, conduct, hyperactivity, peer problems and prosocial behavior	Strengths & Difficulties Questionnaire (SDQ)
		Assessment of mental health functioning, including intrapersonal distress, somatic concerns, interpersonal relationship difficulties, social problems, behavioral dysfunction, and critical items	Youth Outcome Questionnaire (YOQ or YOQ-SR)
Improve timely access to services for underserved populations	Data not directly available to assess “access”. As a proxy, rates of service use among underserved populations were assessed	Rate of service use among underserved groups (i.e., based upon gender and race/ethnicity) compared to estimation of need for mental health services[17]	Program intake assessment
			Collaborative Psychiatric Epidemiology Survey[18]

Analytic Approach

Review of data completeness and quality was conducted upon receipt of data from each early intervention program that is the focus of Cluster 1. Data was reviewed for completeness, including number of consumers and assessment points, service years included, and the level of missing information[19]. In cases where more than ten percent of values within a key data field (i.e., necessary for assessment of a MHSA PEI goal or outcome) were missing, the evaluation team immediately followed-up with the relevant parties to gather additional information or justification for missing or out of range information. Where missing data could be filled after follow-up with counties or programs, this was done; otherwise analysis was conducted of complete data relevant to the outcomes assessed in this report. When information collected via one instrument was inconsistent with that assessed via another instrument across more than ten percent of cases, the evaluation team again followed-up with the relevant parties to rectify inconsistencies or understand them more fully. Participating programs were very cooperative in this process.

To what extent are MHSA PEI goals impacted as a result of program implementation or program participation? To answer this question analyses focused on change in MHSA PEI goals and outcomes across time, or in comparison to appropriate reference groups (e.g., the target service population, or unserved/underserved groups). Outcomes assessed at multiple points across the treatment process (e.g., severity of mental illness) allowed for analysis of individual level changes across two assessment points. Outcomes measured in a cross-sectional manner (e.g., demographics) allowed for comparison among relevant service populations (e.g., county demographic makeup). Research questions and hypotheses specific to each MHSA PEI goal and outcome investigated are detailed in Table 3, below.

Table 3. Research Questions and Hypotheses

MHSA Goals	Outcomes	Research Questions	Hypotheses
Prevent mental illness from becoming severe and disabling	Change in the severity of mental illness	Is there a change in the severity of mental illness among Cluster 1 program participants?	The severity of mental illness will decrease, from initial to final assessment, on average among program participants
Improve timely access to services for underserved populations	Data not directly available to assess "access". As a proxy rates of service use among underserved populations were assessed	Are underserved groups (i.e., based upon gender and race/ethnicity) utilizing Cluster 1 services at rates that are in proportion to their representation in the county in which they are served?	Underserved groups will be found to utilize Cluster 1 services at rates that are in proportion to their estimation of need for service in the county in which they are served

Assessment of change in severity of mental illness required analysis of data generated via distinct instruments administered across programs, administered across years and at different intervals, to produce assessments of common outcomes across the study cluster. To overcome these challenges, the possibility of aggregating instruments (i.e., scales or subscales) measuring common constructs was explored. However, analysis of aggregated instruments revealed the psychometric properties of the data were altered to the extent that unreliable or practically uninterpretable results were produced. Alternatively, effect sizes (e.g., mean change scores and correlations) were calculated so as to provide understanding of the relative size of effects.[20] Change in outcomes were analyzed within and across years, and with and without reference to measurement intervals, to identify any patterns of change in outcomes that may be due to factors such as program maturation or measurement effects. Analyses revealed that participant outcomes were not significantly influenced by program maturation or potential measurement effects, and so are not presented in this report. Participants without outcome assessments at multiple points could not be assessed for change, so cross-sectional outcome analyses are presented in this report as available and appropriate.

Are underserved populations accessing PEI programs at proportional rates? To the extent possible based on available data, and given sufficient program service population and demographic subgroups sizes (e.g., greater than 5 as a general rule), analyses of change in mental health severity and service use were conducted within and between gender and race/ethnic groups. Programs included in this cluster indicated a particular emphasis on service outreach to underserved groups (e.g., Black or Hispanic/Latino participants). Thus, it was expected that these groups would show service utilization rates proportional to their estimated need, despite their traditionally underserved status. While differential impact among gender and minority groups was investigated, unfortunately Cluster 1 programs did not collect systematic information regarding the economic situation of participants and their families.

Characteristics of PEI Programs and Participants Available for Cluster 1 Analysis

Table 4. PEI Program Participants Available for Cluster 1 Analysis, by County

County	Participants (%)
Contra Costa	37 (0.3%)
Imperial	716 (0.1%)
Los Angeles	13,263 (92.6%)
Riverside	196 (1.4%)
Santa Clara	22 (0.2%)
Shasta	46 (0.3%)
Tehama	15 (0.1%)
Tulare	26 (0.2%)
Total	**14,321 (100.0%)**

Table 5. PEI Program Participants Available for Cluster 1 Analysis, by Fiscal Year

Fiscal Year	Participants (%)
FY 07-08	20 (0.1%)
FY 08-09	101 (0.7%)
FY 09-10	614 (4.3%)
FY 10-11	4,991 (34.9%)
FY 11-12	5,116 (35.7%)
FY 12-13	3,223 (22.5%)
FY 13-14	21 (0.1%)
Unknown	235 (1.6%)
Total	**14,321 (100.0%)**

Table 6. Gender of PEI Program Participants Available for Cluster 1 Analysis

Gender	Participants (%)
Female	7,425 (51.8%)
Male	6,249 (45.7%)
Missing	647 (4.5%)
Total	**14,321 (100.0%)**

Table 7. Race/Ethnicity of PEI Program Participants Available for Cluster 1 Analysis

Race/Ethnicity	Participants (%)
Asian	190 (1.3%)
African American	1,861 (13.0%)
Hispanic	10,627 (74.2%)
Mixed	1 (0.1%)
Pacific Islander	5 (0.1%)
White	1,083 (7.6%)
Other	431 (3.0%)
Unknown	123 (0.9%)
Total	**14,321 (100.0%)**

Analyses and results of Cluster 1 PEI program goals and outcomes are presented below. Analysis of programs' efforts to prevent mental illness from becoming severe and disabling is presented first. Then the rate of service use among PEI programs and demographic subgroups (i.e., gender and race/ethnicity) is detailed. Interpretation of findings is presented alongside relevant tables/figures. Discussion and implications are then provided in the "Discussion & Implications" section.

Analysis & Results of Cluster 1 PEI Program Goals & Outcomes

MHSA PEI Goal	Prevent mental illness from becoming severe and disabling
Outcome Assessed	Change in the severity of mental illness
Primary Research Question	Is there a change in the severity of mental illness (i.e., initial assessment to follow-up assessment) among Cluster 1 program participants?

Analysis of programs' efforts to prevent mental illness from becoming severe and disabling are presented separately for each instrument that Cluster 1 programs utilized to measure severity of mental illness. Instruments used to assess severity of mental illness (see Table 9, below) were analyzed separately so as to maintain the psychometric properties and clinical significance of scores and results. For each assessment instrument, clinical guidelines for scoring are presented and described first in order to convey the practical meaning of average changes in severity of mental illness between the first and last assessment points available for each participant. Throughout the results, the term "clinically significant" is used to describe average changes that cross clinical score guidelines (i.e., movement from one clinical category to another across time points). Average changes and their clinical significance are presented overall, among instrument subscales, and among demographic subgroups (as available data supported). Only consumers with data from two assessment points are included in this analysis. Cells sizes less than 5 have been redacted for confidentiality purposes. Interpretation of results is discussed separately for each instrument and overall. Discussion and implications are then provided in the "Discussion & Implications" section.

Measurement: *Change in Severity of Mental Illness*

Table 8. Cluster 1 Counties & Programs that Provided Data for Analysis of *Change in Severity of Mental Illness*

County	Program / Practice	Provided Data
Contra Costa	TF-CBT	YOQ
Imperial	TF-CBT	YOQ
Los Angeles	TF-CBT	YOQ
Riverside	CBITS	SDQ
Santa Clara	TF-CBT	YOQ*
Shasta	TF-CBT	YOQ
Tehama	TF-CBT	No
Tulare	TF-CBT	YOQ

*Provided data at one time point, so change over time could not be assessed

Table 9. Instruments & Measures Available for Analysis of *Change in Severity of Mental Illness*

Instruments	Measures
Strengths & Difficulties Questionnaire (SDQ)	Assessment of emotional symptoms, conduct, hyperactivity, peer problems and prosocial behavior
Youth Outcome Questionnaire (YOQ or YOQ-SR)	Assessment of mental health functioning, including intrapersonal distress, somatic, interpersonal relationship difficulties, social problems, behavioral dysfunction, and critical items

Results: *Change in Severity of Mental Illness*

Strengths and Difficulties Questionnaire (SDQ)

To assess the impact of the CBITS program implemented in Riverside, change in SDQ scale scores from initial to follow-up assessment was examined relative to SDQ clinical ranges, so as to reveal clinically significant changes across program participation.

The Strengths and Difficulties Questionnaire (SDQ) is a 25-item screening assessment designed to assess everyday emotional and behavioral functioning in youth ages 3-16. The assessment consists of five subscales as well as an overall score. The five scales for the SDQ include emotional symptoms, conduct problems, hyperactivity, peer relationship problems, and prosocial behavior. Higher scores indicate more problems in each area, except for the prosocial scale (reverse coded for overall score analysis) where higher scores indicate more positive social behaviors.

The SDQ has score ranges for each scale to identify where there is risk for clinical problems.[21] For parent- and teacher-completed surveys, the cutoffs scores are provided in the following table.

Table 10. Clinical Cutoff Scores for SDQ

Scale	Clinically Significant Problems are unlikely	May Reflect Clinically Significant Problems	Substantial Risk of Clinically Significant Problems
Emotional Symptoms	0-3	4	5-10
Conduct Problem	0-2	3	4-10
Hyperactivity	0-5	6	7-10
Peer Problem	0-2	3	4-10
Prosocial (note reverse scoring)	6-10	5	0-4
Total Difficulties	0-13	14-16	17-40

To display the impact of the CBITS program implemented in Riverside, average changes in SDQ scale scores from initial to follow-up assessment are presented in Table 11, and interpreted relative to SDQ clinical ranges (presented in Table 10), so as to reveal clinically significant changes.[22] Averages include CBITS participants assessed at more than one point; additional analyses within specific race/ethnic groups were not possible given available data for this particular program.

Table 11. Strengths and Difficulties Questionnaire (SDQ) Results

Scale	N	Time 1 Mean (SD)	Time 2 Mean (SD)	Mean Difference (SE)
Emotional Symptoms – Parent	37	4.11 (3.04)	3.81 (2.46)	-.297 (.399)
Conduct Problem – Parent	37	3.54 (1.77)	3.46 (1.64)	-.081 (.296)
Hyperactivity – Parent	37	4.78 (1.96)	4.78 (1.93)	-.000 (.374)

Scale	N	Time 1 Mean (SD)	Time 2 Mean (SD)	Mean Difference (SE)
Peer Problem – Parent	37	3.92 (2.00)	3.92 (2.11)	-.000 (.285)
Prosocial – Parent	21	7.38 (2.27)	6.71 (2.63)	-.667 (.760)
Total Difficulties – Parent	37	16.35 (5.44)	15.92 (4.83)	-.432 (.918)
Emotional Symptoms – Teacher	**31**	**4.74 (3.06)**	**3.39 (2.97)**	**-1.355 (.558)**
Conduct Problem – Teacher	**31**	**2.23 (2.28)**	**3.03 (2.07)**	**.806 (.336)**
Hyperactivity – Teacher	31	4.97 (2.29)	5.29 (2.61)	.323 (.540)
Peer Problem – Teacher	31	3.13 (2.09)	2.90 (2.53)	-.226 (.522)
Prosocial – Teacher	**28**	**6.04 (2.82)**	**4.61 (2.62)**	**-1.429 (.494)**
Total Difficulties – Teacher	**31**	**15.06 (7.08)**	**13.29 (6.16)**	**-1.774 (1.084)**

Bold values indicate clinically significant change.

Interpreting average SDQ scores in light of the clinical ranges for the SDQ measure (Table 10) revealed that parent scale scores did not cross clinically significant guidelines over time. Teacher scale results indicated that on average teachers reported a reduction on the emotional symptoms scale from an elevated risk category to a less clinically severe level. For the conduct problems scale and the prosocial scales, teachers on average reported an increase in each domain from a range where clinically significant problem are unlikely to an elevated risk category.

Teachers' reporting of clinically significant changes to elevated risk categories on the conduct and prosocial scales on average, is in contrast to a lack of clinically significant changes on these same domains as reported by parents. This pattern of findings may indicate participants experienced problems negotiating the social environment of the classroom—which was likely used as a frame of reference for teachers—more so than that of the home environment that parents likely referenced to form responses to SDQ items. Teachers also reported average reductions in emotional symptoms in the face of a classroom situation, suggesting that participants improved with regard to their ability to cope emotionally with social challenges. These somewhat contradictory findings suggest further investigation of CBITS participant symptoms in relation to schooling is warranted.

To map out the movement of participants between each clinical range over time, Table 12 displays the number and percentage of participants in each clinical cutoff range at intake and follow-up assessment for each SDQ scale.

Table 12. Frequency & Proportion of Participants in Clinical Ranges for SDQ Scales

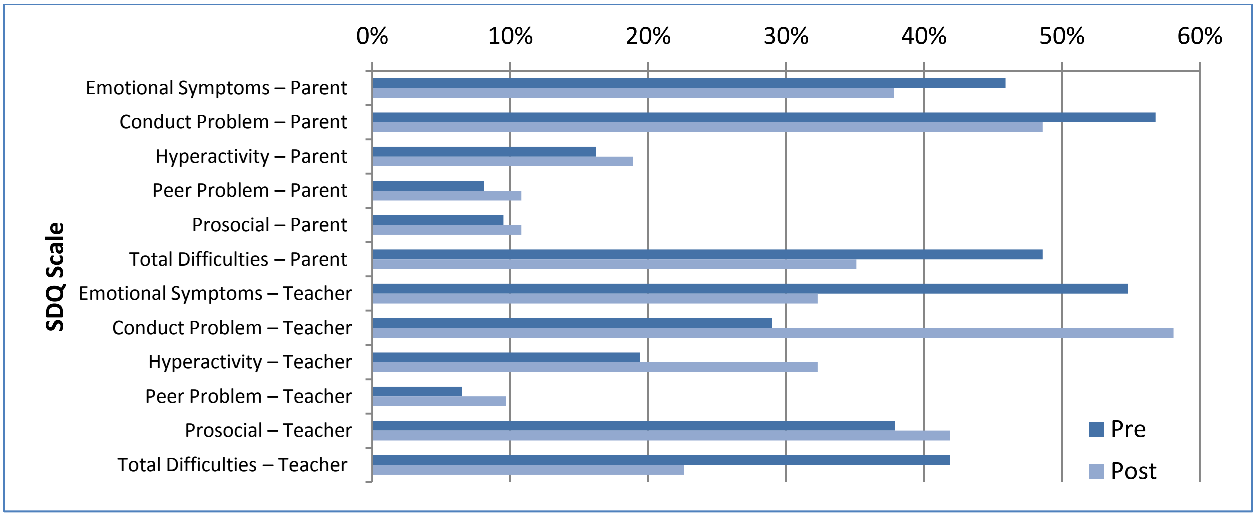
Scale	Clinically Significant Problems are unlikely		May Reflect Clinically Significant Problems		Substantial Risk of Clinically Significant Problems	
	Time 1 N (%)	Time 2 N (%)	Time 1 N (%)	Time 2 N (%)	Time 1 N (%)	Time 2 N (%)
Emotional Symptoms – Parent	18 (48.6%)	17 (45.9%)	2 (5.4%)	6 (16.2%)	17 (45.9%)	15 (37.8%)
Conduct Problem – Parent	11 (29.7%)	10 (27.0%)	5 (13.5%)	9 (24.3%)	21 (56.8%)	18 (48.6%)
Hyperactivity – Parent	28 (75.7%)	25 (67.6%)	3 (8.1%)	5 (13.5%)	6 (16.2%)	7 (18.9%)
Peer Problem – Parent	29 (78.4%)	29 (78.4%)	5 (13.5%)	4 (10.8%)	3 (8.1%)	4 (10.8%)
Prosocial – Parent	17 (81.0%)	31 (83.8%)	2 (9.5%)	2 (5.4%)	2 (9.5%)	4 (10.8%)
Total Difficulties – Parent	12 (32.4%)	11 (29.7%)	7 (18.9%)	13 (35.1%)	18 (48.6%)	13 (35.1%)

Scale	Clinically Significant Problems are unlikely		May Reflect Clinically Significant Problems		Substantial Risk of Clinically Significant Problems	
	Time 1 N (%)	Time 2 N (%)	Time 1 N (%)	Time 2 N (%)	Time 1 N (%)	Time 2 N (%)
Emotional Symptoms – Teacher	10 (32.3%)	18 (58.1%)	4 (12.9%)	3 (9.7%)	17 (54.8%)	10 (32.3%)
Conduct Problem – Teacher	21 (67.7%)	12 (38.7%)	1 (3.2%)	1 (3.2%)	9 (29.0%)	18 (58.1%)
Hyperactivity – Teacher	18 (58.1%)	18 (58.1%)	7 (22.6%)	3 (9.1%)	6 (19.4%)	10 (32.3%)
Peer Problem – Teacher	27 (87.1%)	27 (87.1%)	2 (6.5%)	1 (3.2%)	2 (6.5%)	3 (9.7%)
Prosocial – Teacher	15 (51.7%)	10 (33.3%)	3 (10.3%)	3 (10.0%)	11 (37.9%)	13 (41.9%)
Total Difficulties – Teacher	14 (45.2%)	19 (61.3%)	4 (12.9%)	5 (16.1%)	13 (41.9%)	7 (22.6%)

Table 12 displays the number and proportion of CBITS participants moving between clinical ranges. Specifically, on the emotional symptoms scale completed by teachers, eight participants moved from higher risk categories to a range where clinically significant problems are unlikely (80.0% increase in this range). Conversely, according to teachers' ratings 9 participants moved from a range where clinically significant problems are unlikely to a range where there is substantial risk of clinically significant problems (100.0% increase in this range). Similarly, teacher's ratings indicated that 2 participants moved from a range where clinically significant problems are considered unlikely, to a range where there is substantial risk (18.2% increase in this range). However, regarding the overall teacher completed SDQ scale, 5 participants moved into the range where clinically significant problems are unlikely (35.7% increase in this range). This pattern is consistent with changes in average ratings, presented in Table 11, and highlights differences between parent and teacher ratings. Differences within the teacher completed subscales are also displayed in Table 12, again suggesting improvement in emotional symptoms coupled with declines in conduct problems and prosocial behavior, but an overall improvement on the teacher completed scale. These results reinforce the need for further investigation of these patterns.

Figure 1 displays the proportion of participants in the substantial risk range for each SDQ scale, at initial and follow-up assessment points. This figure is intended to focus attention on the impact of program participation among those most at risk.

Figure 1. Participants in Substantial Risk Range for SDQ Scales



Both Tables 12 and Figure 1 reflect a similar pattern to that found among changes in average scale scores (Table 11). Specifically, there was not substantial movement across clinical significance levels among the parent scales. There was a notable exception for the total difficulties scale; at pretest, 48.6% of participants were in the substantial risk category, but only 35.1% of participants were in this category at follow-up. Similarly for teacher total difficulties scale, 45.2% of participants scored in the low risk range at intake and 61.3% at a follow-up assessment. Among the other teacher scales, participants moved into score ranges where clinically significant problems are less likely on the emotional symptoms scale, and score ranges where clinically significant problems are more likely on the conduct problems and prosocial behavior scales. Again, the overall pattern revealed little improvement in total difficulties according to parent ratings, but more improvement according to teacher ratings, suggesting differences between parent and teacher ratings may be reflective of the environment in which respondents most often observe participants (i.e., home or school). Specifically, it may be that participants are displaying different levels of improvement at home where responding parents likely interact with them most, as opposed to school where responding teachers likely observe participants more often. Such differences could be further explored to elaborate on such differences in program impact.

The relationship between length of time in a Cluster 1 program and SDQ scale ratings was also examined to reveal the potential impact of program "dosage" on participant strengths and difficulties. For parent-completed SDQ assessments, mean length of time between intake and discharge was 77.8 days (SD = 17.4) with a minimum of 50 days and a maximum of 109 days. For teacher-completed SDQ assessments, mean length of time between intake and discharge was 83.0 days (SD = 17.6) with a minimum of 48 days and a maximum of 109 days. Correlations between length of time from intake and discharge and change scores for each SDQ scale revealed that there were no relationships between length of treatment and change in scale scores. Program "dosage" does not appear to have been a factor in determining change in participant strengths and difficulties (see Table 13).

Table 13. Correlations Between Lengths of Service & SDQ Change Scores

Scale	N	*r*
Emotional Symptoms – Parent	37	-.052
Conduct Problem – Parent	37	.181
Hyperactivity – Parent	37	-.001
Peer Problem – Parent	37	.004
Prosocial – Parent	21	-.004
Total Difficulties – Parent	37	.033
Emotional Symptoms – Teacher	31	-.152
Conduct Problem – Teacher	31	-.210
Hyperactivity – Teacher	31	-.101
Peer Problem – Teacher	31	-.070
Prosocial – Teacher	28	.138
Total Difficulties – Teacher	31	-.216

* $p<.05$

Overall, analysis of the SDQ parent scale revealed decreases in the number of participants in the substantial risk range for emotional symptoms, conduct problems, and total difficulties scales. Teacher assessments revealed decreases in the number of participants in the clinically significant range for emotional symptoms and total difficulties scales. Time in the program was not a factor related to change in symptom scores. While the small sample size may account for the relatively inconsistent findings between symptom subscales, reductions in the number of participants in the substantial risk range, particularly in the case of total difficulties observed by parents and teachers, suggest an overall positive impact of program participation.

Youth Outcomes Questionnaire (YOQ)

To assess the impact of TF-CBT programs implemented in several Cluster 1 counties (i.e., Contra Costa, Imperial, Los Angeles, Santa Clara, Shasta, and Tulare), change in YOQ scale scores from initial to follow-up assessment, relative to clinical ranges, was examined overall and by race/ethnicity.

The Youth Outcomes Questionnaire (YOQ) is a brief questionnaire completed by parents to assess perceptions of child functioning in youth aged 4 – 17 years. There are six subscales and an overall scale score. The subscales include intrapersonal distress, somatic concerns, interpersonal relationship difficulties, social problems, behavioral dysfunction, and critical items. The critical items scale indicates specific behaviors that suggest immediate clinical intervention may be needed. Higher scores indicate more problems in each specific area.[23]

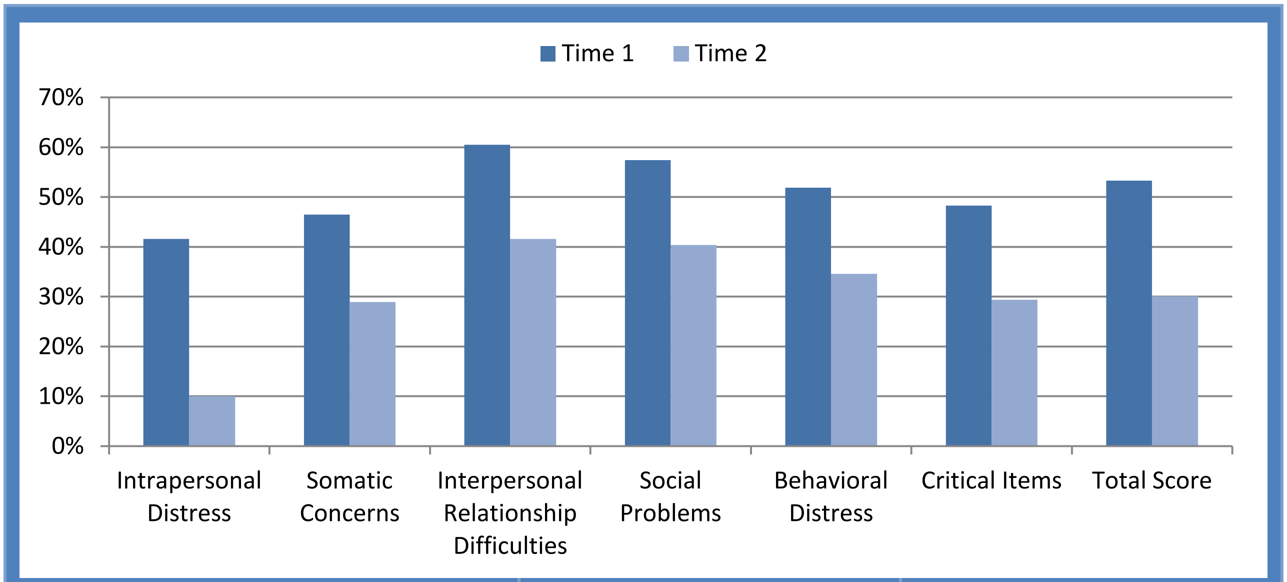
The YOQ provides guidelines for "clinically meaningful" scores.[24] The following table provides the ranges for scores that are clinically meaningful vs. not clinically meaningful, for each YOQ scale (see Table 14).

Table 14. Clinical Score Ranges for YOQ Scales

Scale	Not Clinically Meaningful	Clinically Meaningful
Intrapersonal Distress	0 – 15	≥ 16
Somatic Concerns	0 – 4	≥ 5
Interpersonal Relationship Difficulties	0 – 3	≥ 4
Social Problems	0 – 2	≥ 3
Behavioral Distress	0 – 11	≥ 12
Critical Items	0 – 4	≥ 5
Total Score	0 – 45	≥ 46

Figure 2 displays the number and proportion of TF-CBT participants in the clinically meaningful score range at initial and follow-up assessment, as measure by the YOQ scale and each subscale.

Figure 2. Participants in Clinically Meaningful Score Range



	Time 1	Time 2
Intrapersonal Distress	5,005 (41.6%)	1,205 (10.0%)
Somatic Concerns	1,487 (46.5%)	924 (28.9%)
Interpersonal Relationship Difficulties	1,937 (60.5%)	1,331 (41.6%)
Social Problems	1,834 (57.4%)	1,292 (40.4%)
Behavioral Distress	1,661 (51.9%)	1,106 (34.6%)
Critical Items	1,544 (48.3%)	940 (29.4%)
Total Score	1,696 (53.3%)	957 (30.1%)

All scales saw a large decrease in the proportion of participants that scored in the clinically meaningful range from assessment time 1 to time 2. Most notably for the total score scale, 53.3% of participants were in the clinically meaningful range at first assessment but only 30.1% of participants were in the clinically meaningful range at follow-up. These results indicate substantial proportions of participants reported clinically significant improvement in functioning from pre to post program participation.

To further examine changes in the functioning of TF-CBT participants assessed via the YOQ, change in average YOQ scale scores, from initial to follow-up assessment was examined (see Table 15). Change in average scale scores is interpreted relative to YOQ clinical ranges (presented in Table 14), so as to reveal clinically significant changes.

Table 15. Average YOQ Scale Score Change

Scale	N	Time 1 Mean (SD)	Time 2 Mean (SD)	Mean Difference (SE)
Intrapersonal Distress	12,042	13.86 (13.66)	3.62 (8.30)	10.248 (.131)
Somatic Concerns	**3,198**	**5.18 (5.00)**	**3.34 (4.18)**	**1.835 (.086)**
Interpersonal Relationship Difficulties	**3,201**	**5.72 (6.62)**	**3.00 (6.50)**	**2.723 (.117)**
Social Problems	**3,197**	**4.10 (6.838)**	**2.64 (3.92)**	**1.453 (.120)**

Scale	N	Time 1 Mean (SD)	Time 2 Mean (SD)	Mean Difference (SE)
Behavioral Distress	**3,200**	**12.65 (9.172)**	**8.94 (8.77)**	**3.711 (.141)**
Critical Items	**3,197**	**5.34 (4.78)**	**3.49 (3.96)**	**1.848 (.081)**
Total Score	**3,156**	**51.17 (33.86)**	**33.04 (32.43)**	**18.127 (.551)**

Bold values indicate clinically significant change.

With the exception of the intrapersonal distress scale, average participant scores on all YOQ scales displayed clinically significant changes (i.e., movement from the clinically meaningful range to the range that is not clinically meaningful) from time 1 to time 2. As Los Angeles TF-CBT program participants represented a substantial portion of YOQ respondents, such changes are largely reflective of participants in this relatively large TF-CBT program. However, similar patterns of average improvement in YOQ scores also emerged when Los Angeles County participants were excluded from analyses, suggesting that participants from other counties' programs displayed similar changes. This consistent pattern of decreases in mental health symptoms and increases in functioning suggests a positive impact of TF-CBT participation.

Previous investigations have found significant racial/ethnic group differences in utilization of mental health services, and in the impact of these services.[25, 26] To reveal any differential impact of service among Cluster 1 participants, change in average YOQ scores among racial/ethnic groups was examined (see Table 16). Again, change in average scale scores is interpreted relative to YOQ clinical ranges (presented in Table 14), so as to reveal clinically significant changes

Table 16. Change in Average YOQ Scale Scores by Race/Ethnicity

Scale	N	Time 1 Mean (SD)	Time 2 Mean (SD)	Mean Difference (SE)
Intrapersonal Distress				
Hispanic	8,895	13.92 (13.65)	3.54 (8.18)	10.38 (.152)
White	887	14.78 (13.89)	4.29 (9.08)	10.48 (.503)
Black	1,693	13.25 (13.55)	3.64 (8.39)	9.61 (.342)
Other	567	13.47 (13.82)	3.70 (8.61)	9.77 (.621)
Somatic Concerns				
Hispanic	**2,480**	**5.10 (5.02)**	**3.15 (4.11)**	**1.95 (.100)**
White	**221**	**5.58 (4.75)**	**4.21 (4.42)**	**1.38 (.290)**
Black	**366**	**5.42 (4.74)**	**3.91 (4.39)**	**1.51 (.229)**
Other	**131**	**5.40 (5.64)**	**3.98 (4.24)**	**1.42 (.488)**
Interpersonal Relationship Difficulties				
Hispanic	**2,482**	**5.60 (6.56)**	**2.65 (6.41)**	**2.95 (.134)**
White	221	7.02 (6.65)	4.67 (6.90)	2.35 (.439)
Black	366	5.96 (6.98)	4.25 (6.59)	1.71 (.331)
Other	**132**	**5.30 (6.47)**	**3.40 (6.49)**	**1.89 (.502)**
Social Problems				
Hispanic	**2,479**	**3.82 (4.03)**	**2.38 (3.66)**	**1.44 (.081)**

Scale	N	Time 1 Mean (SD)	Time 2 Mean (SD)	Mean Difference (SE)
White	221	6.26 (4.07)	3.40 (4.90)	2.86 (1.44)
Black	366	4.75 (4.58)	3.80 (4.55)	.959 (.218)
Other	131	3.79 (4.24)	3.05 (4.15)	.740 (.396)
Behavioral Distress				
Hispanic	**2,482**	**12.03 (9.06)**	**8.09 (8.41)**	**3.94 (.160)**
White	221	16.26 (8.92)	12.51 (9.68)	3.76 (.533)
Black	365	14.81 (9.14)	12.19 (9.27)	2.62 (.413)
Other	**132**	**12.27 (9.50)**	**9.87 (8.83)**	**2.40 (.706)**
Critical Items				
Hispanic	**2,479**	**5.12 (4.68)**	**3.25 (3.87)**	**1.88 (.092)**
White	**221**	**6.02 (4.73)**	**4.24 (3.99)**	**1.77 (.321)**
Black	**365**	**6.30 (5.29)**	**4.53 (4.37)**	**1.78 (.245)**
Other	**132**	**5.53 (4.86)**	**3.90 (3.66)**	**1.63 (.375)**
Total Score				
Hispanic	**2,440**	**49.67 (33.51)**	**30.41 (31.46)**	**19.26 (.623)**
White	**220**	**59.78 (32.96)**	**43.71 (34.83)**	**16.06 (2.14)**
Black	**365**	**56.57 (34.80)**	**42.74 (34.01)**	**13.83 (1.58)**
Other	**131**	**49.45 (35.91)**	**37.02 (32.80)**	**12.44 (2.95)**

Bold values indicate clinically significant change.

On average all racial/ethnic groups YOQ scores decreased from initial to follow-up assessment. Examination of interpersonal relationship difficulties, social problems, and behavioral distress scales revealed that on average Hispanic and Other participant scores showed clinically significant improvement (i.e., movement from the clinically meaningful range to the range that is not clinically meaningful). In contrast, White and Black participants did not display clinically significant reductions in average interpersonal relationship difficulties, social problems, and behavioral distress scale scores. No single racial/ethnic group reported clinically significant change on the intrapersonal distress scale. Clinically significant improvement on average among minority groups (i.e., Hispanic and Other), in contrast to other groups, on the interpersonal relationship difficulties, social problems, and behavioral distress scales suggests Cluster 1 services are appropriately implemented to positively impact such traditionally underserved groups. The overall trend of improved functioning across most scales and among all groups provides additional evidence of the positive impact of TF-CBT program participation.

The duration between assessment points was not available for the YOQ data, as it was for the SDQ. As an alternative measure of treatment duration, the number of treatment sessions was collected for participants completing the YOQ. The average number of sessions for participants with YOQ scores was 20.8 (SD = 14.9) with a minimum of 1 session and a maximum of 191 sessions.

Table 17. Correlation Between Number of Treatment Sessions & YOQ Change Scores

Scale	N	*r*
Intrapersonal Distress	8,013	.066**
Somatic Concerns	2,967	-.065**
Interpersonal Relationship Difficulties	2,970	-.060*
Social Problems	2,966	-.010
Behavioral Distress	2,969	-.010
Critical Items	2,966	-.031
Total Score	2,932	-.055*

* $p < .01$; ** $p < .001$

Correlation analyses revealed weak relationships between number of treatment sessions and YOQ scale change scores (see Table 17). These significant negative correlations indicate that as the number of sessions increased, negative behaviors tended to decrease. Although the somatic concerns, interpersonal relationship difficulties, and total score scales indicated significant correlations, the size of these relationships were relatively small, in the -.05 to -.06 range.

Overall, analysis of SDQ and YOQ scores revealed a largely consistent pattern of clinically significant reductions in the severity of mental illness. For the YOQ in particular, this pattern of positive impact held true among Hispanic and other minority racial/ethnic groups. Additionally, an indication of a relatively weak, but statistically significant, relationship between number of treatment sessions and improvement in mental health functioning was found. Collectively these results suggest that Cluster 1 programs contributed to the prevention of participants' mental illness from becoming severe and disabling.

MHSA PEI Goal	Improve timely access to services for underserved populations
Outcome Assessed	Rates of service use among underserved populations
Primary Research Question	Are underserved groups (i.e., racial/ethnic and gender) utilizing Cluster 1 services at rates proportional to their estimated need for mental health services?

Participating Cluster 1 programs did not systematically collect information (e.g., demographics or socio-economic status) regarding all individuals who attempted to access their services (e.g., sought out or inquired about available services). Thus, as a proxy outcome, rates of service use among underserved populations were examined in relation to estimates of need for service in each participating Cluster 1 County. Rates of service use in each county, by gender and race/ethnicity, are presented alongside estimates of need for service[27] in each Cluster 1 County, so as to provide the reader with a relative perspective of Cluster 1 service use rates. Estimates of need for mental services were derived through an indirect estimation approach.[28] Indirect needs-assessment methods are based upon evidence of linkages between measures of need for services (in this case Collaborative Psychiatric Epidemiology Survey data[29]) and individual demographic or area social-indicator data (e.g., decennial census).[30] Interpretation of results is discussed separately for each demographic category and overall. Discussion and implications are then provided in the "Discussion & Implications" section.

Measurement: *Services Utilization Among Underserved Populations*

Table 18. Cluster 1 Programs Providing Data for Analysis of Analysis of *Service Utilization among Underserved Populations*

County	Program / Practice	Provided Data
Contra Costa	TF-CBT	Demographics
Imperial	TF-CBT	No
Los Angeles	TF-CBT	Demographics
Riverside	CBITS	Demographics
Santa Clara	TF-CBT	No
Shasta	TF-CBT	Demographics
Tehama	TF-CBT	No
Tulare	TF-CBT	Demographics

Table 19. Instruments & Measures Available for Analysis of Analysis of *Service Utilization among Underserved Populations*

Instruments	Measures
County Developed Assessment	Sex, Race/Ethnicity
Collaborative Psychiatric Epidemiology Survey[31]	Indirect estimation of need for mental health services, by Sex, Race/Ethnicity, and CA County[32]

Results: *Service Utilization Among Underserved Populations*

Gender

Previous research has revealed gender differences in service utilization among young people.[33] The gender makeup for each program participating in Cluster 1 was compared to the gender makeup of those estimated to be in need of mental health services in their respective counties (see Table 20). In order to provide an accurate comparison for all Cluster 1 programs, estimates of need for mental health services were calculated for those under the age of 25. However, this estimation range is not precisely in line with the target age range of every individual Cluster 1 program, so estimates of need for mental health services may be somewhat overestimated.

Table 20. Proportion of Individuals Estimated to be in Need of Services, and Served by Cluster 1 Programs, by Gender

	Female				Male			
	Estimated Need for Mental Health Services		Cluster 1 Participants		Estimated Need for Mental Health Services		Estimated Need for Mental Health Services	
County	n	%	n	%	n	%	n	%
Contra Costa	4,655	59.2%	14	46.7%	3,208	40.8%	16	53.3%
Imperial	1,964	58.1%	192	53.2%	1,415	41.9%	169	46.8%
Los Angeles	88,017	57.4%	6,851	54.2%	65,355	42.6%	5,783	45.8%
Riverside	19,125	57.7%	109	58.0%	14,045	42.3%	79	42.0%
Santa Clara	6,489	57.4%	11	50.0%	4,809	42.6%	11	50.0%
Shasta	1,010	39.6%	23	50.0%	1,543	60.4%	23	50.0%
Tehama	624	58.5%	5	33.3%	443	41.5%	10	66.7%
Tulare	4,715	44.2%	15	60.0%	5,956	55.8%	10	40.0%

The rates of Cluster 1 participation by gender fluctuated substantially across counties in comparison to the rates of estimated need for service among each gender. Rates of program participation in Imperial, Los Angeles, Riverside, Santa Clara, and Shasta counties were within approximately 10 percent of the estimated rate of need for mental health services among each gender group. Other Cluster 1 programs were more than 10 percent out of range with the estimated rate of need for mental health services in their respective counties. This pattern indicates most Cluster 1 programs are serving gender groups at rates proportional to their estimated need for mental health services, and suggests need estimates may be inflated for small counties in particular.

Race/Ethnicity

There was considerable variation in the ethnicity of PEI participants across county Cluster 1 programs. In most counties, Hispanics were the predominant race/ethnic group being served by PEI programs, generally reflecting the population of each respective county. In Tehama and Shasta counties, Whites were the predominant ethnic group being served. In Contra Costa and Los Angeles counties, a sizable proportion of participants were Black, relative to other counties. Relatively few participants of other ethnicities were represented.

Similar to the analysis approach employed regarding gender, the racial/ethnic makeup of each Cluster 1 program was compared to the racial/ethnic makeup of those estimated to be in need of mental health services in their respective counties (see Table 21). In order to provide an accurate comparison for all Cluster 1 programs, estimates of need for mental health services were calculated for those under the age of 25. However, this estimation range is not precisely in line with the target age range of every individual Cluster 1 program, so estimates of need for mental health services may be somewhat overestimated.

Table 21. Proportional Race/Ethnicity of PEI Program Participants and Respective County Populations

County	American Indian				Asian				Black				Hispanic				White			
	Need for Service		Cluster 1		Need for Service		Cluster 1		Need for Service		Cluster 1		Need for Service		Cluster 1		Need for Service		Cluster 1	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Contra Costa	63	0.8%	0	0.0%	535	7.1%	1	2.8%	1177	15.5%	14	38.9%	3220	42.5%	10	27.8%	2578	34.0%	11	30.6%
Imperial	60	1.8%	0	0.0%	26	0.8%	0	0.0%	54	1.6%	2	0.6%	2945	87.9%	342	95.0%	266	7.9%	16	4.4%
Los Angeles	673	0.5%	39	0.3%	8342	5.6%	188	1.5%	14759	9.9%	1828	14.2%	103214	69.3%	9829	76.4%	21952	14.7%	975	7.6%
Riverside	269	0.8%	1	1.0%	703	2.2%	0	0.0%	2312	7.1%	10	9.6%	18951	58.3%	72	69.2%	10262	31.6%	21	20.2%
Santa Clara	120	1.1%	0	0.0%	1829	17.0%	1	5.6%	339	3.1%	0	0.0%	5713	53.1%	15	83.3%	2767	25.7%	2	11.1%
Shasta	94	3.8%	2	4.7%	82	3.3%	0	0.0%	20	0.8%	3	7.0%	198	8.1%	2	4.7%	2054	83.9%	36	83.7%
Tehama	29	2.8%	0	0.0%	3	0.3%	0	0.0%	5	0.5%	0	0.0%	323	31.3%	3	21.4%	672	65.1%	11	78.6%
Tulare	125	1.2%	1	4.8%	215	2.0%	0	0.0%	115	1.1%	0	0.0%	7736	73.4%	18	85.7%	2346	22.3%	2	9.5%

In Imperial, Riverside, Santa Clara, Tulare, and Los Angeles counties, Hispanics made up the majority of the population that was in need of mental health services. The proportion of program participants that were Hispanic in these counties exceeded the proportion of Hispanics that were in need of mental health services. In Riverside, Contra Costa, and Los Angeles counties, there were sizable Black populations in need of mental health services. The proportion of program participants who were Black in these counties also exceeded their proportion in the county that were in need of mental health services. In Santa Clara County, Asians were disproportionately underserved relative to the population of those in need of services. Overall, most Cluster 1 programs served race/ethnic minority groups (i.e., Hispanics and Black individuals) in greater proportion than their estimated rate of need among their respective county populations. Overall, traditionally underserved racial/ethnic minority groups received services in relative proportion to their estimated need, suggesting that Cluster 1 programs' emphasis on service to traditionally underserved groups has had some impact.

Evaluation Advisory Group Feedback

Evaluation Advisory Group questions and feedback received regarding the findings included in this report focused on few central themes, including 1) the need for programs to more systematically and completely track program service and participant outcome information (e.g., service engagement and quality, longitudinal data, and complete demographic information), 2) investigation of other services (e.g., culturally competent services) and outcomes (e.g., social connection) for which data is not yet available, and 3) emphasis on understanding changes (e.g., severity of mental illness) from a clinical perspective. Evaluation Advisory group comments were carefully considered by the evaluation team and influenced how results are presented and interpreted in this report.

Limitations

Several factors limited the ability to examine and draw conclusions regarding MHSA PEI goals. Specifically, in some cases analyses of program impact on severity of mental illness were conducted on relatively small service populations (e.g., Riverside CBITS program), which did not allow for analysis by demographic subgroup and does not allow strong conclusions to be drawn regarding program impact. Results provided an indication of program progress given available information.

No data was available from Cluster 1 programs that directly indicated timely access to services among underserved groups (e.g., number and type of citizens attempting to access services in relation to mental health status), thus rates of service use relative to estimated need for service was analyzed as a proxy. Results of the analysis of service use do not directly support conclusions regarding rates of "service access". Also, as noted above, to provide an accurate comparison for all Cluster 1 programs, estimates of need for mental health service were calculated for those under the age of 25. However, this estimation range is not precisely in line with the target age range of each Cluster 1 program, so estimates of need for mental health services may be overestimated to some extent.

A diversity of MHSA PEI programs are implemented across the state, but programs included in Cluster 1 met stringent inclusion criteria noted above (i.e., provide early intervention services, at least partially funded through MSHA PEI, participants identified via clinical assessment, and provide promising or evidence-based treatment components found to be effective for the consumer populations under study). As such, the scope of this study was limited to TF-CBT and CBITS programs. Thus, conclusions regarding the impact of Cluster 1 programs cannot be generalized to the broader population of MHSA PEI programs.

Examination of other MHSA PEI goals, beyond the two presented in this report, was not possible. Specifically, participating Cluster 1 programs did not previously collect sufficient data or were not able to collect data during the course of this project, regarding several MHSA PEI stated goals, relevant to children and youth with early manifestations of emotional and behavioral disturbance as a result of trauma, including: outreach, reduction of stigma and discrimination, and school failure or dropout. Many Cluster 1 programs are working towards all of these MHSA PEI goals, and are beginning to track relevant outcomes in various ways. To some extent the lack of sufficient data in many of these areas is due to the fact that many programs were initiated relatively recently (e.g., in operation for less than two years). However, in all cases program and county staff indicated interest in collecting additional information relevant to all stated MHSA PEI outcomes, noting the need for sufficient resources (e.g., monetary, time, training and technical assistance) before such tracking can be routinely and reliably conducted.

Discussion & Implications

The analyses presented in this report regarding the MHSA PEI goals to prevent mental illness from becoming severe and disabling and increase service use relative to need for service among underserved populations indicate encouraging trends among program participant outcomes and Cluster 1 programs themselves. Findings regarding each of these MHSA PEI goals are summarized below, and implications of these patterns for policy, practice, and future research are discussed.

Change in the severity of mental illness

Overall, analysis of change in the severity of mental illness, from initial to follow-up assessment, among Cluster 1 participants revealed a largely consistent pattern of improvement—in many cases clinically significant reductions from more to less severe levels of symptoms or higher levels of functioning. These overall findings are in line with previous investigations of TF-CBT and CBITS programs.[34]

Information was available regarding the mental health severity of relatively few CBITS consumers, and conclusions are necessarily tentative. However, the pattern of results among CBITS participants relative to the clinical implications identified by the SDQ scale suggests interesting trends. Parent ratings on average were flat and did not indicate clinically significant change. In contrast, Teachers reported clinically significant changes to elevated risk categories on the conduct and prosocial scales, on average. This pattern of findings may indicate participants experienced problems negotiating the more dynamic social environment of the classroom, which is the environment that teachers likely refer to in arriving at their ratings. Teachers also reported average reductions in emotional symptoms in the face of a classroom situation, suggesting that participants improved with regard to their ability to cope emotionally with social challenges at school. These somewhat contradictory findings between the parent and teacher scales suggest further investigation of CBITS participant symptoms in relation to environment is warranted.

Regarding the TF-CBT program, with the exception of the intrapersonal distress scale, average participants scores on all YOQ scales fell below a clinically significant level at follow-up assessment. These trends held true in the relatively large Los Angeles TF-CBT program as well as in other counties' TF-CBT programs, supporting the consistency of the effectiveness of this intervention. Further, this pattern of positive impact held true among Hispanic and other minority racial/ethnic groups, which is in line with previous research.[35] Thus, analysis of change in YOQ scores overall, and among subscales and minority groups, indicated clinically significant improvement in functioning amongst participants on average. Results of YOQ analysis suggest TF-CBT programs contributed to the prevention of participants' mental illness from becoming severe and disabling, and suggest that this MHSA PEI goal is being met among most TF-CBT program participants.

Unfortunately, due to the scope of this study the magnitude of impact on severity of mental illness could not be compared among other promising PEI programs or practices being implemented across the state. Future research should be conducted to examine the relative effectiveness of various PEI approaches, including consideration of relative resource requirements and efficiencies, across the state.

Rates of Service Use Among Underserved Populations

Most Cluster 1 programs served gender and race/ethnic minority groups (i.e., Hispanics and Black individuals) in relative proportion to the estimated rate of need for service among their respective county populations. This pattern suggests that the overall MHSA value, and stated PEI goal, of serving traditionally underserved gender and racial/ethnic minority groups has had an impact on culture and service at the programs level, resulting in these groups receiving services in relative proportion to their estimated need. Also, as noted earlier, the estimates of need for service utilized in this analysis do not perfectly represent the rates of service use among the relatively small and age specific service populations of Cluster 1 programs. As a result, these estimates of need are probably conservative because they likely overestimate the need for service among various populations. This further supports the likelihood that Cluster 1 programs are at least as effective as indicated by the current findings.

Further, these findings suggest that additional data collection regarding MHSA PEI program service outreach to underserved populations (e.g., outreach processes, strategies, and goals), and rates of conversion to program participation (e.g., clinical assessment processes), should be supported so that further investigation of the most effective outreach and service strategies can be identified and disseminated.

Appendix A: Early Intervention Evaluation Advisory Group Members

From among a stakeholder group consulted during the development of this evaluation, the evaluation team recruited a group of advisors who have agreed to consult routinely throughout the project as needed (see Table A-2). The evaluation advisory group is comprised of three practice/research stakeholders, two county/provider agency stakeholders, and three stakeholders with lived experience of mental illness and treatment in the public sector, as well as family members. In order to use their time most efficiently we have engaged advisory group members, as appropriate given their experience and expertise, during each phase of the project, including the results review phase.

Table A-1. Early Intervention Advisory Group Members

Name	Organization	Stakeholder Type
Cricket Mitchell	California Institute for Mental Health (CiMH)	Practice/Research
Liz Miles	QI Performance Improvement Team, County of San Diego Behavioral Health Services	County/Provider
Juan Ibarra	Office of Quality Management for Community Programs, San Francisco Department of Public Health	County/Provider
Kamila Baker	California Youth Empowerment Network (CAYEN)	Person with Lived Experience
Luz Parra	Parent Partner Program Manager	Family Member
Raja Mitry	California Elder Mental Health and Aging Coalition and Racial and Ethnic Mental Health Disparities Coalition (REMHDCO)	Person with Lived Experience
Stephanie Welch	California Mental Health Services Authority (CalMHSA)	Practice/Research
Steve Wilson	School of Social Work, California State University Long Beach	Practice/Research

End Notes

---

[1] See Welfare Institutions Code (WIC) section 5840-5840.2

[2] Centers for Disease Control and Prevention (2011). Adverse Childhood Experiences Study. (www.acestudy.org)

[3] SAMHSA. http://www.samhsa.gov/children/data.asp

[4] The National Child Traumatic Stress Network (www.nctsn.org)

[5] The National Center for Trauma-Informed Care (www.samhsa.gov/nctic/default.asp)

[6] Cohen, J.A., Mannarino, A.P., & Deblinger, E. (2006). Treating Trauma and Traumatic Grief in Children and Adolescents. New York: The Guilford Press.

[7] Child Welfare Information Gateway. (2012). *Trauma-focused cognitive behavioral therapy for children affected by sexual abuse or trauma.* Washington, DC: U.S. Department of Health and Human Services, Children's Bureau.

[8] Cohen, J. A., Deblinger, E., Mannarino, A. P., & Steer, R. A. (2004). A multisite, randomized controlled trial for children with sexual abuse-related PTSD symptoms. Journal of the American Academy of Child and Adolescent Psychiatry, 43(4), 393-402.

[9] See Welfare Institutions Code (WIC) section 5840-5840.2

[10] The UCLA evaluation team has established a working agreement with CiMH to share TF-CBT data for relevant counties in Cluster 1, and to provide consultation regarding data quality and analysis techniques.

[11] Jaycox LH, Stein BD, Kataoka SH, et al. Violence exposure, Post traumatic stress disorder, and depressive symptoms among recent immigrant schoolchildren. *Journal of the American Academy of Child and Adolescent Psychiatry* 2002;41(9):1104–10.

Kataoka SH, Stein BD, Jaycox LH, et al. A school-based mental health program for traumatized Latino immigrant children. *Journal of the American Academy of Child and Adolescent Psychiatry* 2003;42(3):311–8.

Jaycox L. *Cognitive-Behavioral Intervention for Trauma in Schools: Training Manual*. Longmont, CO: Sopris West Educational Services, 2004.

Jaycox LH, Langley AK, Stein BD, et al. Support for students exposed to trauma: a pilot study. *School Mental Health* 2009;1(2):49–60.

[12] Jaycox LH, Stein BD, Kataoka SH, et al. Violence exposure, Post traumatic stress disorder, and depressive symptoms among recent immigrant schoolchildren. *Journal of the American Academy of Child and Adolescent Psychiatry* 2002;41(9):1104–10.

[13] See Welfare Institutions Code (WIC) section 5840-5840.2

[14] Mendocino County has implemented programs meeting Cluster 1 inclusion criteria, but declined to participate.

[15] See Welfare Institutions Code (WIC) section 5840-5840.2

[16] This MHSA PEI goal has conceptual relation but is distinct from to the goal of preventing prolonged suffering. Programs do not measure these goals distinctly, and do not reliably collect data regarding the time element inherent in measuring the prevention of prolonged suffering. Thus, prevention of prolonged suffering will not be assessed within this study.

[17] http://172.10.175.217/estimation/3_Synthetic/synthetic.htm

[18] http://www.icpsr.umich.edu/icpsrweb/CPES/

[19] Enders, C.K. (2010). Applied missing data analysis. New York: Guilford Press.

---

[20] Cohen, J. (1969) *Statistical Power Analysis for the Behavioral Sciences*. NY: Academic Press. Cohen, J. (1994) The Earth is Round (p<.05). *American Psychologist*, 49, 997-1003.

[21] Classification information taken from resources available on sdqinfo.com

[22] Insufficient race/ethnicity data was available to analyze SDQ score change among minority groups.

[23] Cannon, J. A. N., Warren, J. S., Nelson, P. L., & Burlingame, G. M. (2010). Change Trajectories for the Youth Outcome Questionnaire Self-Report: Identifying Youth at Risk for Treatment Failure, *Journal of Clinical Child & Adolescent Psychology, 39:3*, 289-301.

[24] Clinical cutoff scores obtained from County of Los Angeles Department of Mental Health (2011) *YOQ Quick Guide* accessible at the URL http://www.cmhda.org/go/portals/0/cmhda%20files/committees/mhsa%20comm/1306_jun/yoq%20quickguide.pdf

[25] Garland AF, Lau AS, Yeh M, McCabe KM, Hough RL, Landsverk JA. (2005). Racial and ethnic differences in utilization of mental health services among high-risk youths. *Am J Psychiatry*, 162(7): 1336-43 (http://www.ncbi.nlm.nih.gov/pubmed/15994717).

[26] McGuire TG, Miranda J. (2008) New evidence regarding racial and ethnic disparities in mental health: policy implications. *Health Affairs*, 27:393–403.

[27] Holzer, C.E., and Nguyen, H.T. (2009) Estimation of Need for Mental Health Services. Retrieved from http://172.10.175.217/estimation/3_Synthetic/synthetic.htm

[28] J.A. Ciarlo, D.L. Tweed, D.L. Shern, L.A. Kirkpatrick, N. Sachs-Ericsson, I. (1992). Validation of indirect methods to estimate need for mental health services: Concepts, strategy, and general conclusions. *Evaluation and Program Planning*, 15(2), 115-131, http://dx.doi.org/10.1016/0149-7189(92)90003-D.

[29] National Institute of Mental Health Collaborative Psychiatric Epidemiology Surveys (CPES) http://www.icpsr.umich.edu/icpsrweb/CPES/

[30] Rosen, B.M., Goldsmith, H.F., & Redick, R.W. (1979, May). Demographic and social indicators: Uses in mental health planning in small areas. World Health Statistics Quarterly Report: Mental Health Planning (Vol. 32, No. 1). Geneva: World Health Organization.

[31] National Institute of Mental Health Collaborative Psychiatric Epidemiology Surveys (CPES) http://www.icpsr.umich.edu/icpsrweb/CPES/

[32] Holzer, C.E., and Nguyen, H.T. (2009) Estimation of Need for Mental Health Services. Retrieved from http://172.10.175.217/estimation/3_Synthetic/synthetic.htm

[33] Chandra, A.; Minkovitz, C. S. 2006. Stigma Starts Early: Gender Differences in Teen Willingness to Use Mental Health Services. *Journal of Adolescent Health* 38: 754e.1-754e8.

[34] Deblinger, E., Mannarino, A. P., Cohen, J. A., & Steer, R. A. (2006). A multisite, randomized controlled trial for children with sexual abuse‐ related PTSD symptoms: Examining predictors of treatment response. Journal of the American Academy of Child and Adolescent Psychiatry, 45, 1474‐ 1484.

[35] Weiner, D. A., Schneider, A., & Lyons, J. S. (2009). Evidence‐ based treatments for trauma among culturally diverse foster care youth: Treatment retention and outcomes. Children and Youth Services Review, 31(11), 1199‐ 1205.