

PILOT EVALUATION OF THE CBT TRACKER: A HYBRID MEASUREMENT
FEEDBACK SYSTEM FOR MONITORING TREATMENT INTEGRITY AND
CLIENT PROGRESS

A Thesis
presented to
the Faculty of the Graduate School
at the University of Missouri-Columbia

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

by
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DECEMBER 2022

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PILOT EVALUATION OF THE CBT TRACKER: A HYBRID MEASUREMENT
FEEDBACK SYSTEM FOR MONITORING TREATMENT INTEGRITY AND
CLIENT PROGRESS

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a candidate for the degree of master of arts,
and hereby certify that, in their opinion, it is worthy of acceptance.

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DEDICATION

This thesis is dedicated to my parents, Ron and Debbie Andrews, and my partner, Dana Bakula. I love you and I am so incredibly thankful for the countless ways that you have each supported me over the many years that it has taken to complete this project.

ACKNOWLEDGEMENTS

I thank my advisor, Dr. Kristin Hawley, for her guidance on this project and her invaluable and comprehensive mentorship throughout the last 8+ years. I would also like to thank Drs. Victoria Shaffer and Karla Washington for their consistent encouragement, thoughtful feedback on this thesis, and other generous contributions to my training and professional development. Additionally, I would like to thank the many other individuals who contributed to the completion of this research project. These include my labmates, Brigid Marriott, Evelyn Cho, and Siena Tugendrajch, who have contributed an immense amount of time both serving on the qualitative coding team and providing guidance and emotional support throughout my graduate school journey; Ben Johnides and Estee Hausman who contributed in many ways at various stages of project development/implementation and also helped conduct a preliminary analysis of a subset of the project's data; Abby Underwood and Erin Taylor who also contributed in various ways to early stages of project development; Lauren Mackay, my faithful confidant and co-manager of the lab throughout the early stages of the project; countless undergraduate research assistants, and especially Shannon Curry and Taylor Decker, who played critical roles in the daily operation of the CBT Tracker and transcribing the qualitative interviews; and Ron Andrews and Bill Smith, who provided guidance and consultation regarding technical aspects of the design of the CBT Tracker. Finally, I would like to thank the therapists and families who generously volunteered to participate in this study. This project was funded by NIMH Grant # R21 MH090460 awarded to Dr. Kristin Hawley, as well as funding from the University of Missouri's Psychological Sciences Graduate Research Fund awarded to Jack Andrews.

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ABSTRACT

Routine outcomes monitoring (ROM) and the use of evidence-based treatments (EBTs) are two research-supported practices that have potential to improve client outcomes in mental healthcare, including youth psychotherapy, but are largely underutilized in routine practice. The innovative developments of measurement feedback systems (MFSs) and “core components” approaches to cognitive and behavioral therapy (CBT) have each shown potential to overcome important barriers that limit uptake and use of ROM and EBTs, respectively. However, other critical barriers remain yet unaddressed, including clinician perceptions of the net benefits of using MFSs, MFS dependence on client-report measures, and difficulty achieving EBT integrity. Combining MFS technology and core components approaches to CBT may hold unique potential to address these remaining barriers. **Purpose:** The current study evaluates the potential for implementation of a novel MFS, the CBT Tracker, which integrates measurement and feedback about both client outcomes and treatment integrity to core components of youth CBT. **Methods:** A convergent parallel mixed methods design was employed to evaluate the CBT Tracker in relation to seven implementation outcomes: acceptability, appropriateness, feasibility, adoption, fidelity, penetration, and sustainability. A diverse sample of 36 community therapists were asked to pilot the CBT Tracker while providing up to six sessions of CBT to a youth client in routine practice. Therapists completed a background questionnaire at enrollment and a semi-structured qualitative interview at

conclusion of study participation. Qualitative content analysis of interview transcripts was employed to assess clinicians' perceptions of the CBT Tracker in relation to the target implementation outcomes and identify specific implementation determinants. Quantitative analyses examined adoption, penetration, fidelity, sustainability, and determinants of these outcomes, as indicated by participants' use of the CBT Tracker during the study and associations between use and participant background characteristics.

Results: Findings provide proof of concept that EBT integrity feedback can be integrated into an MFS in a way that is acceptable, appropriate, and feasible in diverse, usual care clinical settings. Findings further support the potential of such an MFS to simultaneously support implementation of EBTs and ROM in routine care. However, many barriers to adoption, penetration, fidelity, and sustainability were also identified, and findings indicate that the CBT Tracker may need to be augmented with multiple contextually-responsive implementation strategies in order to achieve widespread implementation.

Pilot Evaluation of the CBT Tracker: A Hybrid Measurement Feedback System for
Monitoring Treatment Integrity and Client Progress

The research-to-practice gap is widely documented across all sectors of healthcare (Institute of Medicine, 2001), and there is evidence that this gap may be especially large in youth mental health services (Bruns et al., 2016). In particular, the use of evidence-based treatments (EBTs) and routine outcomes monitoring (ROM) are two largely underutilized, research-supported practices with potential to improve client outcomes in routine care. The current study evaluates the CBT Tracker, a novel clinical tool that may hold unique potential to improve use of both EBTs and ROM in youth mental health services. A brief review of existing research on the efficacy and implementation of EBTs and ROM is presented below, followed by a description of the CBT Tracker and rationale for why it may be capable of addressing barriers that currently limit uptake and utilization of these two research supported practices. Finally, a framework is described, based on theory from implementation science, for evaluating the CBT Tracker's potential for uptake and use by clinicians in routine care.

Evidence-Based Treatments (EBTs)

For children and adolescents, versions of cognitive and behavioral therapy (CBT) have strong, consistent research support across a wide range of ages and mental health concerns (Weiss & Weisz, 1995; Weisz et al., 1995, 2013; Weisz, Kuppens, et al., 2017), including depression, anxiety, disruptive behavior, and traumatic stress, the most common mental health problems in youth (Merikangas, He, Brody, et al., 2010; Merikangas, He, Burstein, et al., 2010). Despite this extensive research support, the manualized CBT protocols that have most often demonstrated efficacy in randomized

controlled trials (RCTs) are rarely used in routine care (Addis & Krasnow, 2000; Becker, Smith, & Jensen-Doss, 2013; Walrath, Sheehan, Holden, Hernandez, & Blau, 2006).

Many barriers have been identified that may contribute to this limited uptake. One widely cited barrier is clinicians' concerns that treatment manuals are too inflexible or too narrowly-focused on single problems and limited age ranges (Addis et al., 1999; McHugh et al., 2009). However, in contrast to clinicians' reluctance to use whole manualized protocols, several studies have found that a much larger proportion of providers do report using general approaches or specific strategies that are consistent with these EBTs (Brookman-Frazer et al., 2010; Cho et al., 2019, 2022; Walrath et al., 2006), and similar patterns have been found in client-report data (Trask et al., 2016). Moreover, several different groups of researchers have found that the majority of the empirically-supported CBT manuals for the most common youth problems share a common set of treatment strategies and principles or "core components" (Cho et al., 2019; Chorpita et al., 2005; Garland et al., 2008). This suggests that delivery of these core components may be most important to achieving the benefits of CBT, regardless of whether the components are delivered in lockstep with any particular treatment manual.

Collectively these findings have led to increasing interest in the potential benefits of delivering the core components of evidence-based CBT in a more flexible manner. Observational studies have found evidence that, even in the absence of coordinated efforts to implement EBTs, greater use of CBT core components in usual care is associated with better treatment outcomes (Haine-Schlagel et al., 2014; Trask et al., 2016). A variety of new treatment protocols have also been developed, which repackage the core components into formats that can be applied flexibly based on clinicians'

assessments of each client's needs and with youths who present with multiple co-occurring mental health concerns (Chu, 2012; Marchette & Weisz, 2017). A growing body of evidence indicates that these more flexible, transdiagnostic treatments retain or even surpass the efficacy of the single-problem manuals (Chorpita et al., 2013, 2017; Ehrenreich-May et al., 2017; Weisz et al., 2012; Weisz, Bearman, et al., 2017). Furthermore, they may be more acceptable to providers (Bortrager et al., 2009; Chorpita et al., 2015) and more likely to be sustained (Palinkas et al., 2013) than their problem-specific parent manuals.

While these transdiagnostic, core components approaches hold promise to address many of the barriers to EBT adoption, they still may not be expected to result in ideal implementation of the most efficacious EBT strategies. Studies have found that even among clinicians actively trying to use EBTs, treatment integrity¹ is often less than optimal (e.g., Higa-McMillan, Kotte, Jackson, & Daleiden, 2017; Smith et al., 2017). Without some sort of monitoring and support, EBTs are not consistently delivered in the manner intended by their developers (Beidas et al., 2011; Garland & Schoenwald, 2013), which can result in poorer outcomes compared to the efficacy trials establishing their benefits (Durlak & DuPre, 2008; Elliott & Mihalic, 2004; Henggeler et al., 1997). Unfortunately, existing methods for assessing and improving treatment integrity are often prohibitively resource-intensive (Perepletchikova et al., 2009). More efficient methods

¹ Treatment (or intervention) 'integrity' is "a broad term used to mean the degree to which a treatment was delivered as intended" (Southam-Gerow & Mcleod, 2013, p. 2), and it is often used interchangeably with the terms 'fidelity' and 'adherence'. A variety of different definitions for these terms have been offered, which vary in the degree that they overlap and conflict with each other, but little consensus in concepts or convention has yet emerged (Southam-Gerow & Mcleod, 2013). Herein, 'integrity' has been chosen as the primary term used to refer to this broad construct, because it is the term used by authors of two models of the construct that are most inclusive of specific aspects of treatment integrity that the CBT Tracker is designed to measure (Dane & Schneider, 1998; Southam-Gerow & Mcleod, 2013).

are needed to make it feasible to monitor and maintain treatment integrity in routine care (Schoenwald et al., 2011).

Routine outcomes monitoring (ROM)

Routine outcomes monitoring, also called progress monitoring, feedback-informed-treatment, or measurement-based care (e.g., Lyon & Lewis, 2016; Scott & Lewis, 2015; Tam & Ronan, 2017), is a practice that offers a somewhat different but complementary approach to improve outcomes in mental health services, based on the use of psychometrically-sound measurement tools to assess client outcomes (e.g., symptoms, functioning, therapeutic alliance) on an ongoing basis during treatment. The simple practice of routinely providing clinicians with this objective outcome data throughout treatment has been shown to significantly improve treatment effectiveness. Improved outcomes have been demonstrated among clinicians providing (a) a wide range of treatment approaches (including usual care), (b) across a wide variety of problems, (c) a wide age range of clients, and (d) in a wide variety of treatment settings (Gondek et al., 2016; Tam & Ronan, 2017). Notably, ROM is also a practice that has been described as pan-theoretical (Tam & Ronan, 2017) and compatible with both core components approaches (Barth et al., 2012) and cognitive and behavioral therapies in particular (Cook et al., 2017; Persons, 2006).

Nonetheless, ROM is not without its own set of barriers to adoption and implementation. Recent surveys of providers have found that, similar to EBTs, ROM is rarely used in usual care (Ionita & Fitzpatrick, 2014; Jensen-Doss et al., 2018). Some of the reported barriers include inadequate training in the use and interpretation of standardized measures, difficulty identifying and accessing appropriate measures, and the

time required to administer and score measures (Jensen-Doss et al., 2018; Jensen-Doss & Hawley, 2010). Fortunately, many of these barriers are now being addressed by the rise of measurement feedback systems (MFSs), which employ technological solutions to ease measure administration, automatically score the results, graphically display outcome data, and deliver algorithmically-determined feedback messages to help clinicians interpret the data (Bickman, 2008). In recent decades, these systems have grown in both popularity and functionality, with a variety of different options now available for clinicians to choose from (Lyon et al., 2016). Moreover, a growing body of literature indicates that these systems can effectively deliver clinical benefits for both youth and adult clients (Gondek et al., 2016; Tam & Ronan, 2017).

Unfortunately, other barriers that may limit clinicians' uptake and use of ROM are not as easily addressed by the tech-enhanced packages of MFSs. For example, many clinicians report skepticism about the clinical benefits, especially when weighed against the time required to use a MFS (Jensen-Doss et al., 2018; Kotte et al., 2016). Clinician behavior may reflect these attitudes, as even in settings where clinicians are mandated by their agency to use ROM, many clinicians do not review the results or reports (Bickman et al., 2016; Garland et al., 2003). Additionally, clients' unwillingness or inability to complete measures may limit the benefits of systems that rely on client-report (Bickman et al., 2016; Gleacher et al., 2016; Kotte et al., 2016).

The CBT Tracker

In sum, EBTs and ROM each have potential to improve the quality of youth mental health services, but they also each have barriers that limit their widespread use in routine care. In recent decades, the innovations of core components CBT approaches to

EBT and the tech-enhanced MFS approaches to ROM have each shown potential to overcome important subsets of these barriers, while retaining their respective efficacy. Moreover, the combined use of ROM and evidence-based CBT may yield greater benefits than the use of either one alone. A few studies have examined the combination of youth CBT and ROM, finding it more efficacious than usual care (Chorpita et al., 2013) and more effective than single-disorder EBT manuals (Chorpita et al., 2017). Similarly, combining MFS technology and core components approaches to CBT may hold unique potential to overcome barriers that limit implementation of each of these innovations individually (e.g., clinician perceptions of the net benefits of using MFSs, MFS dependence on client-report measures, and challenges establishing and maintaining EBT integrity).

MFSs providing feedback on clinician integrity have demonstrated ability to improve clinician's implementation of evidence-based protocols in other fields of healthcare (e.g., medicine; Hysong, 2009) and thus may offer a feasible approach to improving and maintaining EBT integrity in mental health services. If different MFSs were designed to each measure and support treatment integrity to a single specific EBT protocol, their utility would be impaired by the same barriers that have limited adoption of problem-specific EBT manuals. Alternatively, an MFS that measured the core components of CBT for the most common youth problems could potentially support a wide range of clinicians attempting to deliver evidence-based CBT, including those using the traditional problem-specific treatment manuals, newer multi-problem protocols, or no formal treatment protocol at all. Further, adding treatment integrity measurement and feedback to a traditional ROM-focused MFS could augment clinicians' perceptions of the

net utility of the MFS, both directly via the addition of a second distinct mechanism by which the MFS may improve treatment effectiveness, as well as indirectly as a result of other changes to the MFS's functionality that would be made possible by incorporation of the treatment integrity measure.

Inspired by these possibilities, we have developed the CBT Tracker, an MFS that combines ROM with measurement of, and feedback about, clinicians' implementation of the core components of evidence-based CBT. The CBT Tracker has several novel features that have not been described in previously studied MFSs for mental healthcare. These include: (1) feedback to reinforce and promote clinician adherence² to core components of CBT; (2) feedback about multiple potential indicators of treatment quality³, including discrepancies between clinician and client reports of CBT components used in session, comparison of clinician and client symptom ratings, and clients' ratings of the therapeutic alliance; (3) requirement for clinicians to complete measures in order to receive feedback; (4) clinician-report as the only required report, so that clients are not required to complete measures; and (5) tools to help clinicians perform routine charting procedures more quickly.

The current study employed a concurrent parallel mixed methods design to evaluate the CBT Tracker's potential to support implementation of youth CBT and ROM in usual care mental health services. The CBT Tracker was piloted with a diverse sample

² In the models of treatment integrity advanced by Southam-Gerow and McLeod (2013) and Dane and Schneider (1988), 'adherence' is a component of treatment integrity that reflects the extent to which the content of a treatment is delivered as designed or intended. Consistent with this definition, the term 'adherence' is used here to describe the extent to which therapists use the core components of CBT prescribed by relevant EBT manuals.

³ Treatment quality is a component of treatment integrity described by Dane and Schneider (1988) as the "qualitative aspects of program delivery that are not directly related to the implementation of prescribed content." Related constructs in other models of treatment integrity include therapist competence (e.g., Southam-Gerow & Mcleod, 2013) and client receipt of intervention (Gearing et al., 2011)

of community therapists providing CBT to youth clients in routine practice. Quantitative analyses were then performed to examine clinicians' and clients' use of the CBT Tracker over the course of the study, and qualitative analyses evaluated clinicians' perceptions of the CBT Tracker, as reported in a final semi-structured interview.

Implementation Science

Constructs from the field of implementation science provided a framework for evaluating the CBT Tracker's potential for uptake and use in routine care.

Implementation science has been defined as “the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services” (Eccles & Mittman, 2006, p. 1). The field evolved out of recognition that empirical evidence that an innovation can produce superior clinical benefits (e.g., efficacy and effectiveness) does not directly or reliably lead to widespread adoption and use of that innovation in routine practice (Bauer et al., 2015). Although the magnitude of potential clinical benefits does play an important role, implementation research has now identified numerous other factors and processes that also contribute to determine the degree to which an innovation is ultimately used in health care. These include other practical characteristics of the innovation itself, *innovation characteristics* (e.g., cost, complexity), as well as a wide range of *contextual factors* (e.g., characteristics of clinicians, their clients, and the settings in which they work; Damschroder et al., 2009; Pfadenhauer et al., 2017). Further, the developer of an innovation, leaders of an organization, and/or other interested parties may employ a wide range of *implementation strategies* to promote adoption and use of an innovation (Leeman et al., 2017). Collectively, the innovation characteristics, contextual

factors surrounding its implementation, and any implementation strategies employed to support its use can all be described as *implementation determinants*. Determinants can be classified as either facilitators or barriers depending on whether they have a positive or negative effect on implementation, respectively.

Implementation science has also identified a number of *implementation outcomes*, useful for characterizing the degree to which an innovation becomes implemented (or is likely to be implemented) in routine practice. Specifically, Proctor and colleagues (2011) have outlined a taxonomy of the following eight implementation outcomes: *acceptability* (how agreeable, palatable, or satisfactory an innovation is to stakeholders), *appropriateness* (the perceived fit, relevance, or compatibility of an innovation with the context in which it is intended to be used), *feasibility* (the extent to which it is realistically possible to use the innovation as intended in routine practice), *cost* (the cost impact of efforts to implement an innovation), *adoption* (the intention, initial decision, or action to try to use an innovation), *fidelity* (the degree to which an innovation is implemented as originally prescribed), *penetration* (the extent to which an innovation becomes integrated within a given practice or setting), and *sustainability* (the extent that an innovation continues to be used after it is initially adopted and implemented).

Although cost was not relevant in the context of this initial pilot study, the current study was designed to evaluate the potential acceptability, appropriateness, feasibility, adoption, fidelity, penetration, and sustainability of the CBT Tracker, and identify key determinants of these outcomes. Notably, the distinction between implementation outcomes and determinants is not entirely mutually exclusive, as many theories and determinant frameworks in implementation science describe acceptability,

appropriateness, feasibility, and cost (or synonymous constructs) as determinants of outcomes like adoption, penetration, and sustainability (Damschroder et al., 2009; Sekhon et al., 2017; Wiltsey Stirman et al., 2012; Wisdom et al., 2014). Thus, acceptability, appropriateness, and feasibility, were considered as both determinants and outcomes in the current study, and potential bidirectional relationships between determinants and outcomes were also evaluated.

Study Aims

Mixed qualitative and quantitative analyses evaluated the CBT Tracker in relation to the following specific aims:

Aim 1. Evaluate clinicians' perceptions of the CBT Tracker's appropriateness, acceptability, and feasibility.

Aim 2. Identify determinants (contextual factors, innovation characteristics, and potential implementation strategies) of the CBT Tracker's appropriateness, acceptability, and feasibility.

Aim 3. Evaluate the CBT Tracker's potential for adoption, fidelity, penetration, and sustainability, as indicated by clinician and client use of the CBT Tracker in the study, and clinicians' expressed perceptions of the CBT Tracker's potential for wider adoption, penetration, and sustainment.

Aim 4. Identify determinants (contextual factors, innovation characteristics, potential implementation strategies, appropriateness, acceptability, and/or feasibility) of the CBT Tracker's adoption, fidelity, penetration, and sustainability, as described by clinicians directly, and as indicated by quantitative associations between background characteristics (of the clinician and their case) and clinician and client use of the CBT

Tracker in the study.

Method

Development of the CBT Tracker

The CBT Tracker (Hawley & Andrews, 2015) is a MFS that was designed for the current study and is built around two self-report questionnaire measures: the CBT Adherence Measure (CBTAM; Hawley, 2013), and the Brief Problem Checklist (BPC; Chorpita et al., 2010). The CBT Tracker's questionnaires are intended to be completed separately by a therapist, a youth client, and the youth's parent or other primary caregiver, following each therapy session. In addition to questions from the CBTAM and BPC (described below), the CBT Tracker also includes questions to identify the respondent and assess key details about the reported therapy session, including the date, the primary problem addressed, and the current phase of treatment (i.e., early/beginning, middle/working, or ending/termination). The complete set of questionnaires administered to the therapist, youth, and caregiver are provided in Appendix A.

CBTAM. The CBTAM (Hawley, 2013) is a novel measure developed to assess clinicians' use of the core components of evidence-based CBT for youth, as reported by the clinician, youth client, and their caregiver. It was developed in accordance with procedures for development and content validation of measures outlined by Foster and Cone (1995) and Haynes and colleagues (1995). Specifically, items were written based on a systematic review of the core components of evidence-based CBT manuals for youth anxiety, depression, disruptive behavior problems, and trauma; followed by consultation with an expert in youth CBT who reviewed the list of identified core components and

suggested additions, deletions, and modifications. Items were then written to query each of the identified core components, with the criteria that items were written in simple, clear language, and queried concrete, observable therapist behaviors. The item pool was then sent to a broad panel of experts in CBT for each problem type, and a modified Delphi technique was used to reach consensus about which items were essential to CBT for each problem type. Content validity ratios were calculated for each item (Lawshe, 1975) and items with unacceptably low CVRs were dropped. Next, cognitive interviews were completed with a sample of community clinicians, youths receiving therapy for anxiety, depression, disruptive behavior problems, and/or trauma, and their caregivers (n = 16 each). Items and response options were rewritten or eliminated if they failed to convey the appropriate meaning for respondents of all ages and ranges of experience with CBT.

The final measure consists of twenty items. One item assesses the respondent's perception of the therapeutic alliance between the clinician and youth, because establishment and maintenance of a positive working alliance is a core component of youth CBT. The other nineteen items each assess the extent to which the clinician used a different, discrete treatment strategy in the most recent therapy session. Each strategy queried is a core component of evidence-based CBT for youth anxiety, depression, disruptive behavior, and/or trauma. All items are rated on a 7-point Likert scale labeled with the following anchors: 1 = Not at all, 3 = A little, 5 = Some, 7 = A lot. An evaluation of clinician, youth, caregiver, and observer reported CBTAM ratings indicates promising reliability and validity (Cho et al., in preparation).

BPC. The BPC is a 12-item measure of internalizing and externalizing symptoms

experienced by youth in the last week. Each item is rated on a 3-point Likert scale (0 = Not True, 1 = Somewhat True, 2= Very True), and all item ratings are summed to yield a total score. The BPC was developed for the purpose of ongoing assessment of clinical progress throughout the course of treatment. Youth- and caregiver-report forms have been found to have strong psychometric properties supporting their use for this purpose (Chorpita et al., 2010). A therapist-report form of the BPC was created and included in the CBT Tracker to facilitate parallel measurement of therapist-reported symptoms. In addition, the CBT Tracker includes three optional, open-ended items at the end of the BPC questionnaire, in which respondents can write in and rate additional symptoms using the same 3-point Likert scale. With the inclusion of these three items, the total possible score range is 0-30.

Measurement and Feedback Process. The CBT Tracker questionnaires are administered online via Qualtrics survey software, and thus can be completed from a web browser on any electronic device with internet access. Responses are subsequently imported into a Microsoft Access database where they are integrated and processed to produce feedback that is compiled in a one-page ‘feedback report’ provided to the therapist following each reported therapy session. Feedback reports are delivered to the therapist in Word and PDF formats via email, within one business day following the therapist’s submission of a new questionnaire response. Along with each feedback report, therapists are also sent a ‘progress note’ template in Word and PDF formats, which is partially filled with information derived from the therapist’s questionnaire responses.

The design of the CBT Tracker requires the therapist to complete the CBT Tracker questionnaires about each therapy session in order to receive a corresponding

feedback report (feedback reports cannot be produced based solely on data from youth and/or caregiver responses). Responses from the youth and/or caregiver (collectively described hereafter as the ‘clients’) are not required, but the amount of feedback provided to therapists is less extensive when the youth and/or caregiver do not complete the parallel questionnaires. In instances when one or both clients submit a survey response about a therapy session after the therapist has already submitted their own response and received a feedback report, the feedback report is updated to incorporate all relevant data from the client response(s) and the updated feedback report is sent to the therapist within one business day following submission of the client survey(s).

Feedback Report. An example feedback report is provided in Appendix B.

Consistent with the exploratory and developmental nature of this pilot study, and the iterative traditions of qualitative and mixed methods research, the content and phrasing of the feedback was routinely reviewed by the research team throughout the course of the study. Several modifications were made at different times in response to feedback received from early study participants, and the emergence of previously unanticipated situations. Each feedback report is divided into the following six sections:

Primary Treatment Strategies This Session. This section contains a bulleted list of each CBT strategy that the therapist reported using extensively in the session (i.e., rated 6 or 7). This is intended to serve both as a reminder to the therapist about what occurred in session (i.e., a memory cue and reference to promote contextual understanding and interpretation of information in other sections of the report), as well as a potentially useful resource that therapists may copy to summarize the session’s content for their own charting and documentation.

CBT Feedback. This section contains sentences summarizing and providing positive reinforcement for the therapist's reported use of any treatment strategies that are consistent with adherence to evidence-based CBT. Specifically, these are any strategies that: (1) the therapist indicated that they had used at least moderately (i.e., rated between 4-7), (2) are core components of CBT for the target problem, and (3) are relevant to the reported treatment phase.

Suggestions for Upcoming Sessions. This section contains sentences highlighting other relevant but unused or underused evidence-based CBT strategies that: (1) are core components of CBT for the target problem, (2) are relevant to the current and/or upcoming phase of treatment, and (3) the therapist had not yet reported using (i.e., never rated >3) in any prior sessions. Suggestions are phrased in descriptive social norms language (e.g., "Most CBT therapists also use [strategy] during [current treatment phase] for [problem type]. At this point in treatment, many therapists would be preparing to use this strategy next.").

Any Differences? This section contains a list of any CBT strategies that: (1) the therapist rated highly (i.e., between 5-7), and (2) the youth or caregiver rated low (i.e., between 1-3). This type of discrepancy between therapist- and client-reported CBT strategies is highlighted because it may be an indicator of suboptimal treatment quality (i.e., a sign that the client did not successfully 'receive' a CBT strategy that the therapist attempted to deliver, perhaps due to poor comprehension or insufficient time spent covering the strategy). Conversely, discrepancies in the opposite direction (i.e., a strategy that is reported by the client but not by the therapist) are unlikely to be reflective of problems with treatment quality and thus are not discussed in the feedback provided to

therapists.

Therapy Alliance. This section contains a statement summarizing the clients' ratings of the therapeutic alliance. A second statement with guidance for the therapist about interpreting the rating(s) is also provided whenever the youth's and/or caregiver's rating of alliance is lower than 5. In these instances, the feedback lists the specific numeric rating(s), followed by the message: "It is not uncommon for the alliance to show temporary drops following a hard week or a difficult session. If this continues, you may wish to discuss it with your client."

Child Progress. This section contained a graph, color-coded by reporter (therapist, youth, caregiver), of BPC total symptoms scores over time since beginning to use the CBT Tracker, and a written summary of the specific youth symptoms that the youth and/or caregiver reported occurring in the last week. When neither the youth nor caregiver has completed the BPC for a given session, a written summary of the therapist's ratings of youth symptoms is included instead. Once symptom data from 3 or more sessions are available, additional statements are included to aid interpretation of the observed change in symptoms over time. For example, if the graph shows an overall trend of increasing symptoms over the last several sessions, the following statements are included: "The trend in your client's graph demonstrates increasing, or worsening, symptoms. This may be a temporary upsurge. If it continues, you might consider a change in your treatment approach."

Progress Note. Accompanying each feedback report, therapists also receive a progress note template partially filled with information about the corresponding therapy session, which is intended to serve as a tool that may help the therapist complete routine

charting more efficiently. A widely used progress note format is used: Goal or Symptom, Therapist Intervention, Client Response, and Treatment Plan (GIRP or SIRP), with additional sections for diagnosis, current medications, and brief mental status and risk assessment.

After completing the CBTAM and BPC questionnaires, therapists can (optionally) choose to continue to an additional page of the CBT Tracker's online survey, which contains questions that allow them to add and/or edit information to be included in different sections of the progress note. Question formats are a mixture of free-text entry (e.g., for the Goal and Symptoms, Treatment Plan, and Current Medication sections) and multiple choice (e.g., the Diagnostic Impression section contains drop-down menus to select DSM 5 diagnoses/codes, the Mental Status/Affect section contained checkboxes for commonly used descriptors of client mood, affect, and attitude, etc.). Uniquely, the question for the Therapist Intervention section offers therapists the option to either write-in their own response, or have the section automatically filled with a paragraph describing each of the CBT core components that the therapist rated >5 on the CBTAM. Additionally, because the Diagnostic Impression and Current Medication sections typically contain information that is unlikely to change from one session to the next, therapists are offered the option to carry-over this information from previous progress notes after they have entered information in this section once. The text-entry box for the Goal and Symptoms section is also pre-populated with a simple goal statement that is determined by the session's target problem as reported by the therapist earlier in the CBT Tracker survey (e.g., "Decrease depression symptoms.").

When therapists choose to skip this optional section of the CBT Tracker survey,

they receive a progress note template filled with only information that can be generated based on their responses to the other required sections of the CBT Tracker survey (i.e., session date, clients in attendance, and statements for the Goal and Symptoms and Therapist Intervention sections). Appendix C contains an example of such a minimally-filled progress note template that could have accompanied the example feedback report contained in Appendix B.

Recruitment and Study Procedures

Human Subjects Protection. All recruitment and study procedures were approved by the Institutional Review Board of the University of Missouri – Columbia.

Recruitment. Therapists were recruited via emailed advertisements sent to members of the Missouri Therapy Network (a statewide practice-based research network of mental health providers) and a variety of other professional listservs and publicly available lists of mental health professionals' email addresses (e.g., lists posted by state licensing boards or state professional associations). A convenience sampling approach was considered acceptable given the exploratory nature of the study. However, efforts were also made to approximate maximum variation sampling (Palinkas et al., 2015) by using minimal exclusion criteria (any clinician who spoke English and provided CBT to youth age 8-17 was eligible) and trying to cast a proverbial 'wide net' by, for example, systematically searching for publicly available lists of email addresses of providers from all 50 states using the search terms: [state name] + ["psychologists" or "counselors" or "mental health counselors" or "social workers" or "clinical social workers" or "therapists" or "marriage and family therapists"].

Participant/Case Background Questionnaire. At enrollment, therapists

completed a background questionnaire assessing their demographic information, professional background, and characteristics of the youth case with whom they planned to use the CBT Tracker. The therapist background questionnaire was modeled after existing surveys used in prior research (Cho et al., 2019; Weersing et al., 2002; Weisz, 1997). A copy of the therapist background questionnaire is provided in Appendix D.

Study Procedures. All therapists who completed the background questionnaire received \$50. Therapists were asked to use the CBT Tracker while providing CBT to a youth case in their regular practice. Therapists were encouraged, but not required, to select a case for which they expected the youth and/or primary caregiver would be willing and able to complete the client-report forms of the CBT Tracker questionnaires. Therapists were asked to use the CBT Tracker for up to 6 therapy sessions and received a \$5 incentive for each CBT Tracker survey that they, the youth, and/or the caregiver completed (up to \$15 per session). Once the therapist used the CBT Tracker for 6 sessions or decided to stop using it after fewer than 6 sessions, they were asked to complete a final 30-60 minute semi-structured phone interview. At the conclusion of the interview, participating therapists received a \$50 incentive payment and were offered the opportunity to continue using the CBT Tracker without incentive payments, with the same case and/or additional cases in their practice. All therapists who had consented to participate in the study (even those who never used the CBT Tracker) were invited to complete the final interview.

Because the CBT Tracker cannot produce a feedback report based solely on data from the client questionnaire(s), in the event that clients submitted a survey response about a therapy session and the therapist did not submit a corresponding questionnaire

response within one week of the reported session date, the research team contacted the therapist to notify/remind them that they would not receive feedback reflecting the client's response unless/until they submitted their own survey response. Aside from these rare occasions, therapists received no reminders or prompts from the research team to continue using the CBT Tracker after the therapist had reported their first therapy session. When an extended period of time elapsed (e.g., >1 month) in which an enrolled therapist who had not yet used the CBT Tracker for 6 sessions did not submit any new CBT Tracker responses, the research team contacted them to ask whether the therapist would like to conclude study participation and complete the final interview.

Semi-structured interview. All semi-structured interviews were conducted by one of three research team members: the principal investigator, an advanced graduate student, or the author (then a post-baccalaureate study coordinator). The principal investigator trained the other interviewers in semi-structured interviewing techniques. All interviewers used an interview guide to ensure that all topics of interest were queried, but interviewers were encouraged to follow the participant's lead in determining the order in which topics were discussed, and to pursue any relevant topics that arose regardless of whether they were explicitly included in the guide. The initial interview guide was developed collaboratively by the interviewers with input from other research team members, and was designed with the goal of eliciting participants' complete and unbiased perspectives (e.g., therapists were repeatedly encouraged to share any and all thoughts or opinions [positive and negative] at any time during the interview; questions began broad and open-ended, gradually becoming more focused, and eventually ending with specific probes).

The semi-structured interview focused on assessing therapists' perceptions of the CBT Tracker in relation to seven of the implementation outcomes outlined by Proctor and colleagues (2011): *acceptability* (how agreeable, palatable, or satisfactory therapists found the CBT Tracker to be), *appropriateness* (the perceived fit, relevance, or compatibility of the CBT Tracker with the therapist's work, practice setting, and client or caseload), *feasibility* (the extent to which the CBT Tracker could be realistically implemented in the provider's routine practice), *adoption* (the potential or likelihood that therapists and their clients would try to begin using the CBT Tracker in routine practice if given the option to do so), *fidelity* (whether CBT Tracker surveys were completed in a timely manner after therapy sessions and the therapist actually reviewed the corresponding feedback and used it to inform treatment), *penetration* (the extent to which the CBT Tracker was or would actually be used by therapists and clients who tried to adopt it), and *sustainability* (the likelihood or extent that therapists and clients would continue using the CBT Tracker in routine practice after initially adopting and implementing it). Consistent with qualitative research methodologies, the interview team routinely debriefed with each other after completion of interviews, and iteratively expanded the interview guide several times throughout the course of the study when new topics relevant to the above implementation outcomes emerged from early interviews. A copy of the final version of the interview guide is included in Appendix E.

All interviews were recorded and transcribed verbatim by undergraduate research assistants trained and supervised by the author. A final accuracy check of each transcript was performed by the research team member who conducted the original interview.

Qualitative Analyses

Interview transcripts were coded and analyzed in NVivo 12 software (QSR International Pty Ltd, 2018) using qualitative content analysis (Hsieh & Shannon, 2005). Qualitative content analysis is a flexible, naturalistic paradigm that is well suited for the primarily descriptive and exploratory aims of this pilot study. It is not intended to develop entirely new and robust theory or to provide conclusive tests of existing theory, but it can be used to refine and extend existing conceptual frameworks and theories by generating supporting and non-supporting evidence for proposed constructs and relationships, as well as facilitating discovery of previously unidentified variables and patterns worthy of further investigation (Hsieh & Shannon, 2005). Qualitative content analysis is also appropriate for studies employing diversity sampling approaches and those aimed at identifying and characterizing a broad range of diverse viewpoints or contextual factors that may be relevant to a construct of interest (Hsieh & Shannon, 2005).

A primarily inductive approach to code development was employed, in which the only *a priori* codes included in the coding frame were those that identified the broadest levels of outcomes and determinants articulated in the study aims (i.e., Acceptability, Appropriateness, Feasibility, Adoption, Fidelity, Penetration, Sustainability, Innovation Characteristics, Implementation Strategies, and Contextual Factors). This approach was selected because the broad diversity of the sample and many novel features of the CBT Tracker made it likely that the data from the current study could include phenomena not previously identified in the published literature. In such circumstances, an inductive approach to code development is most appropriate to maximize opportunity for coders to accurately capture all occurrences of the target phenomena, unconstrained by any biases

that could be introduced by potentially ill-fitting *a priori* codes selected from the literature (Hsieh & Shannon, 2005).

Codebook Development. The coding team included five members: the author and the principal investigator, who had both been highly involved in the design and data collection phases of the study (including design of the CBT Tracker), and three advanced graduate students in child and adolescent clinical psychology, who had not been involved in earlier phases of the study and had varying levels of familiarity with ROM, MFSs, and the CBT Tracker. Such differences among team members are desirable for consensus-based qualitative research, which derives validity and credibility from earnest communication and negotiation of multiple perspectives to limit the potentially insidious influence of any individual's personal biases (Hill et al., 1997). However, differences in formal power and/or perceived expertise can also produce interpersonal dynamics that undermine the integrity of the consensus process (Hill et al., 2005). Several steps were thus taken to minimize this risk from the outset of the qualitative coding, including openly acknowledging and discussing the power differential between faculty and graduate student team members; regularly emphasizing the critical value of both non-expert perspectives and the processes of disagreement and negotiation in team meetings; and setting an expectation that all team members shared an equal responsibility to monitor group dynamics, make all others feel welcome and encouraged to speak their mind, and voice concerns if tension or a major imbalance in member contributions was noticed.

Codebook development was conducted via an iterative, consensus-based process modeled on the procedures described by Lyon and colleagues (2014) and adapted, in

consultation with an outside expert in qualitative methods, to fit the larger volume of data coded in the current study and broader scope of study aims. This process was composed of repeated cycles in which all team members independently coded the same transcript, and then met to discuss discrepancies and new proposed subcategory codes and decide by consensus which codes should be added to the coding frame and whether any modifications to the names, definitions, or structure of existing codes should be made. Code definitions were required to be mutually exclusive (i.e., non-overlapping in meaning; Forman & Damschroder, 2008), but given the complex and interconnected nature of the relationships between and among implementation determinants and outcomes, it was expected that multiple subcategory codes of the same type (e.g., multiple different outcomes) would often be assigned to a single section of text.

Cycles were repeated until the codebook remained stable (i.e., no major revisions were made) for at least three consecutive cycles and consensus was reached with all team members satisfied that the coding frame captured the depth and breadth of the data in a manner adequate to achieve the study aims and produce an authentic representation of the experiences and opinions conveyed by the participants. Prior to beginning coding, a stratified random sequence was created to determine the order in which interviews would be coded. The sample was divided into terciles based on extent of CBT Tracker use (as indicated by the total number of CBT Tracker survey responses submitted by each therapist-youth-caregiver triad) and transcripts were randomly selected from each tercile, alternating between terciles with each selection.

Prior to the first codebook development meeting, the team independently read and coded the first three transcripts (i.e., one from each tercile) in order to promote

recognition and appreciation of the rich diversity present in the dataset, and avoid overly narrow or dichotomous thinking, during this initial formative round of inductive code generation. After meeting to discuss the first transcript and making all mutually determined changes to the codebook, the team then used the revised draft of the codebook to re-code the second transcript prior to meeting to discuss it and make further codebook additions/changes. The same process was repeated for the third transcript, and then all remaining cycles consisted of the team independently coding the next transcript in sequence (using the most recent draft of the codebook) and then meeting to discuss discrepancies and make new additions/revisions to the codebook as needed. As recommended by Hill et al. (1997), we rotated who spoke first about each new unit of text discussed during team meetings, to help ensure that all team members fully contributed to the consensus-based processes of codebook development. Seven total cycles were completed before criteria were met to advance to final coding.

Final Coding and Analysis. All transcripts were then coded beginning with the next transcript in sequence, such that the transcripts reviewed during codebook development were the last transcripts to be final coded. Transcripts were independently double coded in groups of three, with the first author coding all transcripts and second coding evenly divided between the other graduate student members of the coding team, rotating to ensure that each person coded a balanced mixture of interviews from each tercile of CBT Tracker use. Discrepancies were resolved via consensus, primarily via individual meetings between the two coders of each interview, but with more significant discrepancies discussed by the whole team (and triggering further additions/modifications to the codebook when appropriate) prior to beginning coding the next group of three

transcripts. Consensus coding was chosen as an alternative to quantitatively estimating interrater reliability based on the constructivist view that disagreement, reflexivity, reason-giving, and negotiation between multiple perspectives are key ingredients for achieving a closer approximation of the “truth” in qualitative inquiry and, conversely, that emphasis on quantitative estimates of agreement can compromise validity by implicitly reinforcing over-simplification and unanimity of thinking (Forman & Damschroder, 2008; Hill et al., 1997).

Following completion of all coding, NVivo software was used to generate consolidated code reports across therapists, examine the associations between codes, identify broad themes, condense and restructure codes as appropriate, and analyze the data with respect to the study aims. Initial review of the final coded data was performed primarily by the author, but all findings and conclusions were discussed with the entire coding team.

Quantitative Analyses

Aggregate descriptive statistics reflecting CBT Tracker use among each type of participant (therapist, youth, and caregiver) were calculated and examined as indicators of the CBT Tracker’s adoption, fidelity, penetration, and sustainability (described below). Bivariate correlations were calculated between these outcome variables and the therapist and case background characteristics reported in the initial therapist survey, with all significant correlations reported using an alpha level of $p < .05$. Results were then compared and contrasted with qualitative findings to identify areas of consistency and disagreement (i.e., triangulation; Palinkas et al., 2011).

Adoption. As an indicator of adoption, a binary variable was calculated

representing whether each participant completed the CBT Tracker survey for at least one therapy session.

Penetration. The percentage of possible incentivized sessions for which each participant used the CBT Tracker during the study period was calculated as an indicator of penetration. For therapists this indicator was calculated using the formula: $(\# \text{ of therapy sessions reported by therapist} / 6) * 100$. Because clients had no direct contact with the research team and thus required instructions from their therapist to begin using the CBT Tracker and rarely completed CBT Tracker survey responses about sessions that their therapist did not also report, indicators of penetration for youth and caregivers were calculated using the formula: $(\# \text{ of therapy sessions reported by client} / \# \text{ of therapy sessions reported by therapist}) * 100$.

Notably, a review of participant's response patterns identified a phenomenon in which several therapists who were contacted by the research team to inquire about concluding study participation (following an extended period of time in which they had not submitted any new CBT Tracker survey responses) subsequently submitted one or more additional survey responses about previously unreported sessions that had occurred >30 days prior. Because these delayed survey responses were triggered by unique motivations that did not reflect attempts to actually use the CBT Tracker in clinical practice (e.g., in interviews, these therapists reported feeling a sense of obligation to 'provide more data' for the research study or desiring to refamiliarize themselves with the CBT Tracker prior to completing the final interview, without interest/intention to use resulting feedback to guide their clinical practice), they were not considered penetration and were excluded from calculations of quantitative indicators of penetration. Likewise,

these were also excluded from quantitative indicators of fidelity below.

Fidelity. Several potential indicators of fidelity were computed, based upon (1) the response latency, calculated as the number of days between the date that participants submitted each incentivized CBT Tracker survey response and the date of the therapy session reported in the response, and (2) the percent of sessions for which each participant submitted a CBT Tracker response within 4 business days of the appointment date (this cutoff was chosen because therapy sessions are commonly scheduled on a once-weekly basis, and survey submission within 4 business days was required for a therapist to receive the corresponding feedback report in advance of a hypothetical next therapy session scheduled exactly one week later). Although these provide easily interpretable, face-valid aggregate indicators of the general level of fidelity present within the sample as a whole, the study team determined that neither was likely to be a valid indicator of individual differences in fidelity following a careful examination of the distributions of these variables informed by therapists' qualitative interview responses. There was some variability in response latency both between and within participants, but the vast majority of survey responses were submitted within 5 business days of the therapy session and there is no strong rationale to believe that submitting a survey response on the same day that a therapy session occurs versus several days later constitutes a meaningful difference in fidelity, nor that response latency accurately reflects a continuum of fidelity extending between such responses and responses submitted many days after the therapy session. Further, there are a variety of reasons that scheduled therapy sessions may deviate from a once-weekly schedule, and it was identified that when survey responses were submitted slightly more than 4 business days

after the date of the therapy session, it often occurred in instances when the scheduled interval between the client's therapy sessions was greater than one week. Thus, it is also unclear that such responses represented meaningful deviations in fidelity in circumstances when the response was still submitted early enough for the therapist to receive the corresponding feedback prior to the client's next therapy session.

Given the above concerns, an additional variable was computed as an indicator of individual differences in fidelity, comprised of the percentage of each participant's incentivized survey responses that were submitted on a date that was too late for the therapist to receive the corresponding feedback in advance of the client's next session. Specifically, responses were coded in this manner if the response was submitted > 4 business days after the date of the therapy session AND either (1) the response was submitted on or after the date of the client's *next* reported therapy session, or (2) when no subsequent therapy sessions had been reported (i.e., the date of the next therapy session was unknown), if the response latency was greater than the average of the intervals between each of the client's previously reported therapy sessions.

Sustainability. As an indicator of sustainability, a binary variable was calculated representing whether each participant submitted at least one CBT Tracker survey to report an additional therapy session beyond the maximum of 6 incentivized therapy sessions.

Results

Participants

Thirty-six therapists, residing in 20 U.S. states, consented to participate in the

study and completed the initial background questionnaire. Descriptive statistics summarizing the demographic and professional characteristics of the sample of therapist participants are presented in Table 1. Thirty-two of the therapists used the CBT Tracker at least once, and one of those therapists elected to use the CBT tracker with two different youth cases. Demographic and clinical characteristics of the cases with whom the therapists used (or intended to use) the CBT Tracker are presented in Table 2. Thirty-three therapists (31 who had used the CBT Tracker, and 2 who never used the CBT Tracker) completed the final semi-structured interview.

Final Coding Frame

The final codebook is presented in Appendix F. All *a priori* codes were found to be well-represented in the interview data, and two code categories were added to identify the specific type of user (i.e., therapist, youth, or caregiver) discussed in each unit of text and specific parts of the CBT Tracker (e.g., the questionnaires vs. feedback reports). One notable challenge that arose in the course of coding was that it was often hard to distinguish whether therapists were discussing acceptability (i.e., how agreeable, palatable, or satisfactory they found the CBT Tracker to be), appropriateness (i.e., perceived fit, relevance, or compatibility of the CBT Tracker with their work, practice setting, client, or caseload), or both within a given unit of text. To accommodate this, the codes for these outcomes were merged into a combined “acceptability/appropriateness” code. Accordingly, these outcomes are often discussed in a similar manner below, though they are discussed separately in circumstances when it was possible to distinguish that participants were referring specifically to one construct or the other.

No subcategory codes were developed for any of the outcome variables, but many

subcategory codes were created to code different types of determinants discussed. Contextual factors identified by participants were categorized as characteristics of either (a) therapists, (b) clients, or (c) clinical settings. Within these higher order subcategories, 15 more specific subcategories of therapist factors, 13 subcategories of client factors, and 2 subcategories of clinical setting factors were coded. Sixteen subcategories of implementation strategies were coded, and the majority of these were suggestions for CBT Tracker modifications (e.g., adding a new feature, or altering the questionnaires or feedback). In contrast to the variety of subcategories identified for other types of determinants, only 4 subcategories of innovation characteristics were identified: (a) the validity of the CBT Tracker's measures or feedback, (b) customizability, (c) ease of use/access, and (d) efficiency. Notably, there is substantial overlap between many of the subcategories of determinants identified by our team and those reported in other published qualitative studies of ROM and MFS implementation in youth mental health care (Gleacher et al., 2016; Kotte et al., 2016). However, there are also many areas of divergence, including the breadth of subcategories developed to capture different implementation strategies and therapist and client contextual factors, as well as several codes reflecting constructs not previously identified as relevant determinants.

Aim 1: Acceptability, Appropriateness, and Feasibility of the CBT Tracker

In general, there was great variability in therapists' perceptions of the acceptability, appropriateness, and feasibility of using the CBT Tracker during the study. Despite such variability in therapists' experiences during the study, a large majority of the therapists who reported that the CBT Tracker possessed suboptimal acceptability, appropriateness, or feasibility in its current form, also indicated that they believed these

deficiencies could be remedied if one or more specific implementation strategies were employed to augment the CBT Tracker's functionality or support its use in routine care.

Although not formally coded, two major subcategories of acceptability were identified in later stages of analysis: utility and burden. Therapists' positive comments about the CBT Tracker's acceptability predominantly related to either its utility (i.e., how it was beneficial to their clinical practice or routine) or that it was minimally burdensome to use. Conversely, therapists' negative comments about acceptability predominantly discussed ways in which the CBT Tracker was perceived to be burdensome and/or of low utility. The overall pattern of high between-subjects variability held true within each of these two subcategories. Notably, within the domain of utility, this variability applied to each of the novel features that make the CBT Tracker unique from other previously studied MFSs. For example, one interview question asked therapists to identify which sections of the feedback reports they found most and least helpful. The collected body of responses to this question reflected little consensus among participants, with each individual section of the feedback report being identified by at least one therapist as the most helpful and identified by at least one other therapist as the least helpful. Likewise, therapists varied greatly in their perceptions of the utility of the progress note and the benefits of being able to receive a feedback report and progress note based solely upon the therapist's response to the CBT Tracker questionnaires.

Aim 2: Determinants of Acceptability, Appropriateness, and Feasibility

Therapists described a wide variety of determinants of the CBT Tracker's acceptability/appropriateness. While many of the same types (i.e., subcategories) of determinants were reported by most participants, within subcategories there was often

substantial variability in different therapists' perceptions of how specific determinants influenced acceptability/appropriateness. It was not uncommon for an opinion about a determinant expressed by one therapists or subgroup of therapists to directly contradict or conflict with an opinion expressed by another therapist or group of therapists. For example, many therapists identified that the age of the youth client was, or could be, a determinant of acceptability/appropriateness. However, opinions differed about the nature of the relationship between these variables; some therapists reported concerns that the wording of CBTAM items was difficult for younger clients to understand, while others said that their same-aged clients completed it easily. Likewise, some felt that the CBTAM was too childish for older adolescents, while others reported that their older adolescent clients really liked completing the survey because it helped them to reflect on their therapy between sessions. Similarly, opinions often conflicted about both the relative importance of different innovation characteristics (e.g., psychometrically robust vs. ideographically tailored measurement) and the implementation strategies that would improve acceptability/appropriateness (e.g., some therapists advocated for shortening one or more of the CBT Tracker's questionnaires to reduce burden, while others recommended adding more questions to broaden its scope).

This lack of consensus regarding the magnitude and direction of determinants' influences on acceptability/appropriateness was the rule rather than the exception. Furthermore, this rule even applied in areas that our research team may previously have expected to be immune. For example, the CBT Tracker feedback was delivered to therapists in a delayed manner via email only because our team lacked the technical capacity to produce and deliver the feedback more rapidly. We hoped that keeping the

delay limited to one business day would be sufficiently acceptable to therapists, but had always viewed the delay as a weakness of the CBT Tracker's design. Yet when we asked therapists how their perceptions of the CBT Tracker would change if the feedback were made available immediately after they completed the survey, we were surprised to find that several therapists reported that they would prefer to continue receiving the feedback in a delayed manner, and for a variety of reasons (e.g., because it was helpful to review the feedback on a separate day from the therapy session when they could reflect on the session with a fresh perspective, or because they would prefer delivery to be delayed until their clients had also completed the CBT Tracker survey from home).

Despite the predominant pattern of variable, and often conflicting, opinions, the following themes regarding determinants of acceptability/appropriateness stood out for being repeated often, with little to no contradiction:

- Therapists generally described acceptability, appropriateness, and feasibility as being highly interrelated, although some relationships between these variables were more salient than others. Most therapists' overall evaluations of the CBT Tracker's acceptability seemed to arise from consideration of a tradeoff between the utility and the burden of using it. Appropriateness was often described as being linked to both utility and burden, and in a bidirectionally deterministic manner. Feasibility was predominantly described as a determinant of the other outcomes – most often of burden, but also of utility and appropriateness.
- Many therapists thought that the CBT Tracker would be especially acceptable and appropriate for therapists in training and/or those who have less experience with CBT.

- Some therapists used the CBT Tracker without their client(s) completing any of the parallel CBT Tracker questionnaires, and many of these therapists reported satisfaction with the feedback that they received. However, most also indicated that they believed the CBT Tracker's utility would have been significantly improved if their client(s) had participated. Likewise, many of the therapists who had clients that did complete the CBT Tracker questionnaires indicated that the most valuable part(s) of the feedback were elements that reflected client-reported data.
- When queried about potential barriers to using the CBT Tracker, many therapists identified that it may be less appropriate for therapists and clients who are generally less comfortable using technology in everyday life and/or those who do not routinely use or have access to technology within their clinical setting or home. This concern was corroborated by several participants who reported that such barriers limited feasibility, increased the burden, and/or reduced the clinical utility of using the CBT Tracker for themselves and/or their clients during the study. However, this also was not an absolute barrier. Several participants reported that they or their client found the CBT Tracker easy to use despite possessing low technological savvy, and others reported troubleshooting and overcoming limited access to technology with relative ease.
- When asked to consider how the CBT Tracker might be received by other therapists, many participants expressed expectations that a proportion of (other) therapists would be averse to the general prospect of receiving feedback about their clinical practice, and thus would find the CBT Tracker unacceptable. In

contrast, none of our participants reported that they found any of the CBT Tracker's feedback to be aversive, or that the general process or anticipation of receiving feedback during the study reduced acceptability for them.

In contrast to acceptability/appropriateness, therapists' opinions about determinants of feasibility were more consistent. In particular, the most commonly identified barrier that limited the feasibility of using the CBT Tracker during the study, for both therapists and their clients, was difficulty remembering to complete the CBT Tracker survey after each therapy session. Likewise, there was a small set of implementation strategies that therapists repeatedly suggested could best address this feasibility barrier: (1) developing a system to deliver timely alerts or messages reminding therapists/clients to complete the surveys after each session, (2) promoting or facilitating better integration of the CBT Tracker into the therapist's clinical routine, and/or (3) encouraging or requiring clients to complete the survey during or immediately after each therapy session (e.g., before leaving the clinic).

Notably, several of the other most reported barriers that limited acceptability/appropriateness and feasibility during the study were byproducts of the research context in which the participants were using the CBT Tracker. For example, to minimize collection of potentially sensitive information, participants were required to login to the CBT Tracker survey using an arbitrarily assigned ID number, which some found difficult to remember. Particularly for some of the first participants who enrolled in the study, there were also a number of reported barriers that might best be characterized as "bugs," mistakes, or oversights in the early development of the CBT Tracker that were easily rectifiable but not detected and fixed by the research team until they were reported

by a participant in the final study interview. For example, feedback reports were initially only sent to therapists in a Microsoft Word document format, until an early participant who had exclusively viewed the feedback on her cell phone reported that she had never been able to view the symptoms graph. This led the research team to begin distributing feedback reports in both Word document and PDF formats, with instructions to use the PDF format when viewing from a mobile device.

Aim 3: Adoption, Penetration, Fidelity, and Sustainability of the CBT Tracker

Quantitative Findings. Out of the 36 therapists who enrolled in the study, 32 therapists completed the CBT Tracker survey at least once. Thus, the adoption rate for therapists was 88.9%. Out of the 32 therapists who used the CBT Tracker, 22 (68.8%) had at least one client (youth or caregiver) who completed the CBT Tracker survey at least once, and 17 (53.1%) had both the youth and caregiver use the CBT Tracker at least once.

While they were enrolled in the study and receiving incentive payments for survey completion, therapists who used the CBT Tracker submitted survey responses for a mean of 5.1 (SD = 1.3) total therapy sessions. Thus, the mean penetration rate for therapists was 85%. A majority (19 or 59.4%) of therapists submitted survey responses for all 6 therapy sessions for which they could receive incentive payments. Youth who used the CBT Tracker completed the survey for a mean of 3.7 (SD = 2.0) total therapy sessions during the study. On average, these youth submitted survey responses for 66.4% of all sessions for which their therapist completed the survey. Caregivers who used the CBT Tracker completed the survey for a mean of 3.4 (SD = 2.0) total therapy sessions during the study. On average, these caregivers completed the CBT Tracker survey for

61.6% of all sessions for which their therapist completed the survey.

Among the total sample of therapists' incentivized survey responses, the modal response latency between the date of each reported therapy session and the date of the therapist's corresponding survey response (lower values indicate greater fidelity) was 0 days and the median response latency was 1 day. On average, therapists submitted 86.9% of their survey responses within 4 business days of the date of the therapy session, and 8 (25%) of the therapists who used the CBT Tracker submitted at least one survey response that was too late to receive the corresponding feedback report prior to their client's next therapy session. Among the total samples of youth and caregiver responses, the mode and median latency periods for each were both 0 days. On average, youth and caregivers respectively submitted 94% and 93% of their survey responses within 4 business days of the date of the therapy session. There were 2 (10%) youth and 2 (11.1%) caregivers who submitted at least one survey response too late to permit the feedback's delivery to the therapist prior to their next therapy session.

Four (12.5%) therapists, 3 (15%) youth, and 1 (5.6%) caregiver engaged in sustained use of the CBT Tracker by submitting at least one additional survey beyond the 6 incentivized responses. The number of additional sessions reported for these cases ranged from 1-7, and 3 of the cases (comprising 3 therapists, 3 youth, and 1 caregiver) continued reporting sessions until at least one of the sessions was identified by the therapist as part of the ending/termination phase of treatment, suggesting these cases continued using the CBT Tracker until the client completed therapy. None (0%) of the participating therapists chose to use the CBT Tracker with new youth cases that they had not initiated CBT Tracker use with during the study.

Qualitative Findings. Similar to therapist views of the CBT Tracker's acceptability/appropriateness and feasibility, therapists' opinions varied widely regarding the CBT Tracker's potential for adoption in routine practice. Many therapists indicated that one or more specific implementation strategies would be important or necessary to make them more likely to personally adopt the CBT Tracker in their own practice. Most therapists indicated that they believed the CBT Tracker could be adopted and used by other therapists in routine practice (particularly if augmented by the suggested implementation strategies), but opinions varied regarding how many other therapists would be willing or able to adopt it. Some participants indicated that they believed the CBT Tracker could be adopted widely by therapists, while others indicated that only a narrow subset of therapists would be likely to adopt it. Most expressed expectations falling somewhere between these two extremes. When informed by the interviewer that the CBT Tracker would remain available after the study if they would like to continue using it in their clinical practice, slightly more than half of therapists expressed substantial interest, and many stated that they planned or intended to do so with at least one new or continuing client (although, as noted above, none of the participating therapists used the CBT Tracker with a new client after the study ended).

Therapists were queried about two distinct levels of the CBT Tracker's potential penetration into routine practice: *session penetration*, defined as the extent to which the CBT Tracker was or would be used across the course of all therapy sessions with a given client, and *caseload penetration*, defined as the extent to which therapists would use the CBT Tracker with multiple or all clients on their caseload. All therapists reported using or attempting to use the CBT Tracker with high session penetration (i.e., completing the

CBT Tracker survey after each/every session) during the study. Most also indicated that they believed the CBT Tracker was generally suitable to be used with high session penetration. At the same time, many also noted specific implementation strategies that would support achievement or maintenance of session penetration in routine practice (e.g., reminders).

With respect to caseload penetration, most therapists indicated that the CBT Tracker was unlikely to be used with high caseload penetration (i.e., with all or most of a therapist's cases) in its current form. However, when asked to consider how any hypothetical implementation strategies might alter potential caseload penetration, therapists' opinions were more variable and generally classifiable into two discrete viewpoints. One group of therapists could readily imagine themselves and/or other therapists using the CBT Tracker with all of their cases if it were augmented with one or more suggested implementation strategies (and many believed this would be the most likely or preferred way that most therapists would use the CBT Tracker). Another large group of therapists indicated that they believed they would most likely use the CBT Tracker with only a small subset of the clients on their caseload at any given point in time.

As previously noted, a therapist using the CBT Tracker with high fidelity can be defined as completing the CBT Tracker survey soon after each therapy session, reading and considering the feedback prior to the next therapy session, and attempting to use the feedback to improve the quality of care that they provide to their client. However, at a finer-grained level, the multifaceted nature of the CBT Tracker creates myriad possible ways that it can be used (or not used) with fidelity. Indeed, all therapists who used the

CBT Tracker reported that they read at least one of the feedback reports that they received, but beyond that minimum level, there was high variability in both how, and to what extent, therapists described using the CBT Tracker with fidelity. For example, although most therapists reported thoroughly reading the first feedback report that they received, some reported that they continued to do so throughout the study, while many others reported that as they became more familiar with the reports, they paid more attention to some parts of the feedback than others. Among therapists who endorsed the latter pattern, each different section of the feedback report was identified as having been largely ignored by at least one therapist and paid close attention to by at least one other. Likewise, therapists reported variability in how much time they spent thinking about the feedback, how critically or dismissively they considered the feedback, and how much the feedback influenced their behavior in subsequent therapy sessions.

Aim 4: Determinants of Adoption, Penetration, Fidelity, and Sustainability

Quantitative Findings. Several characteristics of therapist and client participants were significantly correlated with quantitative indicators of CBT Tracker implementation (i.e., adoption, penetration, fidelity, sustainability) during the study. Regarding adoption, therapists whose highest degree was a doctorate were significantly less likely than other therapists to have a client (youth or caregiver) complete the CBT Tracker survey at least once ($r = -0.357$, $p = 0.045$). Among therapist participants, having a doctorate was also associated with lower penetration ($r = -0.444$, $p = 0.011$), whereas having a master's degree as the highest degree earned was associated with higher penetration ($r = 0.396$, $p = 0.025$). Interestingly, having a higher percentage of formal training focused on children and adolescents was associated with a lower likelihood of therapists sustaining CBT

Tracker use after the study ($r = -0.372$, $p = 0.039$). In addition, higher reported use of treatment manuals in their regular practice was associated with a lower likelihood of having a client (youth or caregiver) adopt the CBT Tracker ($r = -0.352$, $p = 0.048$). Those who reported practicing at least part time in an elementary, middle, or high school were significantly less likely to complete the CBT Tracker survey at least once ($r = -0.438$, $p = 0.008$). Practicing in individual private practice was associated with the therapist being more likely to submit a late CBT Tracker response ($r = 0.428$, $p = 0.015$). Alternatively, practicing at least part time in an outpatient clinic or community mental health center was associated with higher therapist penetration ($r = 0.391$, $p = 0.027$).

Considering just therapists whose youth client used the CBT Tracker, practicing at least part-time in an individual private practice ($r = -0.548$, $p = 0.012$) or home-based care ($r = -0.532$, $p = 0.016$) were associated with lower youth client penetration. Among those who had a caregiver use the CBT Tracker, practicing in an individual private practice setting was associated with a higher likelihood that the caregiver submitted at least one late survey response ($r = -0.500$, $p = 0.035$).

When depression or low mood was the primary focus of treatment, there was a significantly lower rate of caregiver adoption of the CBT Tracker ($r = -0.346$, $p = 0.048$) compared to cases with other chief concerns. There were lower rates of youth client adoption among cases whose therapist reported that they had already worked or planned to work with the child and caregiver together in therapy ($r = -0.428$, $p = 0.013$), whereas the number of sessions that the therapist had completed with the case prior to beginning the study was associated with higher rates of youth adoption ($r = 0.358$, $p = 0.041$).

Inspired by qualitative findings (described below), additional quantitative predictor

variables were coded to distinguish clients who completed the CBT Tracker surveys at the end of or immediately after each therapy session (hereafter referred to as ‘immediate survey completion’) from clients whose therapists asked them to complete the surveys at their own convenience at a later point in time after each therapy session (hereafter referred to as ‘delayed survey completion’). Among youth clients, immediate survey completion was associated with a higher rate of adoption ($r = 0.564$, $p = 0.001$), and among those youth who did adopt the CBT Tracker, it was also associated with higher penetration ($r = 0.563$, $p = 0.019$).

Also inspired by qualitative findings, correlations among outcome indicators were examined both within and between different types of participants, with several significant findings. Specifically, when therapists had at least one client (youth or caregiver) adopt the CBT Tracker, this was associated with higher therapist penetration ($r = 0.490$, $p = 0.004$). When therapists specifically had a youth client adopt the CBT Tracker, this was also associated with submitting fewer late surveys ($r = -0.428$, $p = 0.015$). Among cases in which both the youth and caregiver used the CBT Tracker, caregiver penetration was positively correlated with youth penetration ($r = 0.675$, $p = 0.04$) and negatively correlated with the youth’s likelihood of submitting a late survey ($r = -0.535$, $p = 0.33$). Among cases in which the youth adopted the CBT Tracker, higher numbers of late survey responses submitted by the therapist were associated with a higher likelihood of the youth client submitting a late survey response ($r = 0.523$, $p = 0.018$).

Qualitative Findings. Consistent with expectations, acceptability, appropriateness, and feasibility were frequently identified not just as outcomes, but also as determinants of adoption, penetration, fidelity, and sustainability of the CBT Tracker. Beyond this

however, a clear pattern was also observed in the way that therapists described the relationships between these two groups of implementation outcomes and the other coded determinants. Specifically, therapists consistently described acceptability, appropriateness, and/or feasibility as critical proximal determinants of the other four coded outcomes (i.e., adoption, penetration, fidelity, and sustainability), with all other determinants (i.e., contextual factors, innovation characteristics, and implementation strategies) described as primarily exerting *indirect* influence on adoption, penetration, fidelity, and sustainability, mediated by upstream effects on acceptability, appropriateness, and/or feasibility.

Consistent with this pattern, when therapists were queried about perceived determinants of adoption, penetration, fidelity, and sustainability, there was a high degree of overlap among the individual contextual factors, innovation characteristics, and implementation strategies that they identified, and those previously identified (and discussed above) as determinants of acceptability, appropriateness, and feasibility. Also mirroring prior findings, there was often wide variability among therapists' perceptions of the magnitude and direction of specific determinants' influence on the CBT Tracker's adoption, penetration, fidelity, and sustainability. For example, many participants identified various therapist- and/or practice-level contextual factors that they believed would limit the CBT Tracker's acceptability, appropriateness, and/or feasibility for some types of therapists and, in turn, expected that such therapists would be unlikely to adopt and/or sustain use of the CBT Tracker. The same participants indicated that many of the implementation strategies suggested to address these barriers to acceptability, appropriateness, and feasibility would also improve the CBT Tracker's potential for

adoption and sustainment. However, these suggested implementation strategies varied in the extent to which they also aligned with high penetration and high-fidelity implementation. For example, some were intended to increase penetration and/or fidelity (e.g., adding reminders to help users remember to complete the survey soon after each therapy session), while others would facilitate using the CBT Tracker with lower penetration and/or fidelity (e.g., redesigning the CBT Tracker to administer the surveys and receive feedback less frequently throughout therapy).

Although there was a wide range of competing contextual factors that participants identified as potential determinants of therapists' likelihood of using the CBT Tracker, one contextual factor stood out as a consistent and critical determinant of clients' adoption and penetration: the timing of when clients completed the CBT Tracker surveys in relation to their therapy session. Specifically, clients who engaged in immediate survey completion consistently completed the CBT Tracker with high session penetration. In contrast, adoption and penetration was much more variable among clients whose therapists asked them to complete the surveys on their own schedule later after the session (i.e., delayed survey completion). A subset of clients did display high penetration and fidelity while using delayed survey completion, with many of their therapists expressing appreciation for the convenience that this option afforded and/or reporting that it increased the CBT Tracker's clinical utility by prompting the client to think more about their therapy between sessions. However, many other clients whose therapists asked them to engage in delayed survey completion either did so with low session penetration or failed to adopt the CBT Tracker altogether. Moreover, regardless of how faithfully their client(s) completed the surveys during the study, almost all therapists agreed that only a

portion of clients on their caseload would ever be likely to achieve high rates of adoption and session penetration with delayed survey completion. Indeed, many of the therapists whose clients were successful with delayed survey completion indicated that they had specifically selected a client/family to participate in the study who possessed characteristics (e.g., conscientiousness, high engagement in therapy) that the therapist believed made them more likely to complete the surveys consistently. On the other hand, several therapists whose clients did not achieve high session penetration reported that they had also deliberately selected a client/family with one or more similar characteristics and had been surprised when the client(s) failed to complete the surveys consistently. Thus, although delayed survey completion was acceptable and feasible for some clients, this was not the norm. Moreover, it may be hard to predict which clients will be successful with this approach. Further, while participants identified some implementation strategies (e.g., reminders) that they believed could improve rates of delayed survey completion among some clients, none felt that any strategy or combination of strategies would be sufficiently effective to achieve adoption and high session penetration among all or most of their caseload. Thus, in-session or immediate post-session completion (i.e., completing surveys before leaving the therapist's office, or before the therapist leaves the client's home for therapists providing in-home services) seems critical to achieve a combination of high caseload penetration with high rates of client adoption and session penetration. Notably, despite this evident superiority of immediate survey completion, a number of therapists also identified clinical setting contextual factors that limited the feasibility and/or acceptability/appropriateness of asking their clients to complete the CBT Tracker survey immediately after session (e.g., preference not to have clients

complete surveys during session, limited time between sessions and lack of an office waiting room).

In addition to the timing of clients' survey completion, a less commonly reported, but potentially powerful determinant of client adoption, was how therapists introduced the CBT Tracker to their clients and asked them to complete the surveys. Several therapists indicated that, either out of concern for potentially coercing the client to participate in research and/or because they felt unsure of how to most effectively introduce the CBT Tracker to their clients, they requested that their clients complete the CBT Tracker surveys in a rather tentative or ambivalent manner, and the clients either directly declined or expressed a noncommittal attitude and subsequently neglected to complete the surveys. In contrast, many of these therapists indicated that they believed the clients would have been more likely to complete the survey if doing so were introduced as a standard, expected component of the clients' therapy. Indeed, some therapists whose clients did complete the survey reported that when they initially presented the CBT Tracker to their clients, they emphasized how client survey completion could improve the quality of care that they received, and their clients responded to this with enthusiasm. Thus, the manner in which the CBT Tracker is presented to clients by their therapist may play a significant role in determining client implementation outcomes. Several participants indicated that providing therapists with training or example scripts for how to do this effectively could be a valuable implementation strategy.

With respect to the CBT Tracker's potential for caseload penetration, two primary sets of barriers emerged, which were identified by two partially overlapping subsets of therapist participants. For many therapists who viewed high caseload penetration as a

potentially admirable prospect or goal, feasibility was identified as a key barrier, which therapists identified as likely to be limited by innovation characteristics and contextual factors – primarily the efficiency of using the CBT Tracker (i.e., the time required to complete [+/- administer] the surveys and review the subsequent feedback) and competing demands upon the therapist's time. Therapists reported that although these determinants typically had minimal impact on the feasibility of using the CBT Tracker with a single case during the study (in fact, the brevity of the questionnaires and feedback reports was often identified as a major strength), they could be expected to grow into large barriers with increasing rates of caseload penetration. In essence, these therapists reported that their workdays were busy with many competing demands on their time, and using the CBT Tracker was one more task that also required time. Although it was relatively easy to find enough time within their schedules to use the CBT Tracker with a single client, the time required to do so for many clients could accumulate to a much larger and less feasible amount. For many participants, the features of the CBT Tracker that were designed to assist therapists with documentation were recognized as providing a critical opportunity to overcome these barriers. Although only a handful of therapists reported using the CBT Tracker's progress note features to aid documentation of their therapy sessions during the study, a larger group reported appreciation for how such features could enable faster completion of routine documentation if used on a regular basis. Indeed, many indicated that they could imagine themselves using these features and believed that the features (often hypothetically augmented with changes suggested by the therapist) could reduce the time required to complete documentation so much that the time saved would fully offset or even exceed the time required to complete the CBT

Tracker survey and review its feedback. Thus, a number of therapists indicated that achieving such timesaving would be critical to convincing them to adopt the CBT Tracker in their own routine practice and sustainably use it with high caseload penetration.

The other major set of barriers to caseload penetration identified by participants was a range of contextual factors that were perceived to limit the potential acceptability and/or appropriateness of high caseload penetration, regardless of its feasibility. For some, this was because the therapists had a diverse caseload that included many clients outside of the primary population for which the CBT Tracker was designed (e.g., adult cases, cases not receiving CBT). Other therapists felt that even within the CBT Tracker's target population, the balance of its utility versus burden would vary based on other client contextual factors, such that the therapist would only be motivated to use it with a subset of their clients (e.g., perceiving the CBT Tracker to be primarily useful only with cases that the therapist finds most challenging, or only with youth clients who are old enough to complete the self-report questionnaires). Some therapists who identified one or more of these potential barriers to the acceptability and/or appropriateness of high caseload presentation seemed to dismiss the possibility of high caseload penetration entirely. However, many others indicated that the CBT Tracker's potential for high caseload penetration could be improved by one or more implementation strategies. Strategies to address the first group of barriers primarily consisted of adding options to administer other questionnaires (and receive associated feedback) pertinent to other populations of therapy clients. For the second group of barriers, some therapists indicated that if using the CBT Tracker produced time savings within the context of their routine workflow (i.e.,

via more efficient documentation), or at least did not increase the amount of time required to complete their workflow, they would likely use the CBT Tracker with all appropriate clients, even if they expected that doing so was less likely to provide significant clinical benefits for some clients.

Although the findings described above generally conformed to the pattern in which acceptability, appropriateness, and feasibility function as proximal determinants of other outcomes and mediate the influences of other determinants, one contextual factor that therapists described as potentially deviating from this pattern was behavioral inertia. Many therapists, and particularly some who expressed highly positive views about the CBT Tracker, indicated that behavioral inertia (i.e., the inherent difficulty or undesirability of changing existing habits) could be a substantial barrier to adoption, penetration, fidelity, and sustainment even for therapists who perceived the CBT Tracker to be useful, appropriate, feasible, and low burden. On the other hand, this inertial force was also cited by some therapists as a reason that they believed the CBT Tracker might be particularly appropriate and, in turn, likely to be used and sustained by therapists in early stages of training whose clinical practice habits are still forming. For much the same reason, several therapists also suggested that rates of client adoption and penetration/sustainability might be improved by beginning to use the CBT Tracker with clients in the very first therapy session and thus introducing it as a standard and expected routine aspect of participating in therapy. Conversely, several therapists reported that youth clients, and occasionally caregivers, seemed to grow increasingly impatient with completing the CBT Tracker survey after having done so for several consecutive therapy sessions. Although very few of these therapists reported that their clients refused or

stopped completing the survey during the study, these comments suggest that acceptability may limit the CBT Tracker's potential for sustainability and/or session penetration with some clients.

Other patterns of deterministic interrelationships between implementation outcomes also emerged, which were not previously expected, but often seemed quite intuitive in hindsight. Specifically, therapists described adoption, penetration, fidelity, and sustainability not merely as outcomes, but also as determinants of other implementation outcomes. This occurred particularly often for penetration and fidelity, but also occasionally for adoption and sustainability. Moreover, the relationships described between these outcomes were often complex in nature, manifesting in dynamic and reciprocal patterns and often in web-like networks of multiple, interacting determinants and outcomes.

For example, many therapists identified that forgetting to complete the CBT Tracker survey was a barrier that limited feasibility for both therapists and clients, and in turn reduced adoption, penetration, and/or fidelity. However, some therapists elaborated to explain how the effects on implementation outcomes extended beyond a simple reduction in the number of surveys that they submitted (or submitted in a timely manner). Therapists reported that when they forgot to complete the survey or completed it late, this undermined the CBT Tracker's utility because they either did not receive consistent feedback or received the feedback too late for it to be relevant to clinical care. Further, when therapists forgot about completing the CBT Tracker survey themselves, they also forgot to remind their clients to complete it, which detrimentally impacted their client's adoption, penetration, and/or fidelity, and further limited the utility of the feedback that

therapists received. In turn, therapists reported that these compounding effects on the CBT Tracker's utility often reduced their motivation to continue using the CBT Tracker, further undermining penetration and/or fidelity during the study, and particularly dampening their enthusiasm about sustaining CBT Tracker use with the same client after the study.

Alternatively, therapists who used the CBT Tracker with high session penetration and high fidelity reported varied ways that their perceptions of other outcomes evolved with continued use of the CBT Tracker over time. Many reported mild increases in feasibility and decreases in burden as greater familiarity with the questionnaire and feedback reports made them more efficient in using the CBT Tracker. Effects on utility were more mixed, as some found that the CBT integrity feedback became repetitive and its utility faded with continued use, while others reported that the various sections of the feedback became more helpful (e.g., visualizing trends in symptom change over time) and/or varied from session to session (e.g., CBT Differences section was most helpful on weeks when there were significant differences). Still in other ways, different therapists' opinions about the influence of fidelity and session penetration on other outcomes were more directly conflicting. For example, some therapists felt that incorporating CBT Tracker survey completion into a routine that they performed after every therapy session would be essential for both themselves and other therapists to maximize feasibility (e.g., minimize forgetting, improve efficiency) and enable sustainability. Yet others indicated that they would prefer to skip completing the survey, and often particularly the CBTAM questionnaire, for some therapy sessions in which the CBT Tracker was perceived to be less useful or appropriate (e.g., when an unexpected crisis caused deviation from their

CBT-focused treatment plan).

Discussion

Overall, the results of this pilot evaluation suggest potential for a measurement feedback system (MFS) like the CBT Tracker to be used by practicing therapists to simultaneously support implementation of evidence-based treatments (EBTs) and routine outcome monitoring (ROM). These findings provide proof of concept that EBT integrity feedback can be integrated into an MFS in a way that is acceptable, appropriate, and feasible for use with a diverse sample of child therapy clients treated in diverse usual care clinical settings. Further, perceptions voiced by participants validated the potential value of the most novel elements of the CBT Tracker. Indeed, feedback about treatment integrity derived from a brief therapist-, child-, and caregiver-report measure of core components of evidence-based youth CBT was found to be appropriate by therapists who were providing CBT in a variety of ways (e.g., using treatment manuals versus not), to youth clients of varying ages, with a variety of presenting problems and comorbid concerns. Moreover, many of these therapists reported that they felt that using the CBT Tracker actively helped them to provide CBT with greater integrity.

Collectively, several findings also lend credence to the hypothesis that combining ROM with feedback about EBT integrity may enhance the acceptability, adoption, and sustainability of MFSs. Specifically, these were indications that (a) different therapists found varying degrees of utility in different parts of the CBT Tracker's feedback during the study, (b) a variety of client contextual factors were identified as determinants of the potential utility of each part of the feedback, and (c) the utility of different parts of the feedback was reported to change over the course of continued use of the CBT Tracker.

Given this inherent variability in the perceived utility of MFS feedback across therapists, clients, and time, when an MFS provides a greater variety of feedback, it is more likely that at least one of those feedback elements will be perceived as useful for each unique combination of therapist, client, and time point. Cumulatively, this may result in an MFS like the CBT Tracker being perceived as acceptable by a broader population of therapists, and therapists being more motivated to engage in sustained use of the MFS, with higher caseload penetration, because the feedback provides more frequent reinforcement for doing so.

However, while most participants indicated that the CBT Tracker could be adopted and used by therapists in routine practice, both quantitative and qualitative findings also indicated that the CBT Tracker would need to be augmented with one or more implementation strategies in order to achieve its potential for widespread adoption, penetration, and sustainability. Moreover, there was little consensus among participants regarding the implementation strategies that would be most necessary or effective for this purpose. Rather, there was a high degree of variability in therapists' reported needs and preferences, which were sometimes conflicting, and described as closely linked to a diverse array of highly intersectional contextual factors nested within therapists, clients, and clinical settings. The balance of participants' recommendations indicated that maximizing the CBT Tracker's potential for widespread adoption, penetration, and sustainability would require modifications to both add new functions and allow its functions to be flexibly used and configured in a wide variety of ways that fit the unique needs of a multitude of different therapists, clients, and clinical settings.

Yet often in the same breath that therapists recommended such modifications, many

also cautioned against making changes that would increase the CBT Tracker's complexity in a way that increased the burden of using it, highlighting how efficiency and ease of use are innovation characteristics that are critical to acceptability/appropriateness and feasibility. Additionally, a number of the recommended changes were resource intensive (e.g., integration with various electronic medical record and administrative software systems, development of alternative EBT integrity measures for different populations and types of therapy). Taken together, these findings raise questions about whether, or to what extent, widespread adoption and use of a MFS like the CBT Tracker that supports both EBTs and ROM, is a realistically attainable goal. An alternative interpretation supported by study findings is that there is demand for a range of MFSs like the CBT Tracker, each tailored to a smaller niche of target users. Indeed, this would be parallel to findings from Lyon and colleagues' (2014) survey of available ROM-focused MFSs, which indicated that a large number of such MFSs had been developed, possessing varying combinations of a wide variety of different features.

One aspect of the CBT Tracker that may be particularly worthy of further investigation is its requirement for therapists to complete the measures after each session in order to receive feedback. On one hand, many therapists found this to be acceptable, appropriate, and feasible during the study. It is also noteworthy that many found utility in reviewing their own standardized ratings of client symptoms over time, including both therapists who valued comparing their own ratings to their clients' parallel ratings and others who used the CBT Tracker without clients completing the parallel surveys. Given that ROM-focused MFSs have typically relied, often exclusively, on client-reported

measures⁴, and inconsistent client measure completion has been noted to limit MFS implementation in the current study and other published studies (Bickman et al., 2016; Gleacher et al., 2016; Kotte et al., 2016), empirical evaluation of the utility of incorporating therapist ratings of client symptoms into ROM may be worthwhile. On the other hand, the amount of time required for therapists to complete the CBT Tracker surveys was the primary source of perceived burden and was nearly universally identified as the biggest barrier to the feasibility of high caseload penetration. The CBT Tracker's progress note features were identified as a potential way to offset this required time investment, and further evaluation is warranted to determine the extent to which further development of such features can truly produce substantial time savings within therapists' existing workflows, and how this may impact the CBT Tracker's potential for adoption and caseload penetration. Alternatively, eliminating the requirement for therapists to complete the survey could be another way to improve acceptability for some therapists and increase feasibility of high caseload penetration. Future research should evaluate whether therapist survey completion and the associated feedback substantially improves client outcomes beyond benefits conferred by feedback that can be delivered based on client-report alone. If not, requiring therapist report may not be worth the inherent cost to implementation outcomes.

One of the strongest themes to emerge from the combined qualitative and quantitative findings was that it may be necessary for clients to complete measures at the end of or immediately after each therapy session in order for therapists to achieve a combination of high caseload penetration with high client adoption and high client session penetration.

⁴ Bickman and colleague's Contextualized Feedback System is one notable exception (Bickman et al., 2011, 2016)

Notably, the timing of client survey completion has not been routinely identified as an implementation determinant in previous studies of MFS use, likely because most ROM-focused MFSs are administered prior to each therapy session rather than after sessions (as they query symptoms and functioning over the past week or between the current and prior session). In contrast, MFSs that support EBT integrity will most likely need to be administered after each session (as they query what happened in the current session). While a number of therapists reported that clinical setting contextual factors posed barriers to having clients complete the CBT Tracker surveys immediately after therapy sessions, the participants who had clients complete the survey immediately after sessions adopted a diverse array of strategies to make this feasible within the unique parameters of their clinical settings (e.g., some had clients complete the surveys on their phones, on the therapist's own laptop, on the youth client's school laptop, or on tablets or computers that their clinics already had designated for client measure completion; some saved time at the end of each session for clients to complete the measures in-session, while others asked clients to complete the surveys after session in the clinic waiting room). Learning from these therapists' successes may be helpful for designing tailored implementation strategies to teach, motivate, or otherwise support therapists to overcome common barriers to administering client surveys in-session or immediately after sessions.

While the qualitative findings revealed a high prevalence of contextual factors described as determinants of the CBT Tracker's adoption, penetration, fidelity, and sustainability, quantitative analyses identified relatively few significant correlations between outcome indicators and therapist and case background characteristics. Although it may be intuitive to assume that this discrepancy represents an incongruity between

quantitative and qualitative findings, that is not necessarily the case. An overwhelming impression that emerged from analysis of the qualitative data was that interactions between multiple contextual factors were equally or more important than the main effects of individual contextual factors in determining implementation outcomes. Given the small size of the current dataset, there was insufficient statistical power to test for such interactive effects. Further, quantitative data was not collected regarding many of the contextual factors that therapists described as some of the most important determinants of the CBT Tracker's implementation (e.g., access to technology to complete online surveys in therapists' offices or clients' homes).

Finally, several study findings offer insights that may be relevant to future implementation science research and theory development at large. While current implementation science taxonomies and frameworks have generally focused on either determinants or outcomes, the rich qualitative data available in the current study was teeming with evidence of complex interrelationships between and among these two groups of constructs. Future research and theory should more fully consider ways that implementation outcomes may also serve as determinants of other outcomes.

Additionally, the current study identified many codes for contextual factors reflecting characteristics of the therapist and the youth client/case, but relatively few codes reflecting characteristics of the environments in which therapists practice. This stands in contrast to most prominent determinant frameworks in the field of implementation science, which often focus heavily on characteristics of organizations and other features of the larger environment in which health services are implemented (e.g., sociopolitical and cultural factors). This likely reflects the fact that most implementation science

research is focused on studying coordinated implementation efforts, which often unfold in a top-down manner driven by government agencies or the leadership of organizations involved in the efforts. Our study instead took the perspective of disseminating the CBT Tracker to individual therapists and examining how those individuals would implement it with minimal external pressure or support. The practice characteristics of our sample demonstrate why such perspectives may be important – the majority of participants reported working at least part-time in private practice, and this is similar to other representative national surveys of mental health providers (Cho et al., 2019; Jensen-Doss et al., 2018). To achieve equitable implementation of evidence-based practices for all consumers of mental health services, more attention may need to be paid to individual provider-driven implementation processes.

Limitations

Although the size and diversity of the sample, and the focus on in-depth qualitative exploration, are all strengths of this initial pilot study, more rigorous future investigation is needed to evaluate the generalizability of the study's conclusions. In particular, this sample is likely to include therapists who are more drawn to novelty or innovation (e.g., early adopters; Rogers & Marshall, 2003), interested in research, and/or intrigued specifically by MFSs. This may not be representative of most youth- and family-serving therapists, although some data does suggest that, despite their infrequent use, MFSs are viewed favorably by therapists (Jensen-Doss et al., 2018).

It is also possible that the author's and principal investigator's dual roles as both creators of the CBT Tracker and qualitative interviewers during the study, may have evoked overly positive responses from participants about the CBT Tracker or its potential

for implementation. Efforts were made to encourage therapists to express all of their opinions, including directly probing for negative feedback. Indeed, every participant interviewed shared a combination of both positive and negative comments, and there were no indications that therapists provided more candid or more negative responses to the third interviewer on our team (who was not involved in developing or operating the CBT Tracker). Nonetheless, it is possible that a less favorable balance of opinions might have emerged if all interviewers had been clearly independent and uninvested in the CBT Tracker's design.

In addition, the current, exploratory quantitative analyses involved performing numerous statistical tests without correcting for the inflated risk of Type I (false positive) errors associated with multiple comparisons within the same sample, so reported correlations should be viewed as tentative. In particular, therapists who enrolled in the study but failed to adopt the CBT Tracker, therapists who reported working in home-based care or school settings, youth and caregiver participants who submitted late CBT Tracker surveys, and participants (of all types) who sustained CBT Tracker use beyond the duration of the study were rare within the current sample (i.e., less than 5 each); statistically significant correlations involving these variables should be interpreted cautiously as they may be more likely to reflect mere spurious correlations. Given the small sample size, there is also increased risk of Type II errors (i.e., false negative findings).

Finally, although there is ample support for EBTs (Weisz et al., 2013; Weisz, Kuppens, et al., 2017) and ROM (Gondek et al., 2016; Tam & Ronan, 2017), it is important to recognize that the specific efficacy of the CBT Tracker for improving

therapeutic outcomes has not yet been evaluated. This sequence of investigating an innovation's potential for implementation before conducting a more rigorous evaluation of its efficacy is consistent with recent recommendations from implementation and translational science researchers to invest greater time and effort in early design and development phases, and especially to obtain input from stakeholders who can help identify and prevent problems that would be much more costly if left undiscovered until large-scale implementation is attempted (Lyon & Lewis, 2016). Indeed, results of the current study provided a wealth of valuable information that may be applied to refine the CBT Tracker and optimize its potential for widespread implementation. However, despite findings that many therapists in the current study reported perception of benefits consistent with the theory underlying the CBT Tracker's design, well-controlled studies are needed to evaluate its impact on clinical outcomes before attempts to promote its widespread use would be justified.

References

- Addis, M. E., & Krasnow, A. D. (2000). A national survey of practicing psychologists' attitudes toward psychotherapy treatment manuals. *Journal of Consulting and Clinical Psychology, 68*(2), 331–339. <https://doi.org/10.1037//0022-006X.68.2.331>
- Addis, M. E., Wade, W. A., Health, B., & Hatgis, C. (1999). Barriers to dissemination of evidence-based practices: addressing practitioners' concerns about manual-based psychotherapies. *Clinical Psychology: Science and Practice, 6*, 430–441.
- Barth, R. P., Lee, B. R., Lindsey, M. A., Collins, K. S., Strieder, F., Chorpita, B. F., Becker, K. D., & Sparks, J. A. (2012). Evidence-based practice at a crossroads: The timely emergence of common elements and common factors. *Research on Social Work Practice, 22*(1), 108–119. <https://doi.org/10.1177/1049731511408440>
- Bauer, M., Damschroder, L., Hagedorn, H., Smith, J., & Kilbourne, A. (2015). An introduction to implementation science for the non-specialist. *BMC Psychology, 13*, 32. <https://doi.org/http://dx.doi.org/10.1186/s40359-015-0089-9>
- Becker, E. M., Smith, A. M., & Jensen-Doss, A. (2013). Who's using treatment manuals? A national survey of practicing therapists. *Behaviour Research and Therapy, 51*(10), 706–710. <https://doi.org/10.1016/j.brat.2013.07.008>
- Beidas, R. S., Koerner, K., Weingardt, K. R., & Kendall, P. C. (2011). Training research: Practical recommendations for maximum impact. *Administration and Policy in Mental Health and Mental Health Services Research, 38*(4), 223–237. <https://doi.org/10.1007/s10488-011-0338-z>
- Bickman, L. (2008). A measurement feedback system (MFS) is necessary to improve mental health outcomes. *J Am Acad Child Adolesc Psychiatry, 47*(10), 1114–1119.

<https://doi.org/10.1097/CHI.0b013e3181825af8.A>

Bickman, L., Douglas, S. R., De Andrade, A. R. V., Tomlinson, M., Gleacher, A., Olin, S., & Hoagwood, K. (2016). Implementing a measurement feedback system: A tale of two sites. *Administration and Policy in Mental Health and Mental Health Services Research*, *43*(3), 410–425. <https://doi.org/10.1007/s10488-015-0647-8>

Bickman, L., Kelley, S. D., Breda, C., de Andrade, A. R., & Riemer, M. (2011). Effects of routine feedback to clinicians on mental health outcomes of youths: Results of a randomized trial. *Psychiatric Services*, *62*(12), 1423–1429.

<https://doi.org/10.1176/appi.ps.002052011>

Borntrager, C. F., Chorpita, B. F., Higa-McMillan, C., & Weisz, J. R. (2009). Provider attitudes toward evidence-based practices: are the concerns with the evidence or with the manuals? *Psychiatric Services*, *60*(5), 677–681.

<https://doi.org/10.1176/ps.2009.60.5.677>

Brookman-Frazer, L., Haine, R. A., Baker-Ericzén, M., Zoffness, R., & Garland, A. F. (2010). Factors associated with use of evidence-based practice strategies in usual care youth psychotherapy. *Administration and Policy in Mental Health and Mental Health Services Research*, *37*(3), 254–269. <https://doi.org/10.1007/s10488-009-0244-9>

Bruns, E. J., Kerns, S. E. U., Pullmann, M. D., Hensley, S. W., Lutterman, T., & Hoagwood, K. E. (2016). Research, data, and evidence-based treatment use in state behavioral health systems, 2001–2012. *Psychiatric Services*, *67*(5), 496–503.

<https://doi.org/10.1176/appi.ps.201500014>

Cho, E., Andrews, J. H., Marriott, B. R., & Hawley, K. M. (n.d.). *Cognitive Behavioral*

Therapy Adherence Measure (CBTAM): A participant report measure for common youth mental health concerns.

- Cho, E., Tugendrajch, S. K., McMillen, J. C., Proctor, E. K., & Hawley, K. M. (2022). Implementation of evidence-based practices within treatment-as-usual and evidence-based practice initiatives. *Administration and Policy in Mental Health and Mental Health Services Research, 49*(5), 757–784. <https://doi.org/10.1007/s10488-022-01197-z>
- Cho, E., Wood, P. K., Taylor, E. K., Hausman, E. M., Andrews, J. H., & Hawley, K. M. (2019). Evidence-based treatment strategies in youth mental health services: Results from a national survey of providers. *Administration and Policy in Mental Health and Mental Health Services Research, 46*(1), 71–81. <https://doi.org/10.1007/s10488-018-0896-4>
- Chorpita, B. F., Daleiden, E. L., Park, A. L., Ward, A. M., Levy, M. C., Cromley, T., Chiu, A. W., Letamendi, A. M., Tsai, K. H., & Krull, J. L. (2017). Child STEPs in California: A cluster randomized effectiveness trial comparing modular treatment with community implemented treatment for youth with anxiety, depression, conduct problems, or traumatic stress. *Journal of Consulting and Clinical Psychology, 85*(1), 13–25. <https://doi.org/10.1037/ccp0000133>
- Chorpita, B. F., Daleiden, E. L., & Weisz, J. R. (2005). Identifying and selecting the common elements of evidence based interventions: a distillation and matching model. *Mental Health Services Research, 7*(1), 5–20. <https://doi.org/10.1007/s11020-005-1962-6>
- Chorpita, B. F., Park, A., Tsai, K., Korathu-Larson, P., Higa-McMillan, C. K., Nakamura,

- B. J., Weisz, J. R., & Krull, J. (2015). Balancing effectiveness with responsiveness: Therapist satisfaction across different treatment designs in the Child STEPs randomized effectiveness trial. *Journal of Consulting and Clinical Psychology, 83*(4), 709–718. <https://doi.org/10.1037/a0039301>
- Chorpita, B. F., Reise, S., Weisz, J. R., Grubbs, K., Becker, K. D., Krull, J. L., & The Research Network on Youth Mental Health. (2010). Evaluation of the brief problem checklist: Child and caregiver interviews to measure clinical progress. *Journal of Consulting and Clinical Psychology, 78*(4), 526–536. <https://doi.org/10.1037/a0019602>
- Chorpita, B. F., Weisz, J. R., Daleiden, E. L., Schoenwald, S. K., Palinkas, L. A., Miranda, J., Higa-Mcmillan, C. K., Nakamura, B. J., Austin, A. A., Borntrager, C. F., Ward, A., Wells, K. C., & Gibbons, R. D. (2013). Long-term outcomes for the Child STEPs randomized effectiveness trial: A comparison of modular and standard treatment designs with usual care. *Journal of Consulting and Clinical Psychology, 81*(6), 999–1009. <https://doi.org/10.1037/a0034200>
- Chu, B. C. (2012). Translating transdiagnostic approaches to children and adolescents. *Cognitive and Behavioral Practice, 19*(1), 1–4. <https://doi.org/10.1016/j.cbpra.2011.06.003>
- Cook, J. R., Hausman, E. M., Jensen-Doss, A., & Hawley, K. M. (2017). Assessment practices of child clinicians: Results from a national survey. *Assessment, 24*(2), 210–221. <https://doi.org/10.1177/1073191115604353>
- Damschroder, L. J., Aron, D. C., Keith, R. E., Kirsh, S. R., Alexander, J. a, & Lowery, J. C. (2009). Fostering implementation of health services research findings into

practice: a consolidated framework for advancing implementation science.

Implementation Science, 4(50), 40–55. <https://doi.org/10.1186/1748-5908-4-50>

Dane, A. V., & Schneider, B. H. (1998). Program integrity in primary and early

secondary prevention: Are implementation effects out of control? *Clinical*

Psychology Review, 18(1), 23–45. [https://doi.org/10.1016/S0272-7358\(97\)00043-3](https://doi.org/10.1016/S0272-7358(97)00043-3)

Durlak, J. A., & DuPre, E. P. (2008). Implementation matters: a review of research on the

influence of implementation on program outcomes and the factors affecting

implementation. *American Journal of Community Psychology*, 41(3–4), 327–350.

<https://doi.org/10.1007/s10464-008-9165-0>

Eccles, M. P., & Mittman, B. S. (2006). Welcome to Implementation Science.

Implementation Science, 1(1), 1–3. <https://doi.org/10.1186/1748-5908-1-1>

Ehrenreich-May, J., Rosenfield, D., Queen, A. H., Kennedy, S. M., Remmes, C. S., &

Barlow, D. H. (2017). An initial waitlist-controlled trial of the unified protocol for

the treatment of emotional disorders in adolescents. *Journal of Anxiety Disorders*,

46, 46–55. <https://doi.org/10.1016/j.janxdis.2016.10.006>

Elliott, D. S., & Mihalic, S. (2004). Issues in disseminating and replicating effective

prevention programs. *Prevention Science*, 5(1), 47–53.

<https://doi.org/10.1023/B:PREV.0000013981.28071.52>

Forman, J., & Damschroder, L. (2008). Qualitative content analysis. In *Empirical*

Methods for Bioethics: A Primer: Vol. II (pp. 39–62). [https://epdf.pub/empirical-](https://epdf.pub/empirical-methods-for-bioethics-a-primer-volume-11-advances-in-bioethics.html)

[methods-for-bioethics-a-primer-volume-11-advances-in-bioethics.html](https://epdf.pub/empirical-methods-for-bioethics-a-primer-volume-11-advances-in-bioethics.html)

Foster, S. L., & Cone, J. D. (1995). Validity issues in clinical assessment. *Psychological*

Assessment, 7(3), 248–260. <https://doi.org/10.1037/1040-3590.7.3.248>

- Garland, A. F., Hawley, K. M., Brookman-Frazee, L., & Hurlburt, M. S. (2008). Identifying common elements of evidence-based psychosocial treatments for children's disruptive behavior problems. *Journal of the American Academy of Child & Adolescent Psychiatry, 47*(5), 505–514.
<https://doi.org/10.1097/CHI.0b013e31816765c2>
- Garland, A. F., Kruse, M., & Aarons, G. A. (2003). Clinicians and outcome measurement: What's the use? *Journal of Behavioral Health Services and Research, 30*(4), 393–405. <https://doi.org/10.1007/BF02287427>
- Garland, A. F., & Schoenwald, S. K. (2013). Use of effective and efficient quality control methods to implement psychosocial interventions. *Clinical Psychology: Science and Practice, 20*(1), 33–43. <https://doi.org/10.1111/cpsp.12021>
- Gearing, R. E., El-Bassel, N., Ghesquiere, A., Baldwin, S., Gillies, J., & Ngeow, E. (2011). Major ingredients of fidelity: A review and scientific guide to improving quality of intervention research implementation. *Clinical Psychology Review, 31*(1), 79–88. <https://doi.org/10.1016/j.cpr.2010.09.007>
- Gleacher, A. A., Olin, S. S., Nadeem, E., Pollock, M., Ringle, V., Bickman, L., Douglas, S., & Hoagwood, K. (2016). Implementing a measurement feedback system in community mental health clinics: A case study of multilevel barriers and facilitators. *Administration and Policy in Mental Health and Mental Health Services Research, 43*(3), 426–440. <https://doi.org/10.1007/s10488-015-0642-0>
- Gondek, D., Edbrooke-Childs, J., Fink, E., Deighton, J., & Wolpert, M. (2016). Feedback from outcome measures and treatment effectiveness, treatment efficiency, and collaborative practice: a systematic review. *Administration and Policy in Mental*

Health and Mental Health Services Research, 43(3), 325–343.

<https://doi.org/10.1007/s10488-015-0710-5>

Haine-Schlagel, R., Fettes, D. L., Garcia, A. R., Brookman-Fraze, L., & Garland, A. F. (2014). Consistency with evidence-based treatments and perceived effectiveness of children's community-based care. *Community Mental Health Journal*, 50(2), 158–163. <https://doi.org/10.1007/s10597-012-9583-1>

Hawley, K. M. (2013). *Cognitive Behavioral Therapy Adherence Measure (CBTAM)*. University of Missouri.

Hawley, K. M., & Andrews, J. H. (2015). *Missouri Therapy Tracker and Feedback System*. University of Missouri.

Haynes, S. N., Richard, D. C. S., & Kubany, E. S. (1995). Content validity in psychological assessment: A functional approach to concepts and methods. *Psychological Assessment*, 7(3), 238–247. <https://doi.org/10.1037/1040-3590.7.3.238>

Henggeler, S. W., Brondino, M. J., Melton, G. B., Scherer, D. G., & Hanley, J. H. (1997). Multisystemic therapy with violent and chronic juvenile offenders and their families: The role of treatment fidelity in successful dissemination. *Journal of Consulting and Clinical Psychology*, 65(5), 821–833. <https://doi.org/10.1037/0022-006X.65.5.821>

Higa-McMillan, C., Kotte, A., Jackson, D., & Daleiden, E. L. (2017). Overlapping and non-overlapping practices in usual and evidence-based care for youth anxiety. *Journal of Behavioral Health Services and Research*, 44(4), 684–694. <https://doi.org/10.1007/s11414-016-9502-2>

Hill, C. E., Knox, S., Thompson, B. J., Williams, E. N., Hess, S. A., & Ladany, N.

- (2005). Consensual qualitative research: An update. *Journal of Counseling Psychology*, 52(2), 196–205. <https://doi.org/10.1037/0022-0167.52.2.196>
- Hill, C. E., Thompson, B. J., & Williams, E. N. (1997). A guide to conducting consensual qualitative research. *The Counseling Psychologist*, 25(4), 517–572. <https://doi.org/10.1177/0011000097254001>
- Hsieh, H., & Shannon, S. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277–1288. <https://doi.org/10.1177/1049732305276687>
- Hysong, S. J. (2009). Meta-Analysis: Audit and feedback features impact effectiveness on care quality. *Medical Care*, 47(3), 356–363. <https://doi.org/10.1097/MLR.0b013e3181893f6b>
- Institute of Medicine. (2001). *Crossing the Quality Chasm: A New Health System for the 21st Century*. National Academy Press. <https://doi.org/10.17226/10027>
- Ionita, G., & Fitzpatrick, M. (2014). Bringing science to clinical practice: a canadian survey of psychological practice and usage of progress monitoring measures. *Canadian Psychology/Psychologie Canadienne*, 55(3), 187–196. <https://doi.org/10.1037/a0037355>
- Jensen-Doss, A., Haimen, E. M. B., Smith, A. M., Lyon, A. R., Lewis, C. C., Stanick, C. F., & Hawley, K. M. (2018). Monitoring treatment progress and providing feedback is viewed favorably but rarely used in practice. *Administration and Policy in Mental Health and Mental Health Services Research*, 45(1), 48–61. <https://doi.org/10.1007/s10488-016-0763-0>
- Jensen-Doss, A., & Hawley, K. M. (2010). Understanding barriers to evidence-based

assessment: clinician attitudes toward standardized assessment tools. *Journal of Clinical Child & Adolescent Psychology*, 39(6), 885–896.

<https://doi.org/10.1080/15374416.2010.517169>

Kotte, A., Hill, K. A., Mah, A. C., Korathu-Larson, P. A., Au, J. R., Izmirian, S., Keir, S.

S., Nakamura, B. J., & Higa-McMillan, C. K. (2016). Facilitators and barriers of implementing a measurement feedback system in public youth mental health.

Administration and Policy in Mental Health and Mental Health Services Research, 43(6), 861–878. <https://doi.org/10.1007/s10488-016-0729-2>

Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel Psychology*,

28(4), 563–575. <https://doi.org/10.1111/j.1744-6570.1975.tb01393.x>

Leeman, J., Birken, S. A., Powell, B. J., Rohweder, C., & Shea, C. M. (2017). Beyond

“implementation strategies”: classifying the full range of strategies used in implementation science and practice. *Implementation Science*, 12(1), 125.

<https://doi.org/10.1186/s13012-017-0657-x>

Lyon, A. R., Dorsey, S., Pullmann, M., Silbaugh-Cowdin, J., & Berliner, L. (2014).

Clinician Use of Standardized Assessments Following a Common Elements Psychotherapy Training and Consultation Program. *Administration and Policy in*

Mental Health and Mental Health Services Research, 1–14.

<https://doi.org/10.1007/s10488-014-0543-7>

Lyon, A. R., & Lewis, C. C. (2016). Designing health information technologies for

uptake: Development and implementation of measurement feedback systems in mental health service delivery. *Administration and Policy in Mental Health and*

Mental Health Services Research, 43(3), 344–349. <https://doi.org/10.1007/s10488->

015-0704-3

- Lyon, A. R., Lewis, C. C., Boyd, M. R., Hendrix, E., & Liu, F. (2016). Capabilities and characteristics of digital measurement feedback systems: Results from a comprehensive review. *Administration and Policy in Mental Health and Mental Health Services Research, 43*(3), 441–466. <https://doi.org/10.1007/s10488-016-0719-4>
- Marchette, L. K., & Weisz, J. R. (2017). Practitioner Review: Empirical evolution of youth psychotherapy toward transdiagnostic approaches. *Journal of Child Psychology and Psychiatry*. <https://doi.org/10.1111/jcpp.12747>
- McHugh, R. K., Murray, H. W., & Barlow, D. H. (2009). Balancing fidelity and adaptation in the dissemination of empirically-supported treatments: The promise of transdiagnostic interventions. *Behaviour Research and Therapy, 47*(11), 946–953. <https://doi.org/10.1016/j.brat.2009.07.005>
- Merikangas, K. R., He, J.-P., Brody, D., Fisher, P. W., Bourdon, K., & Koretz, D. S. (2010). Prevalence and treatment of mental disorders among US children in the 2001-2004 NHANES. *Pediatrics, 125*(1), 75–81. <https://doi.org/10.1542/peds.2008-2598>
- Merikangas, K. R., He, J.-P., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., Benjet, C., Georgiades, K., & Swendsen, J. (2010). Lifetime prevalence of mental disorders in U.S. adolescents: results from the National Comorbidity Survey Replication–Adolescent Supplement (NCS-A). *Journal of the American Academy of Child and Adolescent Psychiatry, 49*(10), 980–989. <https://doi.org/10.1016/j.jaac.2010.05.017>

- Palinkas, L. A., Aarons, G. A., Horwitz, S., Chamberlain, P., Hurlburt, M., & Landsverk, J. (2011). Mixed method designs in implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 38(1), 44–53. <https://doi.org/10.1007/s10488-010-0314-z>
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), 533–544. <https://doi.org/10.1007/s10488-013-0528-y>
- Palinkas, L. A., Weisz, J. R., Chorpita, B. F., Levine, B., Garland, A. F., Hoagwood, K. E., & Landsverk, J. (2013). Continued use of evidence-based treatments after a randomized controlled effectiveness trial: A qualitative study. *Psychiatric Services*, 64(11), 1110–1118. <https://doi.org/10.1176/appi.ps.004682012>
- Perepletchikova, F., Hilt, L. M., Chereji, E., & Kazdin, A. E. (2009). Barriers to implementing treatment integrity procedures: Survey of treatment outcome researchers. *Journal of Consulting and Clinical Psychology*, 77(2), 212–218. <https://doi.org/10.1037/a0015232>
- Persons, J. B. (2006). Case formulation-driven psychotherapy. *Clinical Psychology: Science and Practice*, 13(2), 167–170. <https://doi.org/10.1111/j.1468-2850.2006.00019.x>
- Pfadenhauer, L. M., Gerhardus, A., Mozygemba, K., Lysdahl, K. B., Booth, A., Hofmann, B., Wahlster, P., Polus, S., Burns, J., Brereton, L., & Rehfuss, E. (2017). Making sense of complexity in context and implementation: the Context and

Implementation of Complex Interventions (CICI) framework. *Implementation Science*, 12(1), 21. <https://doi.org/10.1186/s13012-017-0552-5>

QSR International Pty Ltd. (2018). *NVivo (Version 12)*.

<https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home>

Rogers, E. M., & Marshall, L. R. (2003). *Diffusion of Innovations* (5th ed.). Free Press.

Schoenwald, S. K., Garland, A. F., Chapman, J. E., Frazier, S. L., Sheidow, A. J., &

Southam-Gerow, M. A. (2011). Toward the effective and efficient measurement of implementation fidelity. *Administration and Policy in Mental Health and Mental Health Services Research*, 38(1), 32–43. <https://doi.org/10.1007/s10488-010-0321-0>

Scott, K., & Lewis, C. C. (2015). Using measurement-based care to enhance any treatment. *Cognitive and Behavioral Practice*, 22(1), 49–59.

<https://doi.org/10.1016/j.cbpra.2014.01.010>

Sekhon, M., Cartwright, M., & Francis, J. J. (2017). Acceptability of healthcare interventions: an overview of reviews and development of a theoretical framework. *BMC Health Services Research*, 17(1), 88. <https://doi.org/10.1186/s12913-017-2031-8>

Smith, M. M., McLeod, B. D., Southam-Gerow, M. A., Jensen-Doss, A., Kendall, P. C., & Weisz, J. R. (2017). Does the delivery of CBT for youth anxiety differ across research and practice settings? *Behavior Therapy*, 48(4), 501–516.

<https://doi.org/10.1016/j.beth.2016.07.004>

Southam-Gerow, M. A., & McLeod, B. D. (2013). Advances in applying treatment integrity research for dissemination and implementation science: Introduction to special issue. *Clinical Psychology: Science and Practice*, 20(1), 1–13.

<https://doi.org/10.1111/cpsp.12019>

Tam, H. E., & Ronan, K. (2017). The application of a feedback-informed approach in psychological service with youth: Systematic review and meta-analysis. *Clinical Psychology Review, 55*, 41–55. <https://doi.org/10.1016/j.cpr.2017.04.005>

Trask, E. V., Fawley-King, K., Garland, A. F., & Aarons, G. A. (2016). Client report of delivery of common elements in usual care and the association to satisfaction. *Journal of Child and Family Studies, 25*(3), 845–855.

<https://doi.org/10.1007/s10826-015-0273-9>

Walrath, C. M., Sheehan, A. K., Holden, E. W., Hernandez, M., & Blau, G. (2006). Evidence-based treatments in the field: A brief report on provider knowledge, implementation, and practice. *Journal of Behavioral Health Services and Research, 33*(2), 244–253. <https://doi.org/10.1007/s11414-005-9008-9>

Weersing, V. R., Weisz, J. R., & Donenberg, G. R. (2002). Development of the Therapy Procedures Checklist: A therapist-report measure of technique use in child and adolescent treatment. *Journal of Clinical Child and Adolescent Psychology : The Official Journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53, 31*(2), 168–180.

https://doi.org/10.1207/S15374424JCCP3102_03

Weiss, B., & Weisz, J. R. (1995). Relative effectiveness of behavioral versus nonbehavioral child psychotherapy. *Journal of Consulting and Clinical Psychology, 63*(2), 317–320. <https://doi.org/10.1037/0022-006X.63.2.317>

Weisz, J. R. (1997). *Therapist Background Questionnaire*. University of California. https://weiszlab.fas.harvard.edu/measures#therapist_background_questionnaire

- Weisz, J. R., Bearman, S. K., Santucci, L. C., & Jensen-Doss, A. (2017). Initial test of a principle-guided approach to transdiagnostic psychotherapy with children and adolescents. *Journal of Clinical Child and Adolescent Psychology, 46*(1), 44–58. <https://doi.org/10.1080/15374416.2016.1163708>
- Weisz, J. R., Chorpita, B. F., Palinkas, L. A., Schoenwald, S. K., Miranda, J., Bearman, S. K., Daleiden, E. L., Ugueto, A. M., Ho, A., Martin, J., Gray, J., Alleyne, A., Langer, D. A., Southam-Gerow, M. A., Gibbons, R. D., Glisson, C., Green, E. P., Hoagwood, K. E., Kelleher, K., ... Mayberg, S. (2012). Testing standard and modular designs for psychotherapy treating depression, anxiety, and conduct problems in youth: A randomized effectiveness trial. *Archives of General Psychiatry, 69*(3), 274–282. <https://doi.org/10.1001/archgenpsychiatry.2011.147>
- Weisz, J. R., Kuppens, S., Eckshtain, D., Ugueto, A. M., Hawley, K. M., & Jensen-Doss, A. (2013). Performance of evidence-based youth psychotherapies compared with usual clinical care: a multilevel meta-analysis. *JAMA Psychiatry, 70*(7), 750–761. <https://doi.org/10.1001/jamapsychiatry.2013.1176>
- Weisz, J. R., Kuppens, S., Ng, M. Y., Eckshtain, D., Ugueto, A. M., Vaughn-Coaxum, R., Jensen-Doss, A., Hawley, K. M., Krumholz Marchette, L. S., Chu, B. C., Robin Weersing, V., & Fordwood, S. R. (2017). What five decades of research tells us about the effects of youth psychological therapy: A multilevel meta-analysis and implications for science and practice. *American Psychologist, 72*(2), 79–117. <https://doi.org/10.1037/a0040360>
- Weisz, J. R., Weiss, B., Han, S. S., Granger, D. A., & Morton, T. (1995). Effects of psychotherapy with children and adolescents revisited: A meta-analysis of treatment

outcome studies. *Psychological Bulletin*, 117(3), 450–468.

<https://doi.org/10.1037/0033-2909.117.3.450>

Wiltsey Stirman, S., Kimberly, J., Cook, N., Calloway, A., Castro, F., & Charns, M.

(2012). The sustainability of new programs and innovations: A review of the empirical literature and recommendations for future research. *Implementation Science*, 7(1), 17. <https://doi.org/10.1186/1748-5908-7-17>

Science, 7(1), 17. <https://doi.org/10.1186/1748-5908-7-17>

Wisdom, J. P., Chor, K. H. B., Hoagwood, K. E., & Horwitz, S. M. (2014). Innovation

adoption: A review of theories and constructs. *Administration and Policy in Mental Health and Mental Health Services Research*, 41(4), 480–502.

<https://doi.org/10.1007/s10488-013-0486-4>

Table 1
Characteristics of Therapist Sample

	<i>Mean (SD) or %</i>	<i>Range</i>
Female	88.9%	
Age	39 (10.6)	22-73
Race		
African American or Black	5.6%	
Asian, Native Hawaiian or Pacific Islander	2.8%	
White	86.1%	
Native American or American Indian	2.8%	
Biracial or Multiracial	0%	
Other	2.8%	
Hispanic, Latino(a), or Chicano(a)	0%	
Highest Degree		
Bachelor's	2.8%	
Master's	58.3%	
Doctorate	38.9%	
Professional Status		
Student/Trainee	8.3%	
Licensed Mental Health Professional	91.7%	
Years in Practice (Post-Training)	8.3 (6.7)	0-23
Primary Mental Health Specialty		
Counseling	25.0%	
Marriage and Family Therapy	5.6%	
Psychology	52.8%	
Social Work	16.7%	
Practice Setting(s)¹		
Private Individual Practice	37.8%	
Private Group Practice	27%	
Home-based Care	5.4%	
Outpatient Clinic or Community Mental Health Center	37.8%	
Elementary, Middle, or High School	10.8%	
College, University, Medical, or Professional School	8.1%	
Day Treatment Facility or Partial Day Hospital	5.4%	
Residential Treatment Facility or Group Home	5.4%	
Inpatient Hospital or Medical Clinic	16.2%	
Other (please specify)	5.4%	
Current Caseload/Practice		
# of cases	22.7 (14.1)	4-76
Hours per week spent in practice	32.8 (14.6)	5-70

% of current work focused on children/adolescents	66.6 (34.6)	10-100
% of training focused on children/adolescents	58.7 (25.8)	5-100
Hours per month spent in supervision, consultation, professional reading, workshops, or other continuing education/training activities	11.3 (12.5)	2-76
Familiarity with CBT ²	2 (0.9)	1-4
Frequency using CBT strategies with youth cases ³	1.6 (0.6)	1-3
Frequency using treatment manuals in current practice ⁴	2.6 (1.1)	1-5

¹Participants could select multiple options.

²Rated on 5-point Likert scale where 1 = I am exclusively, or almost exclusively, a CBT therapist; 5 = I have no experience with CBT

³Rated on 5-point Likert scale where 1 = Always; 5 = Never

⁴Rated on 5-point Likert scale where 1 = I always, or almost always use a treatment manual; 5 = I have never used a treatment manual

Table 2
Characteristics of Youth Cases

	<i>Mean (SD) or %</i>	<i>Range</i>
<u>Youth Demographics</u>		
Female	63.9%	
Age	12.1 (3.3)	5-17
<u>Race</u>		
African American or Black	8.3%	
Asian, Native Hawaiian or Pacific Islander	0%	
White	83.3%	
Native American or American Indian	0%	
Biracial or multiracial	8.3%	
Other	0%	
Hispanic, Latino(a), or Chicano(a)	11.1%	
<u>Caregiver Demographics</u>		
<u>Race</u>		
African American or Black	8.3%	
Asian, Native Hawaiian or Pacific Islander	0%	
White	88.9%	
Native American or American Indian	0%	
Biracial or multiracial	2.8%	
Other	0%	
Hispanic, Latino(a), or Chicano(a)	8.3%	
<u>Clinical Characteristics</u>		
# of therapy sessions prior to entering study	10.7 (11.4)	1-45
<u>Phase of treatment at study enrollment</u>		
Early or beginning	38.9%	
Middle or working	61.1%	
Youth concurrently taking psychiatric medication	43.2%	
<u>Primary Problem/Treatment Focus</u>		
Anxiety disorder or phobia/fears	33.3%	
Depressive disorder or mood problems	11.1%	
Conduct disorder or disruptive behavior problems	8.3%	
Posttraumatic stress disorder or history of abuse or trauma	13.9%	
Attention-deficit/hyperactivity disorder	5.6%	
Autism spectrum disorder	5.6%	
Obsessive-compulsive spectrum disorder	16.7%	
Eating disorder	2.8%	
Other	2.8%	
<u>Secondary/Comorbid Problem(s)¹</u>		
Anxiety disorder or phobia/fears	36.8%	
Depressive disorder or mood problems	27.8%	

Conduct disorder or disruptive behavior problems	11.1%
Posttraumatic stress disorder or history of abuse or trauma	5.6%
Attention-deficit/hyperactivity disorder	25%
Learning disorder	5.6%
Autism spectrum disorder	8.3%
Intellectual disability or mental retardation	0%
Obsessive-compulsive spectrum disorder	5.6%
Tourette's or tic disorder	2.8%
Eating disorder	0%
Substance use disorder or drug problems	8.3%
Other	5.6%
Therapist working or planning to work with¹:	
Child (without parent present)	91.7%
Parent or caregiver (without child present)	61.1%
Child and parent/caregiver together	75%
Whole family (i.e., child, caregiver, other siblings or family members together)	25%
Other	5.6%

¹Participants could select multiple options.

Appendix A. CBT Tracker Questionnaires

Clinician Questionnaire.

Please enter your therapist ID: _____

ABOUT THE CHILD... Is this child a BOY or a GIRL? BOY GIRL How old is s/he? [Dropdown box with numbers 3-20]

ABOUT YOUR LAST APPOINTMENT... Was the appointment today? YES NO - What was the appointment date? _____

Please check everyone you spoke to during the appointment (even if just for a few minutes)?

CHILD MOM DAD OTHER (who? _____)

What phase of treatment would you say that you are in with this child?

EARLY or BEGINNING PHASE MIDDLE or WORKING PHASE ENDING or TERMINATION PHASE

What was the primary problem that you focused on during this appointment?

Anxiety, worry, fear, or OCD Depression or mood Behavior problems

Traumatic event Other (please describe) _____

We would like you to tell us about the therapy appointment this week . People can talk about and do a lot of different things during a therapy appointment. We don't expect that you will have done all of these things in your last appointment. In fact, you may not have done <i>any</i> of these things this week. In this week's appointment , how much did you do the following?	Not At All	A Little	Some	A Lot			
1. I established an agenda or plan at the beginning of the appointment.	1	2	3	4	5	6	7
2. I assessed the child's current symptoms and functioning by having them complete a measure or asking questions.	1	2	3	4	5	6	7
3. I provided information about the child's anxiety, depression, reaction to trauma or other condition.	1	2	3	4	5	6	7
4. I described the treatment, such as the format of sessions, what is expected of them, and a rationale for how therapy works.	1	2	3	4	5	6	7
5. We worked together to develop or change goals for therapy.	1	2	3	4	5	6	7
6. I assigned or reviewed therapy homework or tasks to work on outside of therapy.	1	2	3	4	5	6	7
7. We role-played or practiced new skills or behaviors together in the appointment.	1	2	3	4	5	6	7
8. I praised or reinforced the child for working hard in treatment or asked the parent to reward him or her (e.g., stickers, points, positive reinforcement).	1	2	3	4	5	6	7
9. We went over different feelings, such as what they feel like, how they look, what they are called, or how to rate them using a number scale (e.g., feelings thermometer, SUDS ratings).	1	2	3	4	5	6	7
10. I taught relaxation skills, such as breathing exercises, muscle relaxation or pleasant imagery.	1	2	3	4	5	6	7
11. We discussed unhelpful thoughts that make the child upset and ways to change those negative thoughts in order to feel better (e.g., cognitive restructuring, positive self-talk, thought stopping, distraction).	1	2	3	4	5	6	7
12. I taught the child or parent specific steps for how to solve problems in daily life, such as coming up with possible solutions, considering likely consequences of each solution, and choosing a solution to try.	1	2	3	4	5	6	7

13. We worked on scheduling more pleasant, prosocial activities for the child, such as sports, clubs, volunteering or other activities.	1	2	3	4	5	6	7
14. We talked about strategies the parent can use to help manage the child’s behavior, such as natural and logical consequences, positive and negative reinforcement, time-out.	1	2	3	4	5	6	7
15. I worked with the child or parent on strategies for improving their relationship and communication.	1	2	3	4	5	6	7
16. We developed a list of anxiety provoking situations and worked on confronting those situations (e.g., fear hierarchy, gradual exposure).	1	2	3	4	5	6	7
17. I helped with the child to write a story, make a video or draw a picture to describe a trauma, or really bad experience, that the child had (e.g., trauma narrative).	1	2	3	4	5	6	7
18. I helped the child or parent develop a safety plan or plan for monitoring and supervising to help keep the child safe.	1	2	3	4	5	6	7
19. We developed strategies or plans for dealing with future problems or situations that might cause the child anger, sadness, or nervousness.	1	2	3	4	5	6	7
20. The child seemed to enjoy meeting with me.	1	2	3	4	5	6	7

The following items describe children in general. For each item, please rate how true you think it is of this child in the last week , either “very true,” “somewhat true,” or “not true.” Remember, we are just asking how things have been this past week .			
1. Argues a lot.	Not True	Somewhat True	Very True
2. Destroys things belonging to his/her family or others.	Not True	Somewhat True	Very True
3. Disobedient at home or school.	Not True	Somewhat True	Very True
4. Feels too guilty.	Not True	Somewhat True	Very True
5. Feels worthless or inferior.	Not True	Somewhat True	Very True
6. Self-conscious or easily embarrassed.	Not True	Somewhat True	Very True
7. Stubborn, sullen, or irritable.	Not True	Somewhat True	Very True
8. Temper tantrums or hot temper.	Not True	Somewhat True	Very True
9. Threatens people.	Not True	Somewhat True	Very True
10. Too fearful or anxious.	Not True	Somewhat True	Very True
11. Unhappy, sad, or depressed.	Not True	Somewhat True	Very True
12. Worries.	Not True	Somewhat True	Very True
Are there any other problems you have been working on? If so please type it in and rate how much it has been a problem this past week.			
13. [text box]	Not True	Somewhat True	Very True
14. [text box]	Not True	Somewhat True	Very True
15. [text box]	Not True	Somewhat True	Very True

Youth Questionnaire:

Please enter your therapist ID: _____

ABOUT YOU... Are you a BOY or a GIRL? BOY GIRL How old are you? [Dropdown box with numbers 3-20]

ABOUT YOUR LAST APPOINTMENT... What is the name of your therapist? _____

Was the appointment today? YES NO - What was the appointment date? _____

What problem did you and your therapist work on during this appointment?

Anxiety, worry, fear, or OCD Depression or mood Behavior problems

Traumatic event Other (please explain) _____ I don't know

<p>Next, we would like you to tell us about your appointment this week. People can talk about and do a lot of different things during a therapy appointment. We don't expect that you will have done <i>all</i> of these things in your last appointment. In fact, you may not have done <i>any</i> of these things this week. <u>In this week's appointment</u>, how much did you or the therapist do the following? Please just answer to the best of your knowledge -- If you do not know whether something happened, you can mark 1 (not at all).</p>	Not At All	A Little	Some	A Lot			
1. At the start of our appointment, we talked about what we were going to do during the appointment.	1	2	3	4	5	6	7
2. I filled out a questionnaire or answered questions about how I have been feeling or acting lately.	1	2	3	4	5	6	7
3. We talked about anxiety, depression, trauma, or another condition, such as what it looks and feels like and how people get better.	1	2	3	4	5	6	7
4. We talked about my therapy, such as how it can help and what is expected of me.	1	2	3	4	5	6	7
5. We worked together to make or change goals for my therapy.	1	2	3	4	5	6	7
6. We went over therapy homework or things for me to work on outside of therapy.	1	2	3	4	5	6	7
7. I practiced new skills or behaviors in my appointment with my therapist.	1	2	3	4	5	6	7
8. My therapist told me I was doing a good job, gave me points or stickers for working on my problems, or asked my parents to reward me.	1	2	3	4	5	6	7
9. We talked about different feelings, such as what they feel like, how they look, what they are called, or how to rate my feelings using a thermometer or number scale.	1	2	3	4	5	6	7
10. We practiced relaxation skills, such as breathing exercises, imagining nice things, or relaxing my muscles.	1	2	3	4	5	6	7
11. We talked about unhelpful thoughts that make me feel upset and ways to change those negative thoughts in order to feel better.	1	2	3	4	5	6	7
12. We went over specific steps for how to solve problems in my daily life, such as coming up with possible solutions, what good and bad could come from each solution, and choosing a solution to try.	1	2	3	4	5	6	7
13. We made plans for me to be more active or do fun, positive things more often, such as sports, clubs, volunteering or spending time with friends.	1	2	3	4	5	6	7
14. We talked about family rules and consequences for good and bad behavior.	1	2	3	4	5	6	7
15. We worked on ways to better get along with my parents and other adults.	1	2	3	4	5	6	7

16. We made a list of situations that scare me or make me nervous and worked on facing those feared situations.	1	2	3	4	5	6	7
17. We wrote a story, made a video or drew a picture to help me describe a trauma, or really bad experience that I had.	1	2	3	4	5	6	7
18. We made a safety plan to keep me safe in the future.	1	2	3	4	5	6	7
19. We worked to come up with a plan for how to cope with future problems or bad feelings.	1	2	3	4	5	6	7
20. I liked meeting with my therapist.	1	2	3	4	5	6	7

<p>Below is a list of items that describe kids. For each item, please rate how true you think it is of you in the last week, either “very true,” “somewhat true,” or “not true.” Remember, we are just asking how things have been this past week.</p>			
1. I argue a lot.	Not True	Somewhat True	Very True
2. I destroy things belonging to others.	Not True	Somewhat True	Very True
3. I disobey my parents or people at school.	Not True	Somewhat True	Very True
4. I feel too guilty.	Not True	Somewhat True	Very True
5. I feel worthless or inferior.	Not True	Somewhat True	Very True
6. I am self-conscious or easily embarrassed.	Not True	Somewhat True	Very True
7. I am stubborn.	Not True	Somewhat True	Very True
8. I have a hot temper.	Not True	Somewhat True	Very True
9. I threaten to hurt people.	Not True	Somewhat True	Very True
10. I am too fearful or anxious.	Not True	Somewhat True	Very True
11. I am unhappy, sad, or depressed.	Not True	Somewhat True	Very True
12. I worry a lot.	Not True	Somewhat True	Very True
Are there any other problems you have been working on? If so please type it in and rate how much it has been a problem this past week.			
13. [text box]	Not True	Somewhat True	Very True
14. [text box]	Not True	Somewhat True	Very True
15. [text box]	Not True	Somewhat True	Very True

Caregiver Questionnaire:

Please enter your therapist ID: _____

ABOUT YOU and YOUR CHILD... Are you the child's... Mother Father Other (please explain)_____

Is your child a BOY or a GIRL? BOY GIRL How old is your child? [Dropdown box with numbers 3-20]

ABOUT YOUR LAST APPOINTMENT... What is the name of your child's therapist? _____

Was the appointment today? YES NO - if no, what was the appointment date? _____

What problem(s) did the therapist focus on with your child today?

Anxiety, worry, fear, or OCD Depression or mood Behavior problems

Traumatic event Other (please explain) _____ I don't know

<p>Next, we would like you to tell us about your child's appointment this week. People can talk about and do a lot of different things during a therapy appointment. We don't expect that all of these things will have occurred in the last appointment. In fact, none of these things may have occurred this week. In this week's appointment, how much did you, your child or the therapist do the following? Please just answer to the best of your knowledge - if you do not know whether something happened, you can mark 1 (not at all).</p>	<p style="text-align: center;">Not At All A Little Some A Lot</p>
<p>1. The therapist had a specific plan for what to go over in the appointment.</p>	<p style="text-align: center;">1 2 3 4 5 6 7</p>
<p>2. My child or I filled out a questionnaire or answered questions about how my child has been feeling or acting lately.</p>	<p style="text-align: center;">1 2 3 4 5 6 7</p>
<p>3. The therapist described anxiety, depression, trauma, or another condition, such as what it looks and feels like and how my child can get better.</p>	<p style="text-align: center;">1 2 3 4 5 6 7</p>
<p>4. The therapist described my child's therapy, such as how it can help and what is expected of us.</p>	<p style="text-align: center;">1 2 3 4 5 6 7</p>
<p>5. The therapist worked with my child or me to develop or change the goals for therapy.</p>	<p style="text-align: center;">1 2 3 4 5 6 7</p>
<p>6. The therapist went over therapy homework or things to work on outside of therapy.</p>	<p style="text-align: center;">1 2 3 4 5 6 7</p>
<p>7. The therapist helped my child or me role play or practice new skills or behaviors in the appointment.</p>	<p style="text-align: center;">1 2 3 4 5 6 7</p>
<p>8. The therapist praised or rewarded my child for working hard in therapy, or encouraged me to provide a reward.</p>	<p style="text-align: center;">1 2 3 4 5 6 7</p>
<p>9. The therapist talked about different feelings, such as what they feel like, how they look, what they are called, or how to rate them using a thermometer or number scale.</p>	<p style="text-align: center;">1 2 3 4 5 6 7</p>
<p>10. The therapist taught my child relaxation skills, such as breathing exercises, muscle relaxation, or imagining nice things.</p>	<p style="text-align: center;">1 2 3 4 5 6 7</p>

11. The therapist talked about unhelpful thoughts that make my child upset and how to change those negative thoughts in order to feel better.	1	2	3	4	5	6	7
12. The therapist taught my child or me some specific steps for how to solve problems in daily life, such as coming up with possible solutions, considering likely consequences of each solution, and choosing a solution to try.	1	2	3	4	5	6	7
13. The therapist worked with us to schedule more positive and pleasant activities, such as sports, clubs, volunteering or other activities for my child.	1	2	3	4	5	6	7
14. The therapist taught me about strategies that I can use to help manage my child’s behavior, such as praise, rewards, discipline, consequences and time-out.	1	2	3	4	5	6	7
15. The therapist talked about ways my child and I can improve our relationship, such as spending more time together.	1	2	3	4	5	6	7
16. The therapist helped my child make a list of situations that scare or worry my child and work on facing those feared situations.	1	2	3	4	5	6	7
17. The therapist helped my child to write a story, make a video or draw a picture to describe a trauma, or really bad experience, that my child had.	1	2	3	4	5	6	7
18. The therapist talked about ways that I can help monitor and supervise my child and their activities in order to help keep them safe.	1	2	3	4	5	6	7
19. The therapist helped us come up with plans for how to cope with future problems or situations that might cause my child anger, sadness, or nervousness.	1	2	3	4	5	6	7
20. My child seemed to enjoy meeting with their therapist.	1	2	3	4	5	6	7

The following items describe children in general. For each item, please rate how true you think it is of your child in the **last week**, either “very true,” “somewhat true,” or “not true.” Remember, we are just asking how things have been **this past week**.

1. Argues a lot.	Not True	Somewhat True	Very True
2. Destroys things belonging to his/her family or others.	Not True	Somewhat True	Very True
3. Disobedient at home or school.	Not True	Somewhat True	Very True
4. Feels too guilty.	Not True	Somewhat True	Very True
5. Feels worthless or inferior.	Not True	Somewhat True	Very True
6. Self-conscious or easily embarrassed.	Not True	Somewhat True	Very True
7. Stubborn, sullen, or irritable.	Not True	Somewhat True	Very True
8. Temper tantrums or hot temper.	Not True	Somewhat True	Very True
9. Threatens people.	Not True	Somewhat True	Very True
10. Too fearful or anxious.	Not True	Somewhat True	Very True
11. Unhappy, sad, or depressed.	Not True	Somewhat True	Very True
12. Worries.	Not True	Somewhat True	Very True

<p>Are there any other problems you have been working on? If so please type it in and rate how much it has been a problem this past week.</p> <p>13. [text box]</p>	<p>Not True</p>	<p>Somewhat True</p>	<p>Very True</p>
<p>14. [text box]</p>	<p>Not True</p>	<p>Somewhat True</p>	<p>Very True</p>
<p>15. [text box]</p>	<p>Not True</p>	<p>Somewhat True</p>	<p>Very True</p>

Appendix B. Example Feedback Report

My CBT Feedback

Therapist ID #: 12345

Session Date: 01/20/2014

Target Problem: Anxiety, Worry, Fear, or OCD

Treatment Phase: Middle/Working

PRIMARY TREATMENT STRATEGIES THIS SESSION:

- Clear Session Agenda
- Assessment of Symptoms or Functioning
- Assignment and Review of Therapy Homework
- Reinforcement of Effort
- Feelings Identification and Education
- Cognitive Coping

TIP: Some therapists have told us that they use the above information in charting because it covers what they focused on most in session!

CBT FEEDBACK: You focused on Clear Session Agenda, Assessment, Therapy Homework, Reinforcement, Feelings Identification, and Cognitive Coping this week, which is consistent with the evidence base for CBT for anxiety – great! You also endorsed In-Session Skills Practice. This is also consistent with the evidence base for CBT for anxiety!

SUGGESTION FOR UPCOMING SESSIONS: Most CBT therapists also use Problem Solving Skills and Graduated Exposure during the working phase of treatment for anxiety. **Graduated Exposure is a particularly important component of CBT for anxiety.** You may want to consider whether your client would benefit from Graduated Exposure in an upcoming session.

NOTE: Suggestions are based on core components of research-supported CBT. However, you are the best judge of what your client needs! If you're unsure about any of the strategies suggested, please contact us – we'd be happy to give you more information!

ANY DIFFERENCES? Here are the CBT strategies for which there was a large difference between your report and your client's report of what happened in session:

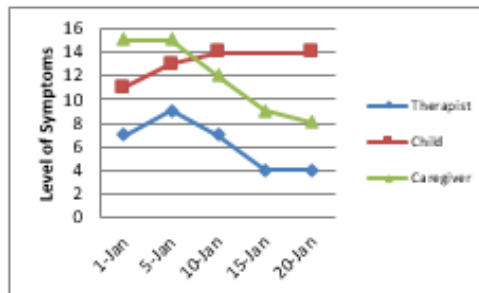
Differences between Therapist and Child: The child did not report Clear Session Agenda or Reinforcement.

Differences between Therapist and Caregiver(s): None – great!

THERAPY ALLIANCE: The caregiver is rating the alliance positively – great! The child rated the alliance at a 3 (out of 7) this week. It is not uncommon for the alliance to show temporary drops following a hard week or a difficult session. If this continues, you may wish to discuss it with your client(s).

CHILD PROGRESS: This graph shows therapist, caregiver(s) and child ratings of symptoms over time, since beginning to use the CBT Tracker. A child experiencing no symptoms at all would score 0 while a child reporting many symptoms could score up to 24.

The child and caregiver both reported frequent child worrying and fears or anxiety this week. The child also reported frequent guilty feelings, feelings of worthlessness, self-consciousness, irritability, and temper outbursts. The caregiver also reported some child arguing, disobedience, guilty feelings, and self-consciousness.



The long-term trend in your client's graph demonstrates decreasing symptoms, which suggests that treatment is going well! Nice work!

TIP: Differences in opinion among therapist, caregiver and child are not uncommon, but you might want to talk with the caregiver(s) or child about progress if you notice large differences.

Please remember to complete the CBT Tracker, and remind the child and caregiver at your next session too!

*Appendix C. Example Progress Note***PROGRESS NOTE****Client:****Date:** 01/20/2014 *start:* *stop:*In Attendance: Child Mom Dad Other –*Goal and Symptoms:* Decrease anxiety symptoms.

Therapist Intervention: The therapist established a clear agenda at the beginning of the session. The therapist assessed the client's current symptoms and functioning. The therapist reviewed and assigned homework. The therapist used positive reinforcement to encourage the client's effort in treatment. The therapist discussed different feelings with the client and how to recognize those feelings. The therapist discussed cognitive coping strategies for the client's maladaptive thoughts.

*Client Response:**Current Medication:*

Mental Status/Affect: Mood –
 Affect –
 Attitude –

Risk Assessment: Minimal Risk (not assessed further)
Risk Suicidal -- Ideation Intent Plan
 Homicidal -- Ideation Intent Plan
 Risk Rating -- (1 = low; 5 = high):

*Diagnostic Impression:**Plan:**Next Session:*Clinician Signature:

Appendix D. Initial Background Questionnaire

What is your sex?

Male

Female

Other

What is your date of birth?

[text box]

What racial group best describes you?

African American or Black

Asian, Native Hawaiian or Pacific Islander

Caucasian or White

Native American or American Indian

Biracial or Multiracial [text box]

Other [text box]

Do you consider yourself to be Hispanic, Latino(a) or Chicano(a)?

Yes

No

What is your primary mental health specialty?

Counseling

Marriage and Family Therapy

Social Work

Psychology

Other (please explain [text box])

What is your highest or most advanced degree?

Bachelor's Degree (e.g., BA, BS, Bed, BSW)

Master's Degree (e.g., MA, MS, Med, MSW)

Doctoral Degree (e.g., PhD, PsyD, EdD, DSW)

Other Degree (please explain [text box])

When did you complete your most advanced degree?

Please provide the year [text box]

Are you licensed mental health provider?

Yes (If yes, in which discipline are you licensed? [text box])

No

How many years, **since completing your formal education and training**, have you been providing mental health services?

Please write in the number of years [text box]

Or

I have not yet completed my formal training and education [check box]

Do you specialize in a particular age group, diagnosis or problem type, or type of therapy?

No

Yes (if yes, please describe [text box])

In which setting(s) do you provide mental health services (please check all that apply)?

Private Individual Practice

Private Group Practice

Home-based Care

Outpatient Clinic or Community Mental Health Center

Elementary, Middle, or High School

College, University, Medical, or Professional School

Day Treatment Facility or Partial Day Hospital

Residential Treatment Facility or Group Home

Inpatient Hospital or Medical Clinic

Other (please specify [text box])

About how many hours per week do you work, on average, as a mental health provider?

[text box]

How many active cases do you typically carry at one time? [text box]

How many cases would you consider an appropriate caseload (i.e., one that would allow you the time to do your best work with each case)? [text box]

What percentage of your **formal training or education** focused on children or adolescents?

Please write in the 0-100% [text box]

Or

I have not yet completed my formal training and education [check box]

What percentage of your **current work** is focused on children or adolescents?

Please write in the 0-100% [text box]

About how many hours **per month** do you spend in supervision, consultation, professional reading, workshops, or other continuing education/training activities?

[text box]

What would you say is your **primary** theoretical orientation?

Psychodynamic

Object Relations

Interpersonal (IPT)

Client-Centered or Nondirective

Behavioral

Cognitive

Cognitive-Behavioral (CBT)

Dialectical-Behavioral (DBT)

Family Systems

Solution Focused

Other (please specify [text box])

What is your familiarity with **Cognitive-Behavioral Therapy (CBT)**?

I am exclusively, or almost exclusively, a CBT therapist

I have extensive experience with CBT

I have moderate experience with CBT

I have a little experience with CBT

I have no experience with CBT

How often do you use **Cognitive-Behavioral** strategies with your child or family cases?

Always
Often
Sometimes
Rarely
Never

Do you use **treatment manuals** to guide your therapy with child or family cases?

Yes, I always, or almost always use a treatment manual

Yes, I regularly use treatment manuals

Yes, I occasionally use treatment manuals

No, but I have used a treatment manual before

No, I have never used a treatment manual

What treatment manuals have you used?

Please specify [text box]

None

Now we would like to ask you a few questions about the case that you have chosen for this study...

How old is the child in years?

(Do not include birthdate [text box])

What is the child's sex?

Male

Female

Other

Which racial group would you say best describes the child?

African American or Black

Asian, Native Hawaiian or Pacific Islander

Caucasian or White

Native American or American Indian

Biracial or Multiracial [text box]

Other [text box]

Would you characterize his or her primary caregiver in the same way?

Yes

If not, please specify the racial group that you feel best characterizes the parent or caregiver

African American or Black

Asian, Native Hawaiian or Pacific Islander

Caucasian or White

Native American or American Indian

Biracial or Multiracial [text box]

Other [text box]

Is the child Hispanic or Latino(a)?

Yes

No

Would you characterize the parent or primary caregiver as Hispanic or Latino?

Yes

No

Is this child currently receiving any psychiatric medications that you know of?

Yes (please specify medication [text box])

No

Please check all of the **child's presenting problems**:

Anxiety Disorder or phobia/fears

Depressive Disorder or mood problems

Conduct Disorder or disruptive behavior problems

Posttraumatic Stress Disorder or history of abuse or trauma

Attention-deficit/Hyperactivity Disorder

Learning Disorder

Autism Spectrum Disorder

Intellectual Disability or Mental Retardation

Obsessive-Compulsive Spectrum Disorder

Tourette's or Tic Disorder

Eating Disorder

Substance Use Disorder or drug problems

Other [text box]

Of these, which problem would you say is the **primary focus of treatment**?

Anxiety Disorder or phobia/fears

Depressive Disorder or mood problems

Conduct Disorder or disruptive behavior problems

Posttraumatic Stress Disorder or history of abuse or trauma

Attention-deficit/Hyperactivity Disorder

Learning Disorder

Autism Spectrum Disorder

Intellectual Disability or Mental Retardation

Obsessive-Compulsive Spectrum Disorder

Tourette's or Tic Disorder

Eating Disorder

Substance Use Disorder or drug problems

Other [text box]

How many therapy appointments have you had with this client?

[text box]

What phase of treatment are you in with this client?

Early or beginning phase of treatment

Middle or working phase of treatment

End or termination phase of treatment

I am working with, or planning to work with, the following family members in treatment? (please check all that apply)

Child (without parent present)

Parent or Caregiver (without child present)

Child and Parent/Caregiver together

Whole Family (i.e., child, caregiver, other siblings or family members together)

Other (please specify [text box])

Appendix E. Semi-structured Interview Guide – Final Version

Thank you so much for taking the time to talk with me today!

The goal of this interview is for us to get your feedback on the CBT Therapy Tracker. I would like to hear from you about all of the CBT Therapy Tracker - including (a) the process of filling it out and having your client fill it out, (b) the items asking about your treatment strategies, (c) the items asking about child symptoms *and* (d) the Feedback Reports we sent.

I would love to hear whatever feedback you have regarding the CBT Tracker and how it could, or could not, become a helpful part of your regular practice.

(Note: Please make sure that you (the interviewer) are clear about which facets the therapist is referring to – the process of completing the Tracker; the treatment items; the symptom items; the Feedback Reports. If it isn't clear, ask them to clarify.

Also, whenever applicable, be sure to ask about both the therapist's perspective, and any insight they might have about their client's perspective e.g., would different changes be needed to make the therapist vs. their clients use the Tracker regularly?)

First, not everyone who signed up actually completed the CBT Tracker or read the Feedback Reports.

- a. Did you complete the online CBT Tracker? If so, how often – every session, monthly, once over the 3 month study period?
- b. Did your client(s) complete the online CBT Tracker? If so, how often – every session, monthly, once over the 3 month study period? If not at all, why?
- c. Did you read the CBT Feedback Reports? If so, how often – weekly, monthly, once over the 3 month study period?
- d. How about the CBT information that we sent when you signed on? Do you remember reading over that?

Note: Even if they never completed or read anything, please try to get some feedback from them about why not? And whether some change in the materials would have made them more likely to use it? (e.g., was there something about it that was a turn-off? Or too burdensome? Or ...)

1. What were your overall impressions of the CBT Tracker?
2. Were you satisfied with the CBT Tracker and Feedback Reports?
 - a. How useful were the CBT Tracker and Feedback Reports to you?
 - b. Which sections of the Feedback Reports (CBT Feedback, Suggestions for Upcoming Sessions, Differences w/ Clients, Alliance, and/or Symptoms) were most helpful? Least helpful?
 - c. Did it help you to think about treatment?
 - d. Did it help you reflect on client progress in treatment?
 - e. Did you change anything about your treatment knowing that you or your client would be completing the CBT Tracker? (If so can you tell me some more about that?)
 - f. Did it interfere with your treatment in any way? (If so, can you tell me some more about that?)

3. How useful were the CBT Tracker and Feedback Reports?
 - a. How useful was it for case planning and deciding what to focus on next?
 - b. How useful was it for tracking client progress?
 - c. Did you use any of the CBT Tracker for supervision or consultation?
 - i. If not was there a way we could have made it more useful for that?
 - ii. If so how helpful was it for supervision/consultation?
 - d. Did you use the progress note feature?
 - i. If not was there a way we could have made that feature more usable?
 - ii. If so how helpful was it for documentation and billing?
4. Were there any specific portions of the CBT Tracker or Feedback Reports that you felt could be improved or clarified?
5. Now, how about the process of completing the CBT Tracker and having your client complete it, were you satisfied with that?
 - a. Was it difficult or cumbersome to fill it out?
 - b. About how long did it take you to fill it out?
 - c. Was any part of the process confusing for you or your clients? Anything we should change to make it less confusing?
 - d. Did your clients comment to you about their use of the Tracker?
6. Overall how much of a burden was filling out the CBT Tracker for you? for your clients?
 - a. Did you have to change anything about your usual practice or charting in order to do the Tracker?
 - b. If you were to use the Tracker on a regular basis, would you have to change anything about your practice?
 - c. Are there any changes you would recommend that we make to the Tracker to make it fit better with regular day-to-day practice?
7. Do you plan on using the Tracker after the end of the study? *If they aren't aware, explain that the CBT Tracker will remain available to them now that they've completed participation, and that they may continue using it with the same client that they used for the study, and/or with new/additional clients (they just won't receive any more payments for doing so).* Do you think you will continue using it?
 - a. What would you need in order to be able to make the Tracker part of your regular practice?
8. Do you think the Tracker could become a routine part of treatment for other therapists?
 - a. What barriers do you see to widespread therapist adoption and use of the CBT Tracker in routine practice?
 - b. Would you recommend it to your agency? to other therapists?
9. What would make the CBT Tracker more useful or convenient for you or your clients? Some possibilities include:
 - a. Getting the Feedback Reports automatically after filling out the Tracker?
 - b. Being able to complete it on your office computer without needing the internet?
 - c. Being able to use it as an app for a phone or tablet?

- d. Having it work within the medical records or billing software you already use? (if so, what do you use?)
 - e. Being able to customize the feedback or progress note to your own needs?
 - i. Specifically, what if you could add notes about specific dates on the symptoms graph (e.g., to record a specific trigger/event that caused a spike in symptoms, or highlight when specific strategies successfully helped reduce symptoms, etc.)?
 - f. Being able to customize the CBT Tracker questionnaire to your own needs?
 - i. Specifically, would it help to be able to separate the questions about CBT strategies from the symptoms measure (so that you could make it shorter by just using one or the other with a particular client)?
 - ii. What if it could be used to collect daily symptoms ratings?
 - g. Others?
 - h. Considering all of the changes we just talked about and/or any others that you can think of, which would be most necessary to make the CBT Tracker something that you would adopt as part of your everyday practice?
10. If you continued using the CBT Tracker in the future, is it something that you would ever use with multiple or many clients at the same time, or something that you would just use occasionally with one or a couple clients? If only occasionally, are there changes that would make you likely to use it with more clients?
- a. Is it something that you would only use when clients were willing to use it with you, or would you use it on your own even when clients did not complete parallel surveys?

(Note: Before you end the interview, make sure you have fully covered the areas of (a) acceptability/satisfaction, (b) feasibility/burden, and (c) adoption and perceived sustainability.)

Is there anything else you would like to share with me? Or anything else you expected me to ask that I haven't yet?

Thank you again for taking the time to talk with me today!

Appendix F. Final Codebook for Qualitative Analysis

Code	Definition
	<p>Formatting Key: Plain text = code definition, Bold = key limitations/boundaries/Do's and Don'ts of code, <i>Italics</i> = extra notes to help distinguish when to use code, Blue = specific examples of things that code should be used for, Green = other codes often coded together with this code,</p>
<i>Subject (of implementation outcome)</i>	*Code exactly once per chunk of text (NOT for each outcome)
Client(s)	Anything in which the client/family (or other clients/families) is/are the subject of the coded implementation outcome(s)
* Caregiver	Anything in which the the caregiver (or other caregivers) specifically is/are the subject of the coded implementation outcome(s)
* Youth	Anything in which the youth client (or other youth) specifically is/are the subject of the coded implementation outcome(s)
Therapist	Anything in which the therapist (or other therapists) is/are the subject of the coded implementation outcome(s)
Unclear/Unknown	Use for any chunks in which the subject is not stated and it cannot be reasonably inferred whether the subject is therapist, client(s), or both
<i>Outcomes</i>	
Acceptability/Appropriateness	<p>Anything about participants' (or others') perceptions of the Tracker, including how agreeable, palatable, or satisfactory it is or could be to clinicians, clients, or other stakeholders, and/or the perceived fit, relevance, or compatibility of the Tracker with clinicians' work, practice setting, and client or caseload.</p> <p><i>Key distinction from Feasibility is that acceptability/appropriateness are subjective perceptions expected to influence interest/desire/motivation/willingness to use Tracker.</i></p> <p>NOTE that the Subject for this code should be the person/people who are perceiving the Tracker to be acceptable/appropriate (or not), it is NOT about who they think the Tracker is appropriate for (e.g., if a therapist says that they believe the Tracker would be inappropriate for youth clients with a particular problem, then the subject is the Therapist)</p> <p>NOTE: whenever appropriateness is discussed/coded, contextual factor(s) should also probably be coded.</p>

<p>Adoption</p>	<p>Anything about the clinician's initial decision or action to use the Tracker in the study, or the likelihood that clinicians would try to begin using the Tracker in routine practice if it were available.</p> <p>Only applies to adoption of the Tracker as a whole/overall, NOT to adoption of it's individual components (use of individual components should be coded as fidelity instead). Do NOT need to (but still can) code this for chunks where only information about adoption is completely redundant with information gained from housekeeping questions at beginning of interview.</p>
<p>Feasibility</p>	<p>Anything about the extent to which the CBT Tracker could be realistically (practically, pragmatically) implemented in clinicians' routine practice.</p> <p><i>Key distinction from acceptability/appropriateness is that Feasibility is about practically/pragmatically whether the CBT Tracker could be used if/when attempted (regardless of, or assuming the presence of sufficient motivation/willingness to use it).</i></p>
<p>Fidelity</p>	<p>Anything about whether or to what extent clinicians/clients used or would use the Tracker or its individual components <u>as it is intended to be used</u> (i.e., to inform, guide, or improve their treatment/practice). <i>Fidelity is about qualitatively "how" or "in what way" did or would they use the Tracker?</i></p> <p>(NOTE: This is NOT about therapists' adherence/fidelity to CBT)</p> <p>Two major domains of fidelity = (1) basic process of using Tracker as intended/following our instructions (e.g., timeliness of completing after session, reading feedback reports [at all], reading them <i>before</i> the next session, etc.) (2) how therapists apply the Tracker to their work (e.g., for treatment planning, progress monitoring, supervision, consultation, charting/documentation, etc.) - includes any discussion of whether clinicians would adopt/use a single piece/part of the Tracker (rather than discussing adoption/use of the Tracker as a whole)</p> <p>Code whenever any of the following occur:</p> <p>(1) Indication (<i>explicit or implied</i>) of whether/how much participants used Tracker as intended <u>during the study</u>.</p> <p>(2) <i>Explicit</i> discussion of whether/how much Tracker would (hypothetically) be expected to be used as intended <u>outside of the study</u>. (Does NOT include things like "I think it would be even more helpful for clinicians who are trying to learn CBT," only includes explicit statements like "I think trainees would use it a lot more for treatment planning than someone more experienced like me.")</p>

		(3) Indication (<i>explicit or implied</i>) that fidelity is/would be a determinant of another implementation outcome (e.g., "if I started using the Tracker for progress monitoring instead of my current process, then I would use it with almost every client")
Penetration		Anything about the extent to which the Tracker overall was/were actually used by clinicians who tried to use it in the study, or would actually be used by clinicians who tried to adopt it. <i>Penetration is about quantitatively "how much" did/would they use the Tracker, and is usually expressed as a proportion of maximum possible implementation (e.g.,% of sessions that Tracker is used with a client, % of clients in caseload that Tracker would be used with, % of clinicians in an agency that would use Tracker, % of all possible clinicians that would be willing to use it, etc.)</i> Only applies to use of the Tracker as a whole/overall, NOT to use of it's individual components (use of individual components should be coded as fidelity instead). <i>Do NOT need to (but still can) code this for chunks where only information about penetration is completely redundant with information gained from housekeeping questions at beginning of interview.</i>
Sustainability		Anything about the likelihood or extent that the clinician or their client(s) would continue using the CBT Tracker after the study, or that other clinicians or their client(s) would continue using the CBT Tracker in routine practice after initially adopting and implementing it
<i>Object (Tracker Components)</i>		
Feedback Report		Anything about the feedback report
*	Alliance	Anything about the section of the feedback report titled "THERAPY ALLIANCE" NOTE: whenever this is coded, client/case co-participation should also be coded.
*	CBT Stuff	Code at this level, when it's clear that they are talking about one or more of these sections of the feedback report (subcodes below), but unclear which one(s) specifically
*	*	Anything about the section of the feedback report titled "ANY DIFFERENCES?" NOTE: whenever this is coded, client/case co-participation should also be coded.
*	*	Anything about the section of the feedback report titled "CBT FEEDBACK"
*	*	Anything about the section of the feedback report titled "SUGGESTIONS FOR UPCOMING SESSIONS"
*	*	Anything about the section of the feedback report titled "PRIMARY TREATMENT STRATEGIES THIS

			SESSION." This is often described in interviews as the "bulleted list" of strategies
*		Symptoms/Progress	Anything about the section of the feedback report titled "CHILD PROGRESS"
		Progress Note	Anything about the progress note
		Supplemental Resources	Anything about supplemental resources provided/offered for clinicians and/or clients using the Tracker. This includes the sheets outlining evidence-based CBT Strategies for each problem type, written instructions about how to use the Tracker for the therapist and clients, etc.
		Survey/Questionnaire	Anything about the CBT Tracker survey/questionnaire
*		Case/appointment identification questions	Anything about the initial (i.e., login) questions asked at the beginning of the survey about the respondent type (therapist/youth/caregiver), Therapist ID, client age and gender, appointment date.
*		CBTAM	Anything about the CBTAM items querying the target problem, stage/phase of treatment, and use of CBT core components (including both alliance and treatment strategies)
*		Symptoms questions	Anything about the items querying client symptoms. This includes the BPC items plus 3 optional, open-ended items that were included at the end of the BPC where respondents could write in additional symptoms and rate them on the 3-point BPC scale (these last 3 items are how the TPA was 'operationalized' in Aim 3)
<i>Determinants of Implementation</i>			
		Contextual Factors	Any aspect associated with the environment in which the Tracker is intended to be used or the individuals who it is intended to be used by, which influenced (or could influence) the Tracker's implementation outcomes
*		client/case	Anything about features/factors of an individual client/family or case. These are factors that would cause the implementation outcome(s) to vary from case-to-case
*	*	adoption or co-participation	Anything about how clients' adoption and/or continued use of the Tracker influenced or would influence Therapist outcomes. (If client adoption is determining another client outcome, then use the Adoption outcome code instead of this code.)
*	*	attendance/schedule	Anything about how consistently the client(s) attend therapy sessions. Includes general frequency of scheduled appointments, no-shows/cancellations, consistency of individual family members attending, etc.
*	*	family/caregiver stress	Anything about stress experienced by the caregiver or family (e.g., financial, emotional, social, physical or

			mental health) determining implementation outcomes
*	*	fidelity	Anything about how the client's fidelity to the Tracker influenced or would influence Therapist outcomes. (If client fidelity is determining another client outcome, then use the Fidelity outcome code instead of this code.) E.g., How quickly/immediately the client(s) completed the Tracker after each session.
*	*	interest in using Tracker	Anything about the client/family's level of interest in using the Tracker. This should NOT be coded as a determinant of client acceptability/appropriateness, only code as determinant of other client outcomes, or of therapist outcomes (which may include therapist acceptability/appropriateness).
*	*	method/location of Tracker use	Anything about how or where the client completed or would complete the Tracker (e.g., on phone vs. tablet vs. computer; in the therapist's office vs. at home, etc.)
*	*	prior experience w/ treatment	Anything about a client/family's prior experience w/ treatment.
*	*	problem(s)/diagnosis(es)/presentation	Anything about the client's problem(s)/diagnosis(es)/presentation, or other traits/characteristics (e.g., talkativeness, conscientiousness, disorganization) of the client(s) that influence implementation outcomes. Includes both the primary/target problem(s) and other secondary or comorbid problem(s) , also includes the severity, course, and other qualitative aspects of the client's clinical presentation., (child-focused) COWs.
*	*	resources	Anything about resources possessed (or lacked) by clients (e.g., computers, smart phones, internet access, etc.) that (could) influence implementation outcomes
*	*	stage/phase of treatment	Anything about the stage/phase of treatment that a case is in
*	*	treatment plan	What the clinician does or plans to do in treatment. Anything about the treatment plan for the case and/or its implementation (e.g., type of treatment, use of treatment manual, specific strategies used/planned, how specific strategies are implemented by the therapist [i.e., 'therapeutic style'], etc.) and how this did or may have a determining influence on implementation outcome(s) - do NOT use this code if only describing/acknowledging how Tracker influenced their treatment planning.

*	*	treatment progress/outcome	How the client responds to treatment/intervention. Anything about 'how treatment is going/has gone' with a given case (including progress toward treatment goals, change in symptoms, therapeutic alliance, client satisfaction, discrepancies (or lack thereof) between therapist/caregiver/client report of symptoms or CBT strategies etc.) and how this did or may have a determining influence on implementation outcome(s) - do NOT use this code if only describing/acknowledging how Tracker influenced their treatment planning or progress monitoring.
*	*	youth client age	Anything about the age of the youth client
*		clinician	Anything about features/factors of individual clinician(s). <i>These are factors that would cause the implementation outcome(s) to vary from clinician-to-clinician</i>
*	*	attitudes toward or use/sharing of incentive payments	anything about the clinician's attitudes toward or feelings about the study incentive payments, or how they used those payments or did or did not share them with the clients, etc.
*	*	competing demands	Anything about competing demands for the clinician's time (e.g., general busy-ness, family/personal life responsibilities, etc.), or how much time they do or do not have available to use the Tracker or participate in the study
*	*	caseload	Anything about features/characteristics of a clinician's caseload. (e.g., range of ages or problem types, proportion of clients that have home internet access or other resources)
*	*	concerns about how data will be used	Anything about clinician's concerns about how the data collected by the Tracker will be used (e.g., fear of being evaluated, ethical/legal considerations including confidentiality). Note: When clinicians' fear of being evaluated is discussed, this code should be used whenever the discussed fear is specifically related to the Tracker. More generalized fears of evaluation or aversions to receiving feedback should be coded as 'interest/enthusiasm/attitudes toward ROM'. Both codes may be applied to the same chunk if both types of fears are discussed or if it is unclear which type of fear is referenced.
*	*	contact with research team	Anything about the participant's experience contacting, interacting with, or receiving communication from the study's research team. This code may be used when this appears to be described as a determinant of an implementation outcome AND/OR to tag an instance when contact with the research team is referenced and may warrant further investigation of email records of the contact, etc.

*	*	impact on alliance	Anything about concerns/thoughts (positive or negative) about the Tracker's impact on the alliance between therapist and/or client(s) (e.g., not wanting to pressure clients to complete the Tracker, expecting the tracker to improve alliance)
*	*	interest/enthusiasm/attudes toward EBP, CBT, ROM, or Tracker	Anything about the clinician's attitude(s) toward using the Tracker specifically or EBP, CBT, or ROM in general. Do NOT code this simply to indicate that a participant's interest in using the Tracker was a determinant of Acceptability (because that's too redundant). 'interest/enthusiasm/attitudes toward the Tracker' should only be coded if it is a determant for one of the other implementation outcomes (e.g., adoption, sustainability). However more general interest/enthusiasm/atttudes (e.g., toward EBP, CBT, or ROM) <u>can</u> be coded as a determinant of Acceptability .
*	*	method/location of Tracker use	Anything about how or where the clinician completed or would complete the Tracker (e.g., on phone vs. tablet vs. computer; in their office vs. at home, etc.)
*	*	other treatments used	Anything about other treatments that the clinician uses in their practice (besides CBT for youth anxiety/depression/trauma/behavior problems)
*	*	reminding/talking to client(s) about Tracker	Anything about the clinician talking to their client(s) about the Tracker (e.g., reminding the client to complete Tracker, introducing and explaing rationale for using it or building motivation to use it, assisting [or not] clients to use Tracker)
*	*	supervision and/or consultation	Anything about using the Tracker in the context of clinical supervision or consultation
*	*	training/experience with CBT	Anything about how much training or experience the clinician has with CBT
*	*	training/experience with standardized measures or ROM	Anything about how much training, experience, or familiarity the clinician has with using standardized measures or ROM in clinical practice
*	*	"type of person who uses technology"	Anything about how much the clinician uses technology in their everyday work/life (e.g., using electronic calendar reminders, using computers/technology in session with clients)
*	*	years of experience	Anything about the general amount of experience that a therapist/clinician has in practice (NOT their specific experience with ROM or CBT, use more specific codes above for those instead)
*		work/practice setting	Anything about features/factors of a specific work/practice setting. <i>These are factors that would cause the implementation outcome(s) to vary from one practice setting to another.</i>
*	*	requirements, expectations, or routines	Anything about the requirements, expectations, routines, or standard practices of the work/practice setting where the Tracker was or would be used. (e.g.,

			required/preferred charting practices, routine [lack of] use of ROM with other clients)
*	*	resources	Anything about the resources available in the work/practice setting (e.g., computers, tablets, EHR/EMR, internet/Wifi, etc.)
Innovation Characteristics			Any quality/feature of the CBT Tracker that influences its implementation outcomes
*		accuracy or validity of Tracker responses, measures, or feedback	Anything about how accurate/valid the participants' survey responses (or the resulting feedback) are in representing the client's symptoms and/or the CBT strategies used in session.
*		customizability	Anything about how much the Tracker can be customized by users. NOTE: This is NOT intended to include all changes to the Tracker that clinicians suggest would better fit their needs. Customizability only applies to suggested changes that would give the users more <i>control</i> over how they could use the Tracker (e.g., additional settings/options that they would want to be able to turn on/off or change).
*		ease of use/access	Anything about how easy or difficult the Tracker is to use or access, including its cost/affordability
*		efficiency	Anything about how efficient it is/was to use the Tracker. (E.g., having to answer the same questions about client age/gender every week, timeliness/automaticity of receiving feedback/progress notes, etc.)
Implementation Strategies (Suggested Changes)			<p>Any suggested actions that could be employed to promote adoption and/or use of the Tracker by clinicians and/or their clients, including suggested modifications of the Tracker itself.</p> <p>Only code when a strategy is explicitly suggested (by therapist or interviewer) AND it is something that we (the research/implementation team) could potentially do/change. Do NOT code if strategy is only inferred (e.g., therapist is just praising or complaining about a Tracker Characteristic) or is about changing something that we have no control over (e.g., client demographic characteristics or just 'making the client complete the Tracker').</p> <p>Should also simultaneously code Tracker Characteristics if they seem to be the target of the implementation strategy AND/OR Contextual Factors if they seem to be directly relevant to why the implementation strategy might be needed/beneficial.</p> <p>Code at this level (without a subcode), when (a) interview asks if any changes are needed and therapist says no, (b) therapist discusses a need (or lack of need) for change or other implementation strategy, but does not specify what the change/strategy is (e.g., therapist says that we need</p>

		to do something to increase client co-participation but doesn't suggest how, or therapist says they would like to to be able to customize parts of the Tracker but cannot think of anything specific that they would want to change)
*	adding notes	Anything about being able to add client/case-specific notes to any part of the Tracker including the feedback report, progress note, symptom graph, etc. Includes notes/info that may be saved and carried forward for future weeks (e.g., carrying forward progress note sections). Also consider coding Customizability whenever this is coded.
*	available offline	Anything about the Tracker being available for therapists/clients to complete offline
*	change timing of feedback or progress note delivery	Anything about getting the feedback and/or progress note more immediately or automatically after completing the survey.
*	client support tools	Anything about tools or resources provided to support client use of the Tracker. e.g., client-facing feedback reports or other handouts
*	clinician support tools	Anything about tools or resources provided to support clinician use of the Tracker, including any instructions about how to use the Tracker
*	daily symptoms ratings	Anything about using the Tracker to collect daily or more frequent symptoms ratings
*	modify login and/or case identification procedures	Anything about modifying the way that users login to the Tracker and identify which client/case they are responding about. This includes logging in with a username and password or a unique link, using a user-selected client ID instead of the arbitrarily-assigned therapist ID, and eliminating the repetitive client demographics questions that were asked at the beginning of each survey. NOTE: This does NOT include wanting to change the question about client problem type
*	include other measures, items, treatments, problems, and/or populations	Anything about wanting the Tracker to include other measures or be more compatible with other types of treatments, problems and/or populations (i.e., anything other than youth clients receiving core components CBT for anxiety, depression, trauma, or behavior problems OR if they suggest adding more of anything that we thought we already included/covered in Tracker [e.g., they want it better tailored to specific subpopulations with in our target population]) examples: wanting to be able to select and receive feedback for multiple target problems, more specific or clearer feedback about client symptoms
*	Integrating with EHR or other clinical software	Anything about integrating the Tracker with other clinical software (e.g. electronic health/medical

		records [EHR/EMR], billing software, scheduling software, etc.)
*	marketing/dissemination	Anything about actively/strategically marketing or disseminating the tracker (e.g., advertise/promote benefits of using Tracker; target dissemination to trainees or other target population)
*	miscellaneous/other	Any other specific implementation strategy/change that is suggested/discussed and does not fit under any existing implementation strategy subcode (e.g., consolidating progress notes from consecutive sessions into a single document/file) (if the strategy/change is a customization, also code Tracker Characteristics - Customizability).
*	mobile app	Anything about creating a mobile app for the Tracker, or generally improving it's functionality/usability on phones/tablets
*	more points on symptoms scale	Anything about adding more option to the response scale for the symptoms measure
*	reminders	Anything about reminders provided to clinicians and/or clients to use the Tracker. Includes reminders given by therapist to client(s) If reminders are from therapist to client, also consider coding CF-clinician-reminding/talking to client(s) about Tracker.
*	separating CBTAM and symptoms measures	Anything about separating the CBTAM and symptoms measure so that each could be completed/administered independently from the other. (whenever this is coded, also code Tracker Characteristics - customizability)
*	shorten the Tracker	Anything about making the Tracker shorter