Appendix A

Qualitative Interview Guide

General Introduction Script:

Thank you for agreeing to participate. My name is [**Interviewer's Name]**, and I am affiliated with the University of Pennsylvania.

As part of PACTS, you have been trained to use trauma-focused cognitive behavioral therapy (TF-CBT) to treat children with a history of trauma. TF-CBT includes several elements, but today we are specifically interested in hearing your thoughts about using the trauma narrative. A trauma narrative is defined as the method through which the clinician encourages the youth to share the details of events associated with the traumatic experiences, including thoughts, feelings, and sensations experienced at the time of the trauma. The trauma narrative typically involves the writing or dictating/telling of a narrative, but may take other creative forms (e.g., poetry, songs, plays or art).

We know that regularly using trauma narratives can sometimes be difficult. There are probably advantages and disadvantages to using trauma narratives. In a previous survey, you indicated some of the advantages and disadvantages of using trauma narratives when delivering TF-CBT. Today I will ask about your experience and perceptions of using trauma narratives generally, using your responses on the previous survey to guide our discussion. I have prepared some questions that will take no more than one hour to answer. You can spend as much or as little time as you like answering each question. At the end of the interview, you will receive $50 for your participation.

Our goal is learn more about your perspective on using trauma narratives as a part of TF-CBT. It's important for you to know that there are NO right or wrong answers. We are interested only in *your* opinions and perceptions.

Do you have any questions?

1. Tell me about your experience using trauma narratives when treating youth with a history of trauma.

[Probes:
- *Have you ever used them? [always ask if they did not respond to the first question with an answer about their personal experience using trauma narratives]*
- *How do you decide when or with whom to use them? Or when not to use them?*
- *Are there elements of trauma narratives that you particularly like or dislike?]*

2. What are some factors that make it hard to use trauma narratives?

[Probes (If they do not generate responses on their own):
- *Are there any client characteristics that make it particularly hard?*
- *Anything about your organization that makes it hard?*
- *Anything about your supervisor?*
- *Anything about the amount of time you have to prepare?*
- *Is there anything that makes it hard for you personally/emotionally?*
- *Is there anything related to the procedures of completing trauma narratives that makes it difficult to use them?]*

3. What are some factors that make it easier to use trauma narratives?

[Probes (If they do not generate responses on their own):
- *Are there any client characteristics that make it easier?*
- *Anything about your organization?*
- *Anything about your supervisor?*
- *Is there anything that makes it easier for you personally/emotionally?*
- *Is there anything related to the procedures of completing trauma narratives that makes it easier to use them?]*

4. Over time, things could make you change your mind about whether you intend to regularly use trauma narratives or not. *[For the following questions, use the same probes as in questions 2 and 3 if needed.]*

    a) Over time, what could make you lose interest in using trauma narratives? *[Why?]*
    b) What would make it more likely for you to use trauma narratives in the future? *[Why?]*

5. Tell me about a recent TF-CBT case when you used a trauma narrative(s). *Note: If they say they have never used a trauma narrative, proceed to question 6.*

[Probes:
- *What made you decide to use a trauma narrative with this particular child?*
- *What made it easier or harder to use a trauma narrative in this case?*
- *How did it go?*
- *How did you tailor the trauma narrative to this particular client?*

- *How did you decide when the child was ready to start working on the trauma narrative in session?*
- *How did you decide how many details to get from the child during the trauma narrative?*
- *How did you feel right before doing the trauma narrative? Right after?]*

6. Tell me about a recent TF-CBT case when you planned to use a trauma narrative, but did not implement it in session.

[Probes: {*Chain analysis of TN use}*
- What made you decide that you wanted to use a trauma narrative in this session?
- What happened during the session that made you decide not to use a trauma narrative?
- How did you feel/what were you thinking right before you planned to use the trauma narrative?
- How did you feel the remainder of the session after you decided not to do the trauma narrative?
- *Is this a typical TF-CBT case for you? If not, walk me through another case.*
- *What do you think would have happened if you had used a trauma narrative with this child?]*

7. *Provide list of facilitators for use of trauma narratives based on this participant's responses to the initial survey*: Tell me more about how these factors apply to your use of trauma narratives.

8. *Provide list of barriers for use of trauma narratives based on this participant's responses to the initial survey*: Tell me more about how these factors make it difficult for you to use trauma narratives.

9. Is there any additional information that you would like to share about your perceptions about or experience using trauma narratives?

INTERVIEWER COMMENTS

1. Respondent's level of interest and involvement in answering questions.

1. Very low	2. Low	3. Neutral	4. High	5. Very high

2. Please estimate the respondent's understanding of the interview.

1. Limited	2. Partial	3. Average	4. Majority	5. Complete

3. Please rate your impression of the knowledge of the respondent in the topic being addressed in this module.

1. Highly Questionable	2. Somewhat Questionable	3. Neither	4. Somewhat Knowledgeable	5. Highly Knowledgeable

4. Describe any discrepancies, gaps, or other problems with the interview.

5. Describe any circumstances that occurred while the interview was in progress that may have affected the quality of the interview (i.e., interruptions)?

6. Describe any affective and/or non-verbal responses displayed by the participant:

Appendix B

Results from Behavioral Insights Coding Process

Step 1 generated 53 TN determinants, coded in the clinicians' own language. In Step 2, we organized these 53 TN determinants into 11 broad themes using a thematic analysis. In Step 3, coders further reduced, distilled, and synthesized the TN determinants into 36 TN determinants under the 11 broad themes. In Step 4, the codes were mapped onto behavioral insights, and resulted in 18 behavioral insights organized under three broad themes, which the experts validated in Step 5. In Step 6, coders mapped the 18 behavioral insights (organized under three broad themes) onto 9 EAST-informed implementation strategies.

Table 3 displays the final list of three broad themes that organize the final set of TN determinants; the behavioral insights that correspond to them; and behavioral insights informed implementation strategies generated from this process. Exemplar quotes from clinicians are also included in the table to demonstrate the data we used to generate the TN determinants, behavioral insights, and implementation strategies.

It is important to note that the final broad themes, though sufficiently separable, are not entirely distinct. For example, many clinicians described the cognitive burden of being faced with too many decisions, but this choice overload (see below) was not entirely separable from the affective experience of being overwhelmed and anxious, nor was it entirely distinct from the agency norms that provided additional support surrounding the TN. These conceptual categories are abstractions to organize the data and cannot reflect the complex overdetermination of implementation behavior. Our analysis shows that the behavioral insights, due to their scientific validity, may offer a closer approximation to the underlying mechanism determining behavior.

Decision Complexity

Overview of Coding Results. Step 1 generated several TN determinant codes such as "Complex trauma," "Cognitive level of client," and "Incorporating other therapies." In Step 2, these codes were organized into broad themes such as "Patient complexity," "Social context," and "Therapist flexibility/creativity." In Step 3, these codes were further distilled and synthesized. In Step 4, these codes were organized into three broad themes, including decision complexity, and mapped onto several behavioral insights using the Behavioral Economics Guide, described below. In Step 5, behavioral insights experts provided a check to validate the analysis of broad themes, TN determinants, and hypothesized behavioral insights. In Step 6, BSL and RSB generated implementation strategies leveraging clinicians' self-reported strategies and using EAST, the behavioral insights informed framework, as is described below.

TN Determinants. Some clinicians reported that any aspect of complexity that is introduced into the decision-making process (e.g., client psychosocial stressors, client symptom and trauma severity, client developmental level, or integrating other therapeutic techniques) makes the TN more challenging to implement. They described a high level of uncertainty once several features of their clients do not map onto their schema of a typical TF-CBT client. Conversely, some clinicians reported strategies to manage, reframe, or reduce the complexity to facilitate TN implementation by prioritizing and reframing their goals and strategy for their clients. Clinicians experienced in other EBIs described their skills as an asset, embracing the flexibility of the model.

Application of Behavioral Insights. The TN determinants all revealed several behavioral insights about clinicians' decision-making to use the TN. These include: "choice overload/decision fatigue," "lack of reinforcement," "helplessness/hopelessness," "base rate fallacy/mental models," and "functional fixedness." As is described in Table 1, choice overload

is a cognitive process in which people have a difficult time making a decision when faced with many options. This phenomenon is highly related to decision fatigue, which describes the fatigue and impairment people experience the more decisions they make. When clinicians encounter clients with severe psychopathology, psychosocial stressors, and other challenges, they feel overloaded or fatigued, which is a barrier. Other clinicians reported strategies such as a reframing their goals for their clients, accepting that the TN would not solve all their clients' problems, thereby discovering methods to reduce their choices.

Clinicians who felt that certain clients were more suited to the TN revealed their tendency to commit the "base rate fallacy" and their tendency to employ specific "mental models." The base rate fallacy refers to when clinicians believe that aggregated data do not apply to individual clients. Mental models are people's internal representations of a problem. Clinicians revealed that their understanding of a "straight-forward" TF-CBT case is different from the types of clients they see. In terms of their mental models, clinicians who felt like they could incorporate other techniques were able to understand the abstract principle of the TN—the purpose it serves as a therapeutic tool—and not the particular or concrete way it is taught in training—often as a written narrative. Clinicians who reported an ability to include other techniques in TN implementation displayed different mental models than clinicians who felt constrained to the written narrative form. Clinicians' perception of the TN as rigid relates to the phenomenon of "functional fixedness." Functional fixedness describes, clinicians' perception that the TN can only be used in the way it is traditionally used (i.e., in written form). This mental block prevents clinicians from integrating their other clinical skills that would help clients heal from trauma.

Clinicians described not feeling rewarded for their work, specifically for the uncompensated work they do to prepare for the TN. Positive reinforcement is a well-established

principle, which describes the increased frequency of behaviors when they result in rewards. Some clinicians suggested that despite their attempts to implement the TN, due to factors outside of their control (e.g., the client's psychosocial stressors, clients missing sessions) they felt insufficiently rewarded for their work, and therefore less inclined to attempt the TN. This continued lack of reinforcement led some clinicians to experience helplessness and hopelessness about their clients' progress as well as disappointment that the TN does not solve all their clients' challenges. Some clinicians managed to avoid experiencing the lack of reinforcement by managing their expectations and reframing their goals for clients. These clinicians avoided feeling helpless and hopeless about the TN.

Behavioral Insights Informed Implementation Strategies We generated some examples of a broader set of implementation strategies that would target these behavioral insights. Given the functional fixedness and mental models displayed by clinicians, we used EAST to develop an implementation strategy that would disrupt the mental models of clinicians. Showing clinicians that peers, working in similar contexts, can use other EBIs, can prompt them to have more flexible mental models while at the same time providing a leading example for how other EBIs can be incorporated in the implementation of the TN. In other words, this will enable clinicians who are more flexible to influence those who are less flexible. This strategy would involve clinicians who incorporate other EBIs into their TN to distribute stories/guides describing how they do this.

For clinicians who believe that certain clients make the TN easier/harder, revealing mental models and choice overload, we designed a strategy in which supervisors or TF-CBT trainers show clinicians narratives of clients with challenging presenting symptoms, or who may seem ill-suited for the narrative initially. This would provide a framework for how clinicians can

think about their challenging clients. For clinicians who are concerned about their clients having their basic needs met, feeling helpless or hopeless, we designed a strategy to ease their burden. Assigning a case manager or lay peer specialist to provide support around their clients' basic needs would enable clinicians to focus on their therapeutic work, while shifting the task of case management to another individual. For clinicians who had choice overload/decision fatigue relating to their clients' severe psychopathology and multiple traumas, we designed a strategy to develop a decision aid (such as a checklist, trauma hierarchy, or flowsheet) which uses the client's symptoms and other clinical characteristics to guide TN priorities. Decision aids are well known behavioral-insights informed strategies for choice overload/decision fatigue (46).

Clinicians Affective Experience

Overview of Coding Results. Step 1 generated several TN determinant codes such as "Roadmap," "Hopelessness," "Fear of Decompensation, "I lose momentum," and "Gory Details." In Step 2, these codes were organized into broad themes such as "Clinician Confidence," "Public Health Context," and "Clinician Affective Experience." In Step 3, these codes were further reduced and deduplicated. In Step 4, these codes were organized into three broad themes, including clinician affective experience, and mapped onto behavioral insights. In Step 5, behavioral insights experts provided an expert check on the broad themes, TN determinants, and hypothesized behavioral insights. In Step 6, coders generated implementation strategies leveraging clinicians' self-reported strategies and using EAST.

TN Determinants. Another broad theme that emerged was clinicians' affective experiences either preparing for or completing the TN. Some clinicians reported that preparing to implement the TN made them anxious, often due to the flexibility of the model or feeling uncertain about pushing the client too far. Whereas others reported that the experience of the TN

itself was an emotional challenge. Other clinicians reported that they did not feel rewarded for attempting to do the TN because clients often miss sessions. Many described losing hope in their clients' changing given long gaps in treatment and feeling disappointed when families drop out.

Contrary to clinicians who reported feeling anxious about the flexibility or about hearing the TN, other clinicians reporting seeking guidance and support from their supervisors and reframing their perspective about the TN. Clinicians who might feel disappointed by inconsistent attendance instead created rules to ensure that clients would consistently attend.

Application of Behavioral Insights. These barriers and facilitators revealed several behavioral insights about clinicians' decision-making to use the TN. These include: "risk/loss aversion," "fear avoidance/ostrich effect," "lack of reinforcement," "helplessness/hopelessness," "base rate fallacy/mental models," and "functional fixedness." As is described in Table 1, risk/loss aversion is the tendency to prefer avoiding losses to acquiring similar gains. Clinicians may perceive the risk of conducting the TN as more salient than the benefits it offers. Fear avoidance is the tendency to avoid thoughts or actions that cause people fear. The Ostrich effect is a related phenomenon; it describes people's tendency to ignore obvious, often negative, information because it is inconvenient or anxiety-inducing. Clinicians may avoid implementing the TN because it is difficult for them—they may not be as skilled in the TN as they are in other practices. Clinicians may not want to do something that makes them feel incompetent or nervous. Some described fearing TN details because they are challenging to hear and potentially produce vicarious traumatization. As with the barriers and facilitators relating to decision complexity, some clinicians reported feeling little reinforcement for their work and helpless and hopeless about their clients' prospects.

Clinicians who were able to manage their expectations and goals for their clients tended to see the TN as easier to implement, and displayed less risk/loss aversion, fear avoidance, and helplessness/hopelessness. Many indicated that they understood they could not solve everything in their clients' lives, reframing their expectations and mitigating the potential lack of reinforcement. Some clinicians reported seeking support and encouragement from their supervisors, reaffirming the rationale of the TN to themselves, and planning ahead to ensure that clients do not consistently lose momentum. Clinicians' strategies to seek positive reinforcement from their supervisors/agencies involved seeking it outside of the client's progress. This allowed clinicians to feel rewarded for their efforts irrespective of the forces outside of their control.

Behavioral Insights Informed Implementation Strategies. These behavioral insights led to the design of various implementation strategies that would help shape clinicians' affective experiences to increase TN implementation. For clinicians who reported anxiety about the flexibility of the narrative, we generated an implementation strategy that would prevent this anxiety and provide concrete assistance to narrow the possibilities. We suggested the development of a toolkit or workbook of resources for the TN, serving as both a template and a toolkit of creative ideas. Some TF-CBT clinicians cited already using templates as helpful in alleviating their anxiety. Given that this anxiety appears to stem from an intolerance of uncertainty, providing concrete tools for clinicians can assuage their worries (70).

Similarly, for clinicians who reported losing momentum due to clients' inconsistent attendance, we designed a strategy that would reduce the frustration and worries of clinicians by incentivizing clients to attend session with financial compensation and arranged transportation. This would indirectly address the affective experience of clinicians by making it less likely that clients miss sessions. For clinicians who experience significant emotional distress about the TN

itself (worrying that clients will decompensate or that the details will affect the clinicians), we generated implementation strategies to directly address clinicians' anxieties through supportive techniques. One strategy involves using clinical supervision more therapeutically, acknowledging that clinicians also experience secondary traumatic stress. One technique that can be employed in group supervision is to do an imaginal exposure about a client decompensating, effectively treating the anxiety of the clinicians. For clinicians who reported that the TN can be difficult to hear, we generated a strategy that would develop a peer consultation model where clinicians can support one another and discuss challenging cases. These practices would be incorporated into the supervision model (essentially creating a default) which would reduce the effort of clinicians to seek support independently. The social element of the supervision and consultation models would make it more likely that clinicians feel supported and not alone.

Agency Norms

Overview of Coding Results. Step 1 generated several TN determinant codes such as "Supervisor support," "Agency Support" and "Just What We Do." In Step 2, these codes were organized into the broad theme of "Agency Norm." In Step 3, these codes were further reduced to one code relating to agency norms, which resulted as a "broad theme" in Step 4. In Step 4, the code "agency norms" was mapped onto behavioral insights, with expert validation in Step 5, and strategy development in Step 6 using EAST.

TN Determinants. The final theme that emerged from the interviews related to norms at different mental health agencies. Some clinicians reported that most clinicians at their agencies don't do TF-CBT or supervisors don't prioritize TF-CBT, which makes it challenging for them to implement the TN. At other agencies all clinicians use TF-CBT and supervisors expect to

discuss the TN during supervision. Thus, agency norms were associated with how much clinicians implemented the TN with clients.

Application of Behavioral Insights. Agency norms reveal the behavioral insight that clinicians are influenced by the "default bias" and "social norms." The default bias describes people's preference for the status quo. In this case, clinicians prefer the current state of affairs, or the current practices they typically use in their clinical work. This default is taken as a reference point, and any change from that baseline is perceived as less preferable and sometimes aversive. "Social norms" arise when people do something primarily because others like them do. Clinicians may feel that if others at their agency do not use the TN, they won't either. Conversely, if others at their agency are using the TN, they would be more likely to implement it.

Behavioral Insights Informed Implementation Strategies. To address social norms and default bias, we generated an implementation strategy that directly addresses these biases. This strategy makes use of the electronic health records clinicians typically use to record treatment progress notes. Agencies and supervisors would create templates in the electronic health record that require clinicians to describe their attempt to implement the TN. Clinicians would be prompted to write an extensive justification if they do not attempt the TN in session (i.e., accountable justification). Establishing a default ensures that the standard practice is to use the TN, and, further, it creates a social norm that everyone at the agency implements the TN. The health record accountable justification strategy will be effective at prompting clinicians to explain why they didn't use the TN with the knowledge that their supervisor will view this explanation. Strategies prompting clinicians to provide justification embedded in electronic

health record notes have been effective at increasing the use of other EBIs in medical settings (71).