# Trauma-Focused Cognitive-Behavioral Therapy for Children and Adolescents: Assessing the Evidence

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Objective: Trauma-Focused Cognitive-Behavioral Therapy (TF-CBT) is a conjoint parent-child treatment developed by Cohen, Mannarino, and Deblinger that uses cognitive-behavioral principles and exposure techniques to prevent and treat posttraumatic stress, depression, and behavioral problems. This review defined TF-CBT, differentiated it from other models, and assessed the evidence base. Methods: Authors reviewed meta-analyses, reviews, and individual studies (1995 to 2013). Databases surveyed were PubMed, PsycINFO, Applied Social Sciences Index and Abstracts, Sociological Abstracts, Social Services Abstracts, PILOTS, the ERIC, and the CINAHL. They chose from three levels of research evidence (high, moderate, and low) on the basis of benchmarks for number of studies and quality of their methodology. They also described the evidence of effectiveness. Results: The level of evidence for TF-CBT was rated as high on the basis of ten RCTs, three of which were conducted independently (not by TF-CBT developers). TF-CBT has demonstrated positive outcomes in reducing symptoms of posttraumatic stress disorder, although it is less clear whether TF-CBT is effective in reducing behavior problems or symptoms of depression. Limitations of the studies include concerns about investigator bias and exclusion of vulnerable populations. Conclusions: TF-CBT is a viable treatment for reducing trauma-related symptoms among some children who have experienced trauma and their nonoffending caregivers. Based on this evidence, TF-CBT should be available as a covered service in health plans. Ongoing research is needed to further identify best practices for TF-CBT in various settings and with individuals from various racial and ethnic backgrounds and with varied trauma histories, symptoms, and stages of intellectual, social, and emotional development. (Psychiatric Services 65:591– 602, 2014; doi: 10.1176/appi.ps.201300255)

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rauma-Focused Cognitive-Behavioral Therapy (TF-CBT) is a manualized intervention for children who are exposed to trauma and experience trauma-related mental health symptoms (1). Published estimates indicate that 75% or more of children and adolescents experience some form of trauma by the age of 18 (2-4). A national survey of children aged 2-17 years or their caregivers conducted in 2008 found that more than 69% had experienced at least one of 33 types of victimization (2). In a 2011 update with a nationally representative sample of individuals aged one month to 17 years, the authors reported that in the past year over 57% of participants had experienced at least one of five types of victimization (physical victimization or bullying, sexual victimization, child maltreatment, damage to property, or witnessing victimization) (5). The authors interpreted trends between 2008 and 2011 as suggesting more stability than change.

The experience of trauma increases a child's risk of posttraumatic stress symptoms as well as depression and behavior problems (6). The lifetime prevalence rate of diagnosable posttraumatic stress disorder (PTSD) among children and adolescents is approximately 5% (7). However, between 20% and 50% of children exposed to trauma experience some level of posttraumatic stress symptoms (3). The high rates of trauma among children and the potential long-term impact of PTSD and related conditions have necessitated the

Table 1	
Description of Trauma-Focused Cognitive	-Behavioral Therapy (TF-CBT)

Feature	Description
Service definition	TF-CBT is a direct service for children and adolescents and their nonoffending caregivers. The approach uses cognitive- behavioral principles and exposure techniques to address symptoms of posttraumatic stress following trauma expo- sure as well as symptoms of depression, behavior problems, and caregiver difficulties. Key elements of the intervention include psychoeducation (for example, common reactions to trauma exposure), coping skills (for example, relaxation, identification of feelings, and cognitive coping), gradual exposure (for example, through imagination or in-vivo ex- posure), cognitive processing of trauma-related thoughts and beliefs, and caregiver involvement (for example, par- ent training and conjoint child-parent sessions). Treatment strategies such as behavior modeling and body safety skills training are also used. To accommodate a variety of trauma- tic experiences, TF-CBT includes general psychoeducational materials with recommendations for tailoring treatment for individuals who have experienced physical abuse, sexual abuse,
Service goals	interpersonal violence, or natural disasters. To provide a process in which the child and his or her nonoffending caregivers learn about trauma and develop strategies to reduce related stress and modulate and con- trol associated feelings and thoughts; to provide structured opportunities for children and adolescents, with the support of their nonoffending caregivers, to process the trauma and learn to cope with stimuli that may lead to traumatic reac- tions; to support the child or adolescent in developing and maintaining a secure sense of safety as well as adaptive social skills
Populations	Children and adolescents who have experienced trauma and have trauma-related symptoms, including posttraumatic stress disorder
Settings of service delivery	Outpatient facilities, schools, client homes, individual and group therapy settings (research was limited to outpatient settings)

development of interventions designed specifically to meet the needs of children and adolescents in the aftermath of trauma, and this has been an important advancement in the field.

The Substance Abuse and Mental Health Services Administration (SAMHSA) provides a general definition of TF-CBT as a treatment that uses cognitive-behavioral principles, including exposure techniques, to address the various symptoms that children and adolescents may experience after a traumatic event (Table 1). In this review, we sought to augment that definition with specific information about the key components of TF-CBT as described by its developers (1). TF-CBT has been widely used and disseminated, including through the National Child Traumatic Stress Initiative (8). Treatment of trauma-related symptoms secondary to a range of traumatic events (for example, sexual abuse, physical abuse, domestic violence, community violence, and natural disasters) occurs in a variety of settings that include university-affiliated and communitybased outpatient clinics.

This article reviews the literature on TF-CBT as part of the Assessing the Evidence Base Series (see box on next page). The objectives were to describe the components of TF-CBT, assess the level of evidence (that is, methodological quality) of existing studies, and provide a concise summary of its overall effectiveness. The review included studies that investigated the use of TF-CBT with children exposed to a range of traumatic events who had experienced traumarelated mental health problems. The review also examined the effectiveness of TF-CBT in addressing specific symptoms, such as those of PTSD and depression, and problem behaviors. Finally, the review highlighted the limitations and areas that need additional research. This information will help payers and policy makers as well as families of children exposed to trauma make informed decisions about treatment.

#### **Description of TF-CBT**

TF-CBT is defined in the 2006 treatment manual Treating Trauma and Traumatic Grief in Children and Adolescents (1), although descriptions of the key cognitive-behavioral components developed by Deblinger, Cohen, and Mannarino were described in earlier literature (9). The primary goal of TF-CBT is to reduce PTSD symptoms among children and adolescents. TF-CBT provides structure for the use of cognitive-behavioral principles in the context of two paramount developmental considerations: the role of the caregiver and the developing nature of a child's emotion regulation and coping capabilities. The model originally was designed to address PTSD symptoms associated with sexual abuse: depressive symptoms, behavior problems (including aggression and inappropriate sexual behaviors), and unhelpful thoughts and feelings regarding the abuse, such as cognitive distortions, guilt, and shame. Subsequently the model has been adapted to treat various types of abuse and other traumas, such as experiencing physical or emotional abuse or neglect and witnessing community or domestic violence, traumatic loss, war, or natural disasters. TF-CBT was designed to be delivered in 12-16 sessions of outpatient treatment, depending on the needs and abilities of the child and caregivers.

The model also addresses the emotional reactions of nonoffending parents and caregivers. This population is defined as individuals who were not involved in perpetrating the abuse, although they may also be experiencing PTSD symptoms related to the abuse. Caregivers who may have been involved in causing the trauma (such as domestic violence or physical abuse) but who have subsequently received successful treatment or otherwise been found to be supportive of the child and able to ensure physical and emotional safety may also be involved in treatment, depending on the needs of the child.

Over time, TF-CBT has been applied to symptoms and behaviors

associated with a broad range of traumas, such as other forms of child maltreatment, domestic violence, community violence, accidents, natural disasters, war, and other events involving traumatic loss (10–15). Key elements of the intervention are summarized in Table 1. They include psychoeducation, gradual exposure, behavior modeling, coping strategies, and body safety skills training. Each of these elements may be adjusted according to the treatment needs of the child and family involved.

To help children and adolescents develop coping skills, treatment providers teach relaxation skills, affective modulation skills, and cognitive coping skills. In addition, TF-CBT uses exposure principles and cognitiverestructuring techniques that are specific to the traumatic experience. Exposure involves gradually introducing individuals to reminders of the trauma that may be tangible, such as places or people, or intangible, such as specific memories of traumatic events. The gradual exposure reduces distress associated with these reminders and decreases trauma-related reactions. Cognitive restructuring involves identifying inaccurate and unhelpful thoughts and beliefs (for example, self-blame) associated with traumatic events and developing more adaptive ways of understanding and drawing conclusions about the trauma and the victim's reactions to it.

Early versions of TF-CBT tended to place different levels of emphasis on certain components, such as exposure (16), and various ways of naming the approach evolved. Two teams, one led by Deblinger and the other by Cohen and Mannarino, each created a structured manual for their approach. These two teams then collaborated, and in 1997 they integrated their similar approaches to treatment. They coauthored a manual on TF-CBT, which was published in 2006 (1). In that manual, TF-CBT treatment components were summarized by using the acronym PRACTICE (1), and this summary forms the basis of our definition for TF-CBT as it appears in the research literature. The eight components (the first of which has two pieces) of PRACTICE are an elaboration of the original models and

# About the AEB Series

The Assessing the Evidence Base (AEB) Series presents literature reviews for 13 commonly used, recovery-focused mental health and substance use services. Authors evaluated research articles and reviews specific to each service that were published from 1995 through 2012 or 2013. Each AEB Series article presents ratings of the strength of the evidence for the service, descriptions of service effectiveness, and recommendations for future implementation and research. The target audience includes state mental health and substance use program directors and their senior staff, Medicaid staff, other purchasers of health care services (for example, managed care organizations and commercial insurance), leaders in community health organizations, providers, consumers and family members, and others interested in the empirical evidence base for these services. The research was sponsored by the Substance Abuse and Mental Health Services Administration to help inform decisions about which services should be covered in public and commercially funded plans. Details about the research methodology and bases for the conclusions are included in the introduction to the AEB Series (27).

include Psychoeducation and Parenting skills, Relaxation, Affect modulation, Cognitive coping and processing, Trauma narrative, In-vivo mastery of trauma reminders, Conjoint child-caregiver sessions, and Enhancing safety and development.

A central focus of TF-CBT is to ensure an approach that is developmentally appropriate for the needs of children and their caregivers. This includes a developmentally sensitive assessment and fostering of coping strategies to help children better manage trauma-related distress and emotional reactions. After children learn coping skills, they participate in exposure-based components of treatment. An example is the creation of a trauma narrative-a gradual exposure and cognitive-processing exercise that creates the individual's story about the abuse. The narrative is intended to reduce distress and resolve maladaptive cognitions associated with trauma-related memories, which can be affected by developmental factors such as level of cognitive and emotional maturity.

A second developmental consideration of TF-CBT is incorporating a nonoffending caregiver into the child's recovery process. In the TF-CBT model, parents and children participate in parallel treatment sessions; for each component of treatment, the therapist spends part of the session with the child and part with the caregiver. In addition, the child shares the trauma narrative with the caregiver in the session. This allows the caregiver to provide support and helps the child correct distortions in his or her understanding of the abuse, including those related to what happened and who is to blame. Caregivers often also participate in the session with the child to enhance the safety component, so that the child can receive adult support in regaining a sense of security and well-being (1).

Clearly, the implementation of this model as outlined depends on the presence of a competent, child-focused caregiver at the time of treatment, which cannot be presumed in all families affected by abuse and maltreatment. Many children are referred for TF-CBT via social services or other agencies that are involved with the child because of concerns about the caregiver's capacity to provide care and safety, making full implementation of the caregiver components a challenge or impractical. For that reason, TF-CBT allows for a number of adaptations to the key components. The parallel-treatment components for caregivers can be provided to any available caregiver, such as a foster parent or another adult who can provide appropriate parenting support and is involved in the child's daily life. During conjoint sessions, a child may choose to share the trauma narrative with an adult whom he or she identifies as supportive and trusted (for example, a grandparent, aunt,

trusted teacher, or guidance counselor), regardless of whether this adult is involved in day-to-day care. Sessions are also held between the caregiver and the therapist throughout treatment, including prior to conjoint sessions, to ensure the ability of the caregiver to respond in a caring and supportive manner and to help prepare the caregiver for the sharing of the narrative.

# Five core elements of the TF-CBT model

Although other variations of CBT for traumatized children and adolescents have been reviewed in recent years (17,18), this review focused on what we identified as five core elements of the current TF-CBT model and the iterations that preceded it. These are psychoeducation; coping strategies, such as relaxation, identification of feelings, and cognitive coping; gradual exposure, for example, through imagining or in-vivo exposure; cognitive processing; and caregiver participation, such as parent training and conjoint sessions. Although studies that were conducted before publication of the most recent treatment manual used an earlier version of the manual, all the studies reviewed here adhered to the five key elements we have identified.

We evaluated TF-CBT for the treatment of a broad range of traumatic events, rather than focusing on a specific type of trauma, as was the case for two reviews published in 2013 by the Agency for Healthcare Research and Quality (AHRQ) (19,20). One of the AHRQ reviews provided a thorough comparative effectiveness study of cognitive-behavioral interventions for children and adolescents that address trauma other than maltreatment or family violence, but it did not cover the specific TF-CBT model defined here (19). The literature search for this AHRO review merged individual and school group models (21, 22) and included only one study of what was described as "cognitive-behavioral therapy" for trauma among children and adolescents (23). The second AHRQ review targeted maltreatment (20). The authors reviewed two studies by TF-CBT developers that are covered here (24,25)but no others. Thus, in this review, we provide a different perspective on the TF-CBT literature.

# Methods

#### Search strategy

We conducted a search for metaanalyses, research reviews, and individual studies from 1995 through July 2013. We searched major databases: PubMed (U.S. National Library of Medicine and National Institutes of Health), PsycINFO (American Psychological Association), Applied Social Sciences Index and Abstracts, Sociological Abstracts, Social Services Abstracts, Published International Literature on Traumatic Stress, the Educational Resources Information Center, and the Cumulative Index to Nursing and Allied Health Literature. We also examined publications that had citations pertaining to the development of the model (1, 16, 24, 26). We used combinations of the following search terms: trauma-focused cognitive behavioral therapy, trauma therapy, treatment of trauma, cognitive behavioral therapy for trauma, cognitive behavior therapy for sexual abuse, cognitive behavior therapy for physical abuse, treatment for PTSD, and trauma-focused cognitive behavioral therapy for child traumatic grief. We also used truncated forms of these terms (such as "trauma") and alternative spellings and punctuation.

#### Inclusion and exclusion criteria

This review was limited to U.S. and international studies in English and included the following types of articles: randomized controlled trials (RCTs), quasi-experimental studies, single-group time-series design studies, and review articles, such as metaanalyses and systematic reviews. We included only studies that investigated TF-CBT and its five key elements, as defined above in the description of the service. We also included review articles and meta-analyses that examined TF-CBT along with other cognitive-behavioral approaches (for example, articles that reviewed all cognitive-behavioral approaches, including TF-CBT). We excluded studies of other cognitive-behavioral-based interventions for traumatized children, such as Cognitive Behavioral Intervention for Trauma in Schools, which involves school-based prevention and treatment groups with less caregiver involvement, and Narrative Exposure Therapy, which does not include other core components of TF-CBT.

# Strength of the evidence

The methodology used to rate the strength of the evidence is described in detail in the introduction to this series (27). The research designs of the studies that met the inclusion criteria were examined. Three levels of evidence (high, moderate, and low) were used to indicate the overall research quality of the collection of studies. Ratings were based on predefined benchmarks that considered the number and quality of the studies. If ratings were dissimilar, a consensus opinion was reached.

In general, high ratings indicate confidence in the reported outcomes and are based on three or more RCTs with adequate designs or two RCTs plus two quasi-experimental studies with adequate designs. Moderate ratings indicate that there is some adequate research to judge the service, although it is possible that future research could influence reported results. Moderate ratings are based on the following three options: two or more quasi-experimental studies with adequate design; one quasi-experimental study plus one RCT with adequate design; or at least two RCTs with some methodological weaknesses or at least three quasi-experimental studies with some methodological weaknesses. Low ratings indicate that research for this service is not adequate to draw evidence-based conclusions. Low ratings indicate that studies have nonexperimental designs, there are no RCTs, or there is no more than one adequately designed quasi-experimental study.

We accounted for other design factors that could increase or decrease the evidence rating, such as how the service, populations, and interventions were defined; use of statistical methods to account for baseline differences between experimental and comparison groups; identification of moderating or confounding variables with appropriate statistical controls; examination of attrition and followup; use of psychometrically sound measures; and indications of potential research bias.

#### Effectiveness of the service

We described the effectiveness of the service-that is, how well the outcomes of the studies met the service goals. We compiled the findings for separate outcome measures and study populations, summarized the results, and noted differences across investigations. We considered the quality of the research design in our conclusions about the strength of the evidence and the effectiveness of the service. Based on the evidence, we also evaluated whether the practice should be considered for inclusion as a covered service in public and private health plans.

#### Results

#### Level of evidence

Our literature search resulted in 13 articles reporting on ten RCTs (11,13,14,24-26,28-34) and six review articles (10,12,18-20,35). On the basis of the criteria set forth in this review, the body of research on TF-CBT meets a high level of evidence. Three adequately designed RCTs were completed independently of the TF-CBT developers (11,28,29), and seven RCTs and three follow-up studies completed by or involving the developers were otherwise determined to be of adequate design (13,14,24-26,30-34). We describe the findings of the publications by their type of research design.

RCTs. Our literature search yielded ten RCTs that evaluated TF-CBT with the five core components as defined, as well as a number of additional open trials and dismantling studies that clarified the evidence of its effectiveness. The brief summary here is complemented by additional study details summarized in Table 2. Of the ten RCTs we identified, seven compared TF-CBT with an active control group (13,14,24-26,29,33), and three compared TF-CBT with a wait-list control group (11,28,31). Three additional articles, also listed in Table 2, were follow-up studies to an original RCT; they included follow-up periods of one year or longer (30,32,34). Five RCTs evaluated TF-CBT exclusively with sexually abused children (24-26,29,33), one evaluated children who had been exposed to war and sexual exploitation (11), two evaluated a mixed-trauma sample of participants (29,31), one evaluated children exposed to intimate-partner violence (13), and one evaluated children exposed to a natural disaster (Hurricane Katrina) (14). Nine RCTs were administered in the individual or conjoint format (13,14,24–26,28,29,31,33); and one, an intervention with Congolese girls, was administered in a group format (11). Although we excluded group formats such as Cognitive Behavioral Intervention for Trauma in Schools (which was specifically designed for school-based groups and did not fully adhere to the PRACTICE protocol), we included the study with Congolese girls because clinicians used the TF-CBT manual and adhered to the PRACTICE approach by involving parents in their group model.

Overall, the RCTs in our review included strong fidelity procedures coupled with very similar definitions of the service. In addition, most assessment tools were well validated, including structured clinical interviews (for example, the Kiddie Schedule for Affective Disorders and Schizophrenia) and self- and parent-report measures (for example, the University of California, Los Angeles, PTSD Reaction Index).

Nonetheless, some studies had methodological weaknesses (Table 2). The primary concern was investigator bias. Three RCTs with adequate designs were implemented by researchers who were independent of the developers of the treatment (11,28,29). However, the remaining seven RCTs were conducted by the developers of TF-CBT (13,24–26,33) or included one of the developers in some capacity (14,31). Only two of the seven RCTs conducted by the developers of the treatment met AHRQ's strict guidelines for inclusion regarding risk of bias (24,25). Second, blinding procedures were not explicitly reported or were unclear or insufficient in six studies (14,24-26,28,33), and three studies had inactive control groups (11,28,31). Because these methodological concerns are common in the literature and in some cases may simply be due to omissions in reporting, we included studies that had no more than two perceived flaws. The only exception was one study that included multiple design flaws but that provided new information on treatment of very young children, a population rarely included in this research (35).

Review articles. The six review articles included in this review (10.12.18-20.35)are described in Table 3. Similarities and differences in inclusion and exclusion criteria must be considered when comparing these results with the results of our review, because none of the previous reviews assessed the level of evidence in exactly the same way as we have defined our evidentiary assessment protocol. The reviews examined the status of evidence for similar and overlapping bodies of research, including TF-CBT with maltreated children only (20); TF-CBT for traumas that are not related to abuse, maltreatment, or family violence (19); and all cognitive-behaviorally oriented interventions applied to traumatized children (10,12,18,35).

In contrast to the generally high rating of evidence found in our review and the reviews described below, the two reviews conducted by AHRQ found low levels of evidence for cognitive-behavioral interventions for trauma. As we have noted, the first review focused on the treatment of children exposed to traumatic events that did not include maltreatment (that is, physical, sexual, emotional, or psychological abuse and neglect) or family violence (19). The authors identified only one study as TF-CBT-an evaluation of a cognitive-behavioral school-based intervention for traumaexposed adolescents (23). This study had one major exception to our definition of TF-CBT: it was implemented primarily in school groups with little caregiver involvement, whereas our model is implemented in individual and conjoint child-caregiver sessions. The second AHRQ review compared parenting interventions, trauma-focused treatments, and enhanced foster care approaches that address child maltreatment (20). After excluding a number of RCTs on the basis of the

	ological aknesses	There was an active control group. Developers were authors of the study. Blinding procedures were insufficient or not properly described. The study excluded children with intellectual or develop- mental disability, children with psychosis, and children whose parents had psychosis or active substance use.	There was an active control group. Developers were authors of the study. Blinding procedures were insufficient or not properly described. The study excluded children with intellectual or develop- mental disability and children with psychotic symptoms.	There was an active control group. Developers were authors of the study. Blinding procedures were insufficient or not properly described. The study excluded children with intellectual or developmen- tal disability, psychotic symptoms, or an impairing substance use disorder and those whose parents had	Authors were independent of model development. Authors were independent of model development. Binding procedures were insufficient or not properly described. There was a wait-list control group. The study excluded children who were suicidal or extremely violent and those with intellectual or developmental disability or psy- chotic symptoms.	There was an active control group. Developers were authors of the study. Blinding procedures were insufficient or not properly described. The study excluded children with intellectual or develop- mental disability, psychotic symptoms, or impairing substance use disorder and those whose parents had psychosis or active substance use.
	Selected methodological strengths and weaknesses	There was an activ authors of the s insufficient or n excluded childre mental disability children whose substance use.	There was an activ authors of the s insufficient or n excluded childre mental disability symptoms.	There was an activ authors of the st insufficient or nc excluded childre- tal disability, psyu- substance use dis- substance use dis-	Authors were indep Binding procedu properly describe group. The study suicidal or extrem intellectual or de- chotic symptoms.	There was an activ authors of the s insufficient or n excluded childre mental disability impairing substi whose parents 1 use.
he review <sup>a</sup>	Effect size <sup>d</sup>	Medium for sexual behav- ior at 12-month follow- up	Medium for posttrau- matic stress symptoms, depression, and behav- ior; medium for effec- tive parenting practices	Medium for depression	Large for posttraumatic stress symptoms	Medium for posttrau- matic stress symptoms and for behavior; me- dium for effective par- enting practices
L <b>able 2</b> Randomized controlled trials of Trauma-Focused Cognitive-Behavioral Therapy (TF-CBT) included in the review <sup>a</sup>	Findings <sup>c</sup>	TF-CBT was related to greater improvement in trauma-reactive behaviors and sexual behavior problems, compared with nondirective supportive therapy; the treatment effects endured at 12- month follow-up. Significant pre- to posttreatment decreases in sexual behavior were noted, but the differences were not significant when TF-CBT was compared with an active control group, except at 12-month follow-un.	TF-CBT was associated with decreases in externalizing behaviors, depression, and PTSD symptoms among children and with increases in effective parenting skills among mothers compared with those in therapy as usual.	TF-CBT was associated with greater improvements in depression, anxiety, behavior problems, and sexual behavior problems, compared with the control group. Significant pre- to posttreatment decreases in sexual behavior were noted, but no significant differences were found when TF-CBT was commond with an actival control from	TF-CBT was compared with a significant reduction in TF-CBT was associated with a significant reduction in hyperarousal. lessened experiences, and hyperarousal. lessened experiences of fear and anxiety; and improved global functioning, compared with the wait-list control group. Caregiver involve- ment was not related to treatment outcomes. There was no main effect for behavior problems. TF-CBT participants had a significant pre-post decrease in depression, but no significant between-groups dif- ference was noted when TF-CBT was compared with	the control group. TF-CBT was associated with greater improvement in PTSD symptoms, depression, behavior problems, shame, and abuse-related attributions among children and adolescents, compared with CCT. Among caregivers, TF-CBT was associated with greater improvement in depression, abuse-specific distress, support of the child, and effective parenting practices.
Trauma-Focused Cognitiv	Sample	N=86; mean age, 4.7 years; age range, 2-7; 58% females; experienced sex- ual abuse; 78% completed treatment across groups	N=100; mean age, 9.8 years; age range, 7–13; 83% females; experienced sex- ual abuse; 90% completed treatment and posttest	N=82; mean age, 11 years; age range 7–15, 69% females; experienced sex- ual abuse; 60% completed treatment	N=36; mean age, 11.4 years; age range, 5–17; 69% fe- males; experienced sexual abuse; 75% completed treatment	N=229; mean age, 10.8 years; age range, 8–14; percentage of females not reported; experienced sexual abuse; 88% com- pleted at least 3 sessions
ontrolled trials of	Comparison group	Nondirective supportive therapy	Therapy as usual	Nondirective supportive therapy	Wait-list control group; also compared child- only condition with full model	CCT
1 able 2 Randomized co	Study <sup>b</sup>	Cohen and Mannarino, 1996 (24); Cohen and Mannarino, 1997 (30)	Deblinger et al., 1996 (26); Deblinger et al., 1999 (32)	Cohen and Mannarino, 1998 (33); Cohen et al., 2005 (34)	King et al., 2000 (28)	Cohen et al., 2004 (25)

Table 2					
Continued from previous page	previous page				
Study <sup>b</sup>	Comparison group	Sample	Findings <sup>c</sup>	Effect size <sup>d</sup>	Selected methodological strengths and weaknesses
Jaycox et al., 2010 (14)	Cognitive-Behav- ioral Interven- tion for Trauma in Schools	N=118; mean age, 11.5 years; age range, 9–15.5; 66% females; experienced hurricane exposure; 60% received some treatment	Average PTSD scores improved in both interventions from baseline to 10 months: PTSD scores for the TF- CBT group moved to the normal range, and scores for the comparison group were in the low clinical range. A significant pre- to posttreatment decrease in depres- sion was noted for the TF-CBT group, but the between cornor difference was not significant	No significant effects were noted compared with the control group.	There was an active control group. Developers of the model were second and third authors. Blinding procedures were insufficient or not properly described. No exclusion criteria were cited.
Cohen et al., 2011 (13)	CCT	N=124; mean age, 9.6 years; age range 7–14; 51% females; witnessed inti- mate-partner violence; 60% completed treatment	IL	Medium for posttrau- matic stress symptoms	Developers were authors of the study. There was an active control group. The study excluded children with intellectual or developmental disability or psychotic symptoms or those whose parents had psychosis.
Scheeringa et al., 2011 (31)	Wait-list control	N=75; mean age, 5.3 years; age range, 3–6; 34% females; experienced mixed trauma; retention not reported	Scores on PTSD improved over time for TF-CBT group but not for the control group. Effects remained when the analysis accounted for type of trauma (acute injury, witnessed domestic violence, or victim of Hurricane Katrina). A significant pre- to posttreatment decrease in depression was noted for the TF-CBT group, but the between-group differ- ence was not significant	Large for posttraumatic stress symptoms	The third author was a developer of the model. Blinding procedures were insufficient or not properly described. There was a wait-list control group. The study excluded children with in- tellectual or developmental disability.
O'Callaghan et al. 2013 (11)	Wait-list control	N=52; mean age, 16 years; age range, 12–17; 100% females; experienced war exposure and sexual vio- lence; 88% completed follow-up assessments	TF-CBT was associated with greater improvements in Large for posttraumatic symptoms of trauma, depression, and anxiety; stress symptoms conduct problems; and prosocial behavior, compared with the control group.	Large for posttraumatic stress symptoms	This study was the first demonstration of TF-CBT within the population of the Democratic Re- public of Congo. Authors were independent of the model development. Blinding procedures were insufficient or not properly described. There was a wait-list control group. The study excluded children who were suicidal or extremely violent, had intellectual or developmental dis- ability, or had psychotic symptoms. Treatment was administered by individuals without a mental hoolth or modical bookermond
Jensen et al., 2013 (29)	Therapy as usual	N=156, mean age, 15.1 years; age range 10–18, 79% females; exhibited symp- toms of traume exposure; 78% completed 15 sessions and posttreatment assessment	TF-CBT was associated with lower levels of mental health symptoms (PTSD, depression, and general symptoms) and greater improvements in functional impairment, compared with the control group.	Medium for posttrau- matic stress symp- toms and depression	Authors were independent of model development. The study excluded children with psychotic symptoms or an impairing substance use disorder.

likelihood of author bias and other stringent criteria, the authors included three RCTs of TF-CBT. Two of these three RCTs are included in our review (24,25), along with some RCTs that met our inclusion criteria but were excluded by AHRQ because they were of the "wrong population" (13,29,33) or "wrong intervention" (26). The third RCT reviewed by AHRQ compared group conditions for mothers of sexually abused children but did not assess TF-CBT for children because the children in both groups received TF-CBT (36); therefore, it is unclear why it was included in the AHRQ review (20), and we chose to exclude it from our review.

One review conducted by the Cochrane Collaboration determined that there was a moderate level of evidence for cognitive-behavioral approaches, including TF-CBT, for sexually abused children (18). The authors concluded that although there was relatively consistent overall evidence that CBT is effective for this population, the body of research was weaker than in some other reviews because of the high risk of bias (primarily due to lack of reporting on blinding procedures). In evaluating TF-CBT together with other cognitive-behavioral approaches, this Cochrane review provided useful information on cognitive-behavioral approaches in general, but it confounded the evidence in support of the effectiveness of TF-CBT as a distinct cognitive-behavioral approach.

The remaining three reviews we identified found that there was a high level of evidence for cognitive-behavioral approaches for traumatized children and adolescents, including TF-CBT (10,20,35). In a review published in 2008, Silverman and colleagues (12) compared various psychosocial treatments for children exposed to trauma and included seven studies evaluating cognitive-behavioral therapies, including TF-CBT. This was the only treatment approach determined to meet the criteria of a "well-established treatment." Another Cochrane Collaboration review that was most recently updated in 2012 examined 14 RCTs covering psychological therapies for the treatment of PTSD among children and adolescents. The authors concluded that compared with control conditions, the "only therapy for which there was evidence" was CBT (including TF-CBT) (35).

Cary and McMillen (10) reviewed ten RCTs published between 1990 and 2011 and concluded that the evidence for positive outcomes from cognitive-behavioral therapies for trauma (including TF-CBT) was consistently high. Six of the studies from this review met our inclusion criteria. The remaining four studies reviewed by Cary and McMillen focused on interventions for children and adolescents that were similar to TF-CBT (for example, Cognitive Behavioral Intervention for Trauma in Schools) but did not meet the criteria of all five key components for inclusion in our review. Furthermore, although those authors excluded studies that did not measure PTSD symptoms, our review included two additional studies that assessed symptoms other than those of PTSD (24,30).

Although Cary and McMillen (10) specifically addressed TF-CBT, the other reviews drew their conclusions on the basis of cognitive-behavioral therapies in general, making it difficult to discern what the conclusions would have been had they focused on TF-CBT alone. Thus the conclusions regarding the evidence for TF-CBT reached by reviews of the literature over the past two decades vary widely, not only because of differences in the definition of TF-CBT (that is, whether all cognitive-behavioral interventions for traumatized children and adolescents are considered to be TF-CBT) but also because of differences in the types of trauma that were targeted and the vulnerable populations that were excluded.

*Populations*. A number of issues regarding sample composition and inclusion or exclusion criteria are important to consider because they affect the generalizability of the findings. Eight of the ten RCTs in this review were conducted in the United States (13,14,24–26,28,31,33), and most of the children who participated were Caucasian, followed by African American. Less than 10% of child participants were Hispanic. As we have noted, one study was conducted with girls from the Democratic Republic of Congo (11). In addition, one study was conducted with children in Norway (73% Norwegian, 10% Asian) (29).

Table 2 notes the excluded populations for studies that reported this information. Eight studies excluded children with intellectual or developmental disabilities (11,13,24-26,28,33), nine excluded children with psychotic symptoms (11,13,24-26,28,29,33), three excluded children on the basis of an impairing substance use disorder (25,29,33), and three excluded children who were suicidal or severely violent (11,26,28). All studies except one, which compared TF-CBT with a school-based intervention (12), required the participation of a broadly defined nonoffending caregiver. Several studies explicitly excluded parents with psychosis (13,24,25,33) or active substance abuse (24,25,33). Although exclusion criteria varied across studies, the criteria used indicate that the findings are limited in their ability to be generalized to children with intellectual or developmental disabilities or children and families affected by more serious forms of mental illness. Studies were also limited to outpatient clinics, thus limiting generalizability to other settings.

#### Effectiveness of the service

TF-CBT has been associated with improved outcomes over time and in comparison with control groups, although findings are somewhat inconsistent. As one might expect, larger effect sizes were reported when experimental groups were compared with inactive rather than active control groups (11,28). A majority of studies assessed posttraumatic stress symptoms and depressive symptoms, and some studies assessed behavior problems, including sexual behavior problems (24,33) and aggression (11,25, 26,28,31). A few studies assessed caregiver outcomes (25,26).

The sections below summarize results from the ten RCTs by targeted outcome. Effect sizes are based on comparison of the TF-CBT group with the comparison group, unless otherwise stated. Medium effects were defined as standardized mean differences of Cohen's d  $\geq$ .40 and large effects were defined as d  $\geq$ .75.

#### Table 3

	Review articles evaluating	Trauma-Focused	Cognitive-Behavioral	Therapy (TF-CBT	) included in the review <sup>a</sup>
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Study	Focus of review	Outcomes assessed	Findings
Silverman et al., 2008 (12)	Review. Psychosocial treatments for children and adolescents exposed to traumatic events (included 7 studies of CBT, 5 specifically of TF-CBT)	PTSD symptoms, depression, anxi- ety, behavior problems	TF-CBT met well-established criteria for methodological rigor. CBT ap- proaches, including TF-CBT, were associated with greater improve- ments in all outcomes relative to non CBT approaches
Cary and McMillen, 2012 (10)	Systematic review. CBT for chil- dren and adolescents who have survived trauma (included 14 studies of CBT, 6 specifically of TF-CBT)	PTSD symptoms, depression, be- havior problems	non-CBT approaches. TF-CBT was associated with reducing symptoms of PTSD (immediately and 12 months after treatment) as well as reducing depression and problem behaviors (immediately but not 12 months after treatment) compared with the attention control group (a group that receives the same amount of attention as the experimental group but with a placebo approach not con- sidered to be effective), standard com- munity care, and wait-list control conditions.
Gillies et al., 2012 (35)	Systematic review. Interventions for PTSD among children and adolescents (included 5 studies of CBT, 3 specifically of TF- CBT) <sup>b</sup>	PTSD symptoms, depression, anxiety, adverse effects, dropout	"Fair evidence" was cited that CBT (summarized together with TF-CBT) was associated with reduced PTSD symptoms compared with wait-list, usual care, and other therapies (sup- portive therapy, nondirective coun- seling, psychodynamic therapy, and hypnotherapy).
Macdonald et al., 2012 (18)	Systematic review. Cognitive-be- havioral interventions for chil- dren who have been sexually abused (included 10 studies of CBT, 6 specifically of TF-CBT)	PTSD symptoms, depression, anxiety, behavior problems	CBT, including TF-CBT, was associated with reducing symptoms of PTSD and anxiety, although effects were modest. CBT may have positive effects for children who have been sexually abused, but more study is needed.
Forman-Hoffman et al., 2013 (19)	Comparative effectiveness review. Interventions for traumatic stress other than maltreatment or family violence (included one study of CBT in a school setting, no studies of TF-CBT)	PTSD symptoms, depression, func- tional impairment, aggression, psychological difficulties, conduct problems, prosocial behavior	Evidence was low for CBT interventions targeting children exposed to trauma, regardless of whether they were ex- periencing symptoms. School-based treatments with elements of TF-CBT showed promising effects for children
Fraser et al., 2013 (20)	Comparative effectiveness review. Interventions for children exposed to maltreatment (in- cluded 3 studies of CBT, 2 specifically of TF-CBT <sup>c</sup> )	Well-being (mental and behavioral health; caregiver-child relation- ship; cognitive, language, and physical development; school- based functioning) and child wel- fare (safety, placement stability, and permanency)	exposed to trauma. Authors stated that a strong conclusion in support of any of the therapies, including CBT, could not be drawn from the studies examined in the review.

<sup>a</sup> Reviews are listed in chronological order. Abbreviations: CBT, cognitive-behavioral therapy; PTSD, posttraumatic stress disorder

<sup>b</sup> "CBT" was used to refer to all psychological treatments for children and adolescents that were based on cognitive-behavioral principles, whether or not it was cited as TF-CBT. "TF-CBT" was used to refer to treatments including all core components as outlined in the present review.

<sup>c</sup> See text for additional information; the third study did not test outcomes of TF-CBT for children because all children across conditions received the treatment.

*Posttraumatic stress.* All studies that included an assessment of post-traumatic stress symptoms reported significant differences between TF-CBT and comparison treatments at various posttreatment time points, primarily in the medium range of effect sizes (13,25,26,29). Two studies that found large effect sizes compared

TF-CBT with a wait-list control group (11,28). In the one study that compared TF-CBT with another cognitivebehavioral school-based intervention, both treatments were effective in decreasing symptoms (14). In this study, symptoms were (on average) in the nonclinical range after TF-CBT and in the low-clinical range after the schoolbased intervention. Two studies suggested that TF-CBT differentially affects specific symptoms of posttraumatic stress (13,28). Immediately after treatment, individuals receiving TF-CBT had greater reductions in hyperarousal and avoidance symptoms than in re-experiencing trauma-related symptoms, compared with a control group. One study also included an assessment of functional impairment as a result of trauma-related symptoms; TF-CBT outperformed therapy as usual with a medium effect size (29).

Depression. Nine studies included assessments of depression (11,13, 14,25,26,28,29,31,33). Of five that reported statistically significant effects of TF-CBT compared with comparison treatment, three had medium effect sizes (TF-CBT versus active comparison treatment) (26,29,33), one had a large effect size (TF-CBT versus wait-list control group) (11), and one had a small effect size (TF-CBT versus child-centered therapy) (25). Four studies did not find TF-CBT to be significantly more effective than a comparison treatment in decreasing depressive symptoms, although significant pre-post decreases in depression were found in the experimental group (13,14,28,31). Finally, one study that compared TF-CBT with Cognitive Behavioral Intervention for Trauma in Schools found that the school intervention was effective in decreasing depression, whereas TF-CBT was not (14).

Behavior problems (sexual and other). Seven studies examined cooccurring behavior problems, such as aggression and disruptive behavior (11,24–26,28,31,33); two of these studies included specific measures of sexual behavior problems (24,33). Regarding general behavior problems, two studies did not find significant main effects for pre-post treatment reductions in symptoms (24,28). Three studies found significantly greater symptom reduction for groups receiving TF-CBT than for comparison groups; comparison of TF-CBT with an active treatment group yielded medium effect sizes (25,26), whereas comparison with a wait-list control group yielded large effect sizes (11). Regarding sexual behavior problems, the two studies that included this measure found significant decreases in sexual behavior problems in the TF-CBT group over time (24,33). However, when the TF-CBT group was compared with an active control group, no significant difference between the conditions was found, although a medium effect emerged 12 months after treatment in one study (24).

Parenting practices. Two studies examined parenting behaviors and found significant improvements over time (25,26). TF-CBT was significantly more effective in increasing effective parenting practices (with medium effect sizes), compared with active control groups (that is, child-centered therapy and child-only treatment).

Individual treatment components. Several studies examined the effectiveness of specific treatment components (37,38). A study by the treatment developers investigated treatment length (eight versus 16 sessions) and the inclusion or exclusion of a trauma narrative (38). A second study assessed symptoms at six and 12 months after treatment (37). Longer treatment was associated with increased improvements in PTSD re-experiencing and avoidance symptoms, but it was not related to eight other outcomes (38). Compared with treatment without a narrative, inclusion of a narrative was associated with larger decreases in children's abuse-related fear and parents' abuse-specific distress; exclusion of a narrative was associated with larger decreases in behavior problems, possibly because of the increased amount of time focused on parent training rather than the narrative (38). Gains were sustained at the six- and 12-month follow-up, but the differences between conditions (longer or shorter treatment and inclusion or exclusion of a narrative) were no longer significant (37).

Retention. Several studies had a low retention rate in the TF-CBT group. For example, a study published in 2011 involving children exposed to interpersonal violence had a retention rate of 67% (13), which indicates a relatively high level of dropout. Other active treatments for PTSD showed similar findings (35). In a field trial in the aftermath of Hurricane Katrina of clinic-based TF-CBT compared with school-based Cognitive Behavioral Intervention for Trauma in Schools, participants randomly assigned to TF-CBT were much less likely to attend their intake or complete treatment than those receiving the more easily accessible schoolbased treatment, suggesting that accessibility may be an important factor in treatment retention (14). Another study found significant individual differences between completers and noncompleters, with the attrition group being older and exposed to more traumas (29).

#### Conclusions

The treatment of trauma-related symptoms among children and adolescents is an important component of the service array in a modern mental health and addiction treatment system. TF-CBT, as developed by Cohen, Mannarino, and Deblinger (1), has received attention because of its applicability to various trauma types, growing evidence base, and active dissemination, which includes Web-based training. The purpose of this review was to examine the evidence associated with TF-CBT across trauma types, symptom presentation, and specific population characteristics. The results indicate a high level of evidence for TF-CBT for many types of trauma and some symptoms. However, this body of evidence is not fully consistent across studies, and only three of the ten RCTs we found were fully independent from the developers of this treatment approach.

The level of evidence varied across four outcome measures: the primary outcome of reduction in PTSD symptoms and the secondary outcomes of improvement in depressive symptoms, general and sexual behavior problems, and parenting practices of the nonoffending parent (see box on next page). The evidence is also limited for highly vulnerable populations, such as for children at high risk of suicidal or violent behavior; those with developmental disability, psychosis, or substance use; and parents or caregivers with psychosis or substance use disorders.

Compared with active control groups, TF-CBT groups showed consistent pre- to posttreatment decreases in PTSD symptomatology, and these improvements were sustained at follow-up periods of up to 12 months. The evidence and effectiveness estimates were more moderate and mixed regarding symptoms of depression (especially when TF-CBT was compared with other cognitive-behavioral treatments), behavior problems, and parenting practices.

Sample sizes in most studies were relatively small, so further research with larger sample sizes would strengthen TF-CBT evidence. In addition, studies investigating other factors that may influence the effectiveness of TF-CBT-such as developmental stage, trauma type, and level of caregiver engagement-should help advance knowledge about the best way to treat children who have experienced trauma. For example, future work may identify additional steps in the TF-CBT approach that could increase its effectiveness, particularly in addressing symptoms of depression as well as co-occurring behavior problems. Further research addressing engagement and retention strategies should be helpful, and one study suggests that intervention in the aftermath of disaster may merit special attention in this regard (14).

Future research is also needed to assess the applicability of TF-CBT to more vulnerable populations affected by trauma, including adolescents experiencing developmental disabilities, substance use problems, homelessness, parental mental illness or substance dependence, juvenile justice involvement, or psychotic symptoms. It will also be important to examine the effectiveness of TF-CBT approaches that have been adapted for relational work with very young children and their parents. Open trials have been conducted regarding the adaptation of TF-CBT for childhood traumatic grief (15,39), and the results are promising; however, this area will benefit from more rigorous evaluation in the future.

Because much of the research on TF-CBT was conducted by those who developed the intervention, additional fully independent studies are needed to augment the three completely independent RCTs that were identified for this review (11,28,29). Future research should also further investigate the impact of treatment setting (for example, school or clinic) on outcomes, as well as the effects of barriers to treatment and to caregiver involvement. Although several studies included diverse samples from the United States or international locations (11,29), close examination of racial-ethnic and sex differences in

# Evidence for the effectiveness of Trauma-Focused Cognitive-Behavioral Therapy (TF-CBT): moderate to high

Compared with control conditions, TF-CBT demonstrates mixed but overall positive evidence for the following outcomes:

- Posttraumatic stress disorder (PTSD) symptoms: high
- Robust findings indicate that TF-CBT reduces PTSD symptoms over time, compared with control groups and other types of cognitive-behavioral interventions. This is the primary goal of the intervention.
- Depressive symptoms: moderate
- Most studies found that TF-CBT reduced symptoms of depression, compared with control groups. However, several studies found significant pre- to posttreatment reductions in depression in the experimental group but not in the control groups.
- Behavior problems and sexual behavior problems: moderate
- In most studies, TF-CBT reduced general and sexual behavior problems over time; however, TF-CBT did not consistently show greater reductions compared with control groups.
- Parenting practices for a nonoffending parent: moderate
- Two studies showed that TF-CBT increased effective parenting practices and improved the parent's emotional reactions to the child's abuse over time and, in one study, compared with the control group at 12-month follow-up. Although the number of supporting studies is small, no other studies showed negative findings.

treatment outcomes is lacking. Furthermore, although modifications have been made to TF-CBT for use with different ethnic minority groups (for example, Native American and Latino) and in different countries such as Zambia, Cambodia, and Pakistan, these modified treatments have not been evaluated rigorously; however, recent findings with girls from the Democratic Republic of Congo (11) suggest that this is an important direction for future research. Research examining TF-CBT across well-defined subgroups is also needed.

Despite these limitations and the need for future research to refine and establish the strongest possible evidence base for best practices, TF-CBT presents a viable treatment approach for children, adolescents, and families who have experienced trauma. Communities, policy makers, and other stakeholders should consider TF-CBT when making decisions regarding the implementation of evidence-based treatment for these populations. When assessing which treatment models to fund, payers should ensure that all treatments maintain fidelity to an evidencebased model. The five core elements we have identified-psychoeducation, coping strategies, gradual exposure, cognitive processing, and caregiver participation-should form a good basis for determining whether studies are assessing TF-CBT as it has been defined by its developers.

The level of trauma and PTSD symptoms experienced by U.S. children and adolescents of all ages calls for further advancement in treatment and empirical research. There is room for improvement in the evidence base for TF-CBT, especially for highly vulnerable children and their families, who are likely to have a high degree of need. In the meantime, there is sufficient evidence to include TF-CBT as a covered service in the current behavioral health care system.

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