

PREDICTING PROGRESS RATINGS ON DISRUPTIVE BEHAVIOR TARGETS  
WITH PRACTICES DERIVED FROM THE EVIDENCE-BASE

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## **DEDICATION**

For the children and families in Hawai'i, who we have the honor of serving, and for their hard-working therapists. For my grandparents, who sacrificed everything for their families.

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My mentor, Dr. Charles Mueller, embodies a rare blend of deep compassion and fierce intellect. Throughout my graduate career, he has been a constant source of encouragement and has honed my research and critical thinking skills. His mentorship has been an amazing gift and he is the kind of psychologist I can only dream of becoming. As a supervisor, Dr. Brad Nakamura exudes the values of grit, hard work and sharp thinking. He generously gives of his time, in order to help others succeed. Dr. Nakamura has taught me much about the importance of being an “architect” and using science to guide policies. Our system of care is truly better because of his work. Dr. Kalei Kanuha leads with great kindness, genuineness, and sacrifice. She is a visionary, with a profound understanding of *lōkahi* and our local communities. She has instilled in me the value of conducting research that can answer the question, “so what?” and can offer innovative ways of partnering with families. Dr. Kentaro Hayashi has dedicated countless hours to helping me understand the complexities of statistics. His commitment to his students and his gentle, creative approach to analyses are truly inspiring. Dr. Frank Floyd is an amazing problem solver, in both academic pursuits and life. He is a powerful ally for both professors and trainees and has led our program with transparency and flexibility. Allison Love and Jarrett Ku contributed immensely to this project, and to the study of usual care. I am grateful for their friendship and hard work. My family is my bliss. Every bit of my development is a direct result of their love and support. I hope that I am able to make them proud. Graduate school would be unbearable without the sharp feedback, encouragement, and cathartic release of my friends (Kelsie, Julie, Jaime, Fran, and Pua) and lab mates. They serve as my compass.

## ABSTRACT

Carefully controlled experimental research indicates that certain treatment approaches are more efficacious than others in addressing disruptive behavior problems in youth. However, community practitioners infrequently employ these treatments and their effectiveness in usual care settings is less well known. One way to increase implementation of science-based findings into treatment as usual might be to encourage the use of therapeutic practices commonly found in the descriptions and manuals of evidence-based services. However, the therapeutic impact of such practices in treatment as usual is mostly unknown. The current study investigated whether the extent to which community therapists applied practice elements derived from the evidence base (PDE) predicted rate of improvement on average disruptive behavior progress ratings. The first five months of clinical data for youth (N=720) receiving non-manualized, intensive in-home services, delivered by therapists (N=225) in the state of Hawai'i, Child and Adolescent Mental Health Division were included in analyses. These youth had two or more, of five possible, disruptive behavior-specific targets endorsed as a focus of treatment on the Monthly Treatment and Progress Summary (MTPS). PDE use was assessed using three overlapping sets of variables: practice elements identified for youth independent of age criteria, practices identified specifically for youth ages 13 years and older, and practices identified specifically for youth ages 12 years and under. These variables were based on the proportion of practice elements endorsed on the MTPS that were in 30% or more of treatments attaining Level One (Best Support) for disruptive behavior in the literature. Utilizing a three-level multilevel model approach, monthly rate of change in average disruptive behavior progress ratings was predicted by each measure

of PDE use separately. Additional exploratory analyses examined whether the presence or absence of specific practice elements within each set predicted treatment change. A greater proportion of practices from Level One (Best Support) protocols for youth ages 13 years and older significantly predicted greater rates of change in average disruptive behavior progress ratings per MTPS month. Higher proportions of PDE based on the other two criteria were in the same positive direction, but were not statistically significant predictors. Consistent with these findings, several specific practice elements aimed at building youth skills and decreasing family stress were significantly associated with greater change in average progress ratings. While further research is needed, findings suggest that increasing the use of PDEs is a promising strategy for bringing evidence-based research into usual care. Furthermore, the current study offers an innovative method of evaluating outcomes in community mental health, by integrating targets, progress ratings, and practice elements. Additional implications and limitations are discussed.

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## LIST OF ABBREVIATIONS

AD/HD	.....Attention-Deficit/Hyperactivity Disorder
CAFAS	.....Child and Adolescent Functional Assessment Scale
CAMHD	.....Child and Adolescent Mental Health Division of Hawai‘i Department of Health
CAMHMIS	.Child and Adolescent Mental Health Management Information System of CAMHD
CASSP	.....Child and Adolescent Service System Program
CD	.....Conduct Disorder
DBD	.....Disruptive Behavior Disorder
DOE	.....Department of Education
DOH	.....Department of Health
DSM-IV-TR	American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, 4 <sup>th</sup> Edition, Text Revised
FERPA	.....Family Educational Rights and Privacy Act
HIPAA	.....Health Insurance Portability and Accountability Act
MLM	.....Mixed Level Modeling
MTPS	.....Monthly Treatment Progress Summary
ODD	.....Oppositional Defiant Disorder
PDE	.....Practices derived from the evidence-based literature
RET	.....Research and Evaluation Team jointly operated by CAMHD and the University of Hawai‘i at Mānoa Department of Psychology

## CHAPTER 1. INTRODUCTION

Youth disruptive behavior problems are among the most frequently treated targets in community mental health clinics (Frick, 1998; Kazdin, 1995a; Kazdin, 1995b; Schuhmann, Durning, Eyberg, & Boggs, 1996). Clients meeting criteria for disruptive behavior disorders (DBD) – specifically oppositional defiant disorder (ODD), conduct disorder (CD), and disruptive behavior disorder, not otherwise specified (DBD NOS) - are of great concern, as they account for approximately 30% of the child and adolescent client population, often show high levels of impairment (Lahey, Miller, Gordon, & Riley, 1999), and incur sizeable societal costs (e.g., harm to others, incarceration, mental health services; Scott, Knapp, Henderson, & Maughan, 2001). Additional studies of young children indicate that conduct problems, such as aggression, are linked with long-term persistence and exacerbation of challenges long into adolescence (Shaw & Gross, 2008).

### **Disruptive Behavior Problems and Evidence-Based Treatments**

Fortunately, certain psychosocial treatments have been shown to reduce disruptive behavior problems and improve longer-term outcomes (e.g., Becker, Chorpita & Daleiden, 2011; Chorpita & Daleiden, 2009; Weisz, Jensen-Doss, & Hawley, 2006). An analysis of the 175 randomized controlled trials for disruptive behavior problems conducted by PracticeWise, LLC in fall 2012 found Level One (Best Support)<sup>1</sup> for a handful of treatment families. These interventions focused on increasing parents' abilities to manage youth behavior across settings and/or building youths' coping,

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<sup>1</sup> Level One (Best Support) is synonymous with APA's "Well-Established" intervention definition, meaning that these treatment families have demonstrated effects in either a minimum of two good between group design experiments, or in a large series of controlled single-case experiments (n>=9). In addition, these interventions must have utilized a manual and at least two different investigators must have confirmed their effects (Chorpita & Daleiden, 2009).

interpersonal or communication skills and included: parent management training (in 52% of winning protocols), Multisystemic Therapy (13%; Henggeler, Schoenwald, Borduin, Rowland & Cunningham, 2009), anger control (10%), social skills (9%), parent management training plus problem solving (7%), cognitive behavior therapy (5%) and assertiveness training (4%). Multiple manuals have been developed within the context of each of these treatment groups. As an example, the parent management training framework alone consists of numerous tested manuals such as Parent-Child Interaction Therapy (e.g., Bagner & Eyberg, 2007), the Defiant Child (Barkley, 1997), and Kazdin's (2005) Parent Management Training manuals.

Thus, Chorpita, Daleiden and Weisz (2005) developed a lower order level of analysis to make sense of these numerous protocols and evaluate patterns in the evolving research literature. The Distillation and Matching Model (DMM; Chorpita, Daleiden, & Weisz, 2005) dissects manuals into common practice techniques or skills, shared by the majority of efficacious programs. Chorpita and colleagues (2005) define these practice elements as discrete clinical strategies (e.g., "time out," "praise") used as part of larger intervention plans (e.g., a manualized treatment program for youth disruptive behavior problems), that can be explicitly defined (e.g., using a definition or coding manual), reliably coded and present in multiple treatment protocols. The initial list of practice elements was developed by the Hawaii Evidence-Based Services Committee in collaboration with several panels of practitioners, intervention developers, and other domain experts (Chorpita et al. 2005). Since then, PracticeWise, LLC has maintained and continually updated its codebook of practice elements (PracticeWise, LLC, 2013) and made it available online.

Utilizing the aforementioned coding process, PracticeWise coders evaluate all available treatment protocols demonstrating effectiveness (as defined by APA) and determine the presence or absence (yes/no) of each practice element and treatment target of interest. Practice elements are then grouped into profiles representing the relative frequency counts for the use of each practice element in a given context, including problem areas such as disruptive behavior problems.

This flexible distillation method offers important research opportunities, such as evaluating matches between practices and clients in the presence of particular client characteristics (e.g., Chorpita, Bernstein & Daleiden, 2011), examining important configurations in the sequence or clusters of PDEs, or assessing the impact of such PDEs on client outcomes (e.g., Denny & Mueller, 2012; Mueller, Tolman, Higa-McMillan & Daleiden, 2010).

Unlike other common youth problem areas, PDE profiles for disruptive behavior problems based on the DMM point to distinct patterns as a function of client age (Chorpita & Daleiden, 2009). Protocols achieving Level One (Best Support) for youth under the age of 13 years are comprised primarily of parent training techniques such as praise, time out, and tangible rewards while techniques for youth ages 13 years and older also include youth-focused strategies like problem solving, cognitive, and goal setting techniques (e.g., Chorpita & Daleiden, 2009). There is considerable overlap between the evidence-based practice profiles for disruptive behavior problems and other externalizing challenges such as AD/HD (e.g., praise, problem solving, and psychoeducation for the parent), but considerable divergence between the profiles for disruptive behavior and internalizing problems (e.g., anxiety and depression; Chorpita & Daleiden, 2009).

## **The Science and Practice Gap in Community Mental Health Treatment for Disruptive Behavior Problems**

Although years of research indicate that certain approaches are more efficacious than others in addressing disruptive behavior problems, community practitioners infrequently employ these treatments (Hoagwood & Olin, 2002; Perkins et al., 2007; Weiss, Catron, Harris, & Phung, 1999; Weisz, Jensen-Doss, & Hawley, 2006; Weisz, Weiss, & Donenberg, 1992), and there is a lack of equivalent validation for their effectiveness in usual care settings (Garland et al., 2010; Weisz & Jensen, 2001). A meta-analysis of 32 randomized trials indicated that evidence-based treatments were superior to usual care, with average effects in the small to medium range at post-treatment (0.25-0.30; Weisz et al., 2006).

That said, usual care is generally characterized by client improvement and this rate of change can be similar to standard manual treatment. For example, Weisz and colleagues (2011) conducted a multi-site randomized controlled trial, testing treatment as usual against standard manual treatments and modular/integrated arrangements of evidence-based approaches for multiple youth problems (depression, anxiety, conduct). Interestingly, analyses demonstrated that modular treatment produced significantly steeper trajectories of improvement than usual care and standard treatment on multiple outcome measures, though outcomes of standard manual treatment did not differ significantly from outcomes of usual care.

With the advent of health care reform, the U.S. Surgeon General (1999) has committed to better understanding factors contributing to this gap between science and practice. Damschroeder and colleagues developed the Consolidated Framework for

Implementation Research (CFIR) to contextualize this disconnect and verify what works and why across multiple system levels. The CFIR consists of five major domains: intervention characteristics (e.g., evidence strength and quality), outer setting (e.g., patient needs and resources), inner setting (e.g., culture, leadership engagement), characteristics of the individuals involved, and the process of implementation (e.g., plan, evaluate, and reflect).

The following sections will utilize the CFIR domains to organize a literature review on factors contributing this low utilization of PDEs for disruptive behavior problems and associated youth outcomes. Such issues are relevant in ongoing efforts to examine usual care treatment, and have been considered or incorporated in the model design and analyses of the current study. This examination is then followed by a more specific review of treatment as usual for youth with mental health problems, with a focus on treatment targets, practice elements, and treatment specific client progress.

**Intervention characteristics.** Youth and families receiving specialty mental health services in the public sector present with a more complex range of risk factors and life stressors relative to clients in research populations (Garland et al., 2010). Such client characteristics have led clinicians – and even clients - to question the overall adaptability of PDE in community settings. These youth tend to require more intensive services for longer periods of time, have more severe illnesses (Dickey, Normand, Norton, Rupp, & Azeni, 2002; Farmer, Stangl, Burns, Costello, & Angold, 1999), live in impoverished neighborhoods (Burns et al., 1995), and are exposed to more psychosocial stressors (e.g., domestic violence, parental mental illness; Harman, Childs, & Kelleher, 2000; Farmer et al., 1999, respectively). Adolescents and males are consistently overrepresented in this

population (Quinn & Epstein, 1998) and many have contact with other service systems, particularly special education, child welfare, and juvenile justice (e.g., Landrum, Singh, Nemil, Ellis, & Best, 1995).

Furthermore, Garland and colleagues (2001) report that these youth are at greater risk for inefficient care because they are more likely to utilize services in a fragmented manner rather than the continuous mode typical of research-based treatments. With such hectic and inevitable day-to-day stressors, it is likely that clients' families may have difficulty participating in sessions or mastering the parenting skills that are often core to disruptive behavior treatment. There is also considerable research suggesting that community clients with DBDs frequently meet criteria for one or more additional disorders (approximately 70%; e.g., Mueller, Tolman, Higa-McMillan, & Daleiden, 2010). This presents a frustrating challenge, as usual care providers interested in applying evidence-based techniques must determine how to do so with their multiply diagnosed clients and without much guidance from the current literature.

**Outer setting.** External forces such as policy regulations, legal mandates, recommendations and guidelines, and public reporting can also significantly influence the use of PDEs and youth progress in systems of care. A survey of state children's mental health directors revealed that 50 of 53 states and United States territories (94%) were implementing strategies to promote the use of evidence-based practices, though only 11 mandated at least some utilization of research-validated treatments (Cooper & Aratani, 2009). Many states did not offer the policies or infrastructure to ensure the adoption and sustainability of evidence-based practices, including outcome monitoring systems, a trained workforce, and sufficient fiscal support (Cooper & Aratani, 2009). Even within

the Hawai'i Child and Adolescent Mental Health system, where mental health services are expected to be evidence-based (Child and Adolescent Mental Health Division, Hawai'i Department of Health, 2012), there remain many services where the wholesale adoption of evidence-based services programs is still too impractical or costly.

**Characteristics of individuals and inner setting.** Community providers, much like clients, have diverse backgrounds, influencing their practice usage and outcomes. Descriptive studies of therapists in community mental health systems indicate that they typically have an array of degrees, specialties and theoretical orientations and tend to have high rates of turnover (e.g., Kolko, Baumann, Herschell, Hart, Holden, & Wisniewski, 2012). Recent research in the Hawai'i Child and Adolescent Mental Health Division (CAMHD) found that in the population of clinicians serving within the outpatient level of care, approximately 90% had Masters' degrees in varying fields including social work (30%), counseling (21%), and psychology (20%; Orimoto, Higa-McMillan, Mueller, & Daleiden, 2012). For these reasons, all efforts to increase the use and effectiveness of evidence-based practices in the public sector have the added challenge of accommodating the multiple disciplines and perspectives of those delivering the treatments.

Furthermore, there is a lack of consensus about how to define evidence-based practice and how to determine which treatments are most effective within community settings. Studies of provider attitudes indicate that therapists tend to view manualized treatments as too rigid and a poor fit with their complex community cases, even though they might appreciate the use of research to inform practice (e.g., Addis & Krasnow, 2000; Borntrager, Chorpita, Higa-McMillan, & Weisz, 2009; Brookman-Frazee, Haine,



Baker-Ericzén, Zoffness, R., & Garland, 2009; Nelson, Steele, & Mize, 2006).

Therapists also tend to prefer combining techniques from multiple theoretical orientations (e.g., Baumann, Kolko, Collins, & Herschell, 2006), often describing their therapeutic approach as “eclectic” or integrative (Kazdin, Siegel, & Bass, 1990; Norcross, Karpiak, & Lister, 2005). This complex dynamic between the multiply diagnosed client population and clinicians’ eclectic technique selection makes it difficult to predict which problems therapists are actually targeting, which practices they are utilizing, and how to best improve their effectiveness in a systematic way.

Even when organizations are invested in the promotion and training of evidence-based treatments, they are frequently challenged by the high human resource demands needed to train staff (Andrade, Lambert, & Bickman, 2000) and the constantly evolving nature of the research landscape (e.g., the “Blue Menu”; American Academy of Pediatrics, 2012). Beidas and Kendall’s (2010) literature review indicated that therapists trained in evidence-based treatments within a gold standard model (i.e., workshop, manual, and clinical supervision; Sholomskas et al., 2005) did not evidence significant improvements in adherence, competence, and skill in practice delivery. Such findings call into question the fidelity with which providers are actually applying practices derived from the research (Perpeletchikova & Kazdin, 2005).

**Process.** The study of usual care and evidence-based treatment processes is methodologically challenging, as a number of data analytic issues can complicate such efforts in large-scale studies. Client progress data is nested within time periods, which are nested within clients, who are served by therapists. Researchers do not always adjust their methods accordingly (e.g., Denenny & Mueller, 2012; Trask & Garland, 2012), even

though neglecting these multiple layers of data might present inaccurate accounts of client progress. This nestedness of data can be managed by multilevel modeling procedures. Such methods simultaneously control for relevant client (e.g., age, gender, level of severity at intake, ethnicity) and therapist variables (e.g. education, training, personal qualities) that might also predict treatment progress parameters and/or application of specific practices (e.g., Crits-Christoph & Mintz, 1991; Lutz, Leon, Martinovich, Lyons & Stiles, 2007; Siemer & Joormann, 2003; Serlin, Wampold, & Levin, 2003; Warren, Nelson, Mondragon, Baldwin, & Burlingame, 2010).

That said, there are still controversies regarding the definitions and perceived trajectories of client progress. Very little attention has been devoted to how well actual client change over the course of treatment resembles change predicted by theory. The great majority of existing outcome studies is unable to address such questions because the typical design (i.e., baseline, mid-treatment, follow-up) prohibits assessment of actual patterns of change during treatment (Laurenceau, Hayes, & Feldman, 2007). A number of recent studies have described outcomes as rate of change (e.g., amount of improvement per month) and found that when graphed, outcome score trajectories are curvilinear, with improvement occurring quickly at first and tapering off over time (e.g., Barkham et al, 2006; Hansen, Lambert, & Forman, 2003; Lutz et al., 2007). At least one examination of usual care outcomes indicated that across measures and settings, rates of improvement were greatest in the first five to seven months (Jackson, Keir, Ku & Mueller, 2011), but it is not clear whether such findings are generalizable to other systems.

### **Research on Usual Care**

Many factors contribute to the utilization of PDEs and outcomes in youth treatments within community mental health. In order to better understand these services, researchers have sought innovative methods of evaluating usual care for disruptive behavior problems (Bickman, 2000; Garland et al., 2010). More detailed analyses of the black box of therapy should point to approaches for increasing the efficiency and effectiveness of evidence-based practices in actual treatments.

**Treatment targets.** Recent work in community settings has examined youth problems within a less categorical and less diagnostic model. The vast majority of interventions for youth are organized by mental health diagnoses such as DBDs or AD/HDs. This framework is the conventional structure for psychological services and is often necessary to receive reimbursement for therapy sessions (Daleiden, Lee, & Tolman, 2004). Within this structure, treatment teams begin by conducting a comprehensive assessment that includes diagnoses, a clinical formulation, and the selection of reasonable intervention targets, in order to implement relevant techniques (Daleiden et al., 2004). However, Young, Daleiden, Chorpita, Schiffman and Mueller (2007) have found low levels (less than 50%) of treatment target and practice element stability across treatment planning documents, such that recommendations determined at an initial assessment were not necessarily integrated into later plans.

A treatment target approach, on the other hand, varies in that diagnoses do not serve as the goal of assessment or the primary compass of intervention. Instead, diagnoses are viewed as proxy variables that explain common targets for change and assist in efforts to match interventions to targets (Daleiden et al., 2004; Daleiden & Chorpita, 2005). This is relevant to community clinicians on a practical level, as the most

pressing treatment targets and goals for families might be those that have a direct bearing on their functional improvement and quality of life. Weisz and colleagues (2011) also argue that the utilization of team- and client-identified problems supports clinical practice by identifying concerns that might not arise in standardized measures and prioritizing client concerns amidst an array of problems.

Initial examinations of the treatment target approach have found support for its clinical utility and statistical viability. In at least one study of usual care, targets demonstrated a moderate degree of short-term stability at both one ( $k = .66$ ) and three ( $k = .52$ ) months (Daleiden et al, 2004). The same study also revealed convergent and discriminant validity, as target selection was significantly related to youth diagnoses at intake (Daleiden et al., 2004).

Treatment targets appear to organize in meaningful ways, both theoretically (Love, Tolman, Mueller & Powell, 2010) and statistically (Love, Orimoto, Powell & Mueller, 2011). Derived factors are significantly related to, though still distinct from diagnoses, (DSM-IV-TR; Love et al., 2010; Nezu & Nezu, 1993) and roughly classify into five primary groups: impulse control, conduct problems, distress intolerance, fear/phobias, and neurological/biological problems (Love et al., 2011). Consistent with the high prevalence of DBDs present in youth systems of care (e.g., 58%; Keir, Jackson, Mueller, & Ku, J., 2012), the most frequently endorsed, diagnostically-aligned targets were oppositional behavior (71.5% of cases), activity involvement (66.2%), anger (64.3%) and aggression (47.9%; Love et al., 2010).

**Treatment target-specific progress ratings.** The utilization of targets also affords the opportunity to track target-specific progress ratings over time. This approach

is more specific and detailed in assessing outcomes of treatment services than standard measures of clinical diagnostic cut-offs or more general measures of functioning or adjustment. Current studies of community mental health services tend to utilize measures of overall clinical functioning as outcomes, in part because such instruments are already incorporated in routinized performance monitoring procedures (e.g. Child and Adolescent Mental Health Division, 2006; CAMHD). While useful, such instruments are less aligned with behavioral targets identified in randomized controlled trials. Further expecting or demanding improvement in global functioning might be setting an unfair standard on treatment as usual, given there are often smaller effects in the research literature on functioning than on symptom-based measures (Becker et al., 2011).

Several initial outcome and progress instruments such as the Individualized Goal Achievement Rating (IGAR; Kolko, Campo, Kilbourne, Kelleher, 2012), the Top Problems Scale (Weisz et al., 2011), and the Progress Ratings portion of the Monthly Treatment and Progress Summary (MTPS; Child and Adolescent Mental Health Division, Hawai'i Department of Health, 2003, 2005, 2008) have been developed with this target-specific view in mind. The IGAR asks clients to develop and rate treatment goals on a 5-point scale (1=no improvement; 5=exceptional) every six months during the treatment episode. While not yet examined for reliability and validity, it has been successfully utilized to test the clinical benefits of an integrated mental health intervention against enhanced usual care for children with behavior problems (Kolko et al., 2012). The Top Problems Scale (Weisz et al., 2011) also invites clients to identify and rate problems on a 10-point scale (0=not at all a problem, 10=very, very much a problem) on a weekly basis. This measure has demonstrated test-retest reliability, convergent and discriminant

validity, sensitivity to change, slope reliability, and an association with slopes on other standardized measures including the Child Behavior Checklist (CBCL) and Youth Self Report (YSR; Achenbach & Rescorla 2001).

The MTPS requires therapists to identify treatment targets and provide progress ratings for each of those targets monthly, based on a 7-point scale. An examination of MTPS progress ratings found that they were related to change in functional status and were significantly related to change on the CAFAS and CALOCUS, two standardized case manager-reported instruments of youth functional impairment (Nakamura, Daleiden, & Mueller, 2007). The MTPS progress ratings have also been shown to demonstrate larger effect sizes than the CAFAS and CALOCUS (Nakamura et al. 2007). While the reasons for this relationship are not clear, Nakamura and colleagues (2007) suggest that this might be due to reporter bias (therapist vs. care coordinator) or the greater level of specificity and fit of target progress ratings when compared with other global measures of functioning. The same study indicated that youth first month MTPS scores ranged from 2.01 through 2.26, indicating minimal improvement during the first treatment month. Follow-up MTPS scores ranged from 3.08 through 3.35, falling between “Some” (31–50%) and “Moderate Improvement” (51–70%).

**Practice elements.** Much like the evidence-based services movement, research in real world settings has begun examining treatments at the technique level (e.g., parent praise; Chorpita & Daleiden, 2009; Chorpita, Daleiden, & Weisz, 2005; Garland, Hawley, Brookman-Frazee, & Hurlburt, 2008; Garland, Hurlburt, & Hawley, 2006; McLeod & Weisz, 2010; Weersing, Weisz, & Donenberg, 2002) rather than at the theoretical orientation (e.g., cognitive-behavioral) or program package level (e.g., Defiant

Children; Barkley, 1997). This flexible model allows for both the inspection of the nuanced gradations of common practices and related outcomes and the comparison of usual care to approaches suggested by the evidence base (Chorpita et al, 2005; Mueller et al, 2010). Such distinctions are useful in community settings because providers have been under increasing pressure from supervisors or agencies to maximize their client outcomes (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005; Kazdin, 2004; Schoenwald, et al., 2011) and their use of PDEs or proportionate application of PDE (e.g. Garland, Kruse & Aarons, 2003).

Current research within the common practice element framework has shed light on patterns in clinicians' therapeutic techniques via therapist-report measures such as the Therapy Procedures Checklist (Weersing, Weisz, & Donenberg, 2002), the Intervention Strategies portion of the MTPS (CAMHD, 2003, 2005, 2008) and observational instruments including the Therapy Process Observational Coding System–Strategies Scale (TPOCS-SS; McLeod & Weisz, 2005; McLeod & Weisz, 2010). First, providers treating disruptive behavior problems in usual care tend to apply considerable diversity or breadth of therapeutic practices (both evidence-based and non-evidence-based) at relatively low intensities (Garland et al, 2010). This appears to be particularly true in the event of a crisis (Kelley, Andrade, Sheffer & Bickman, 2010). Second, therapists employ different types and doses of techniques based on certain characteristics of the child (e.g., age, gender, primary diagnosis, multimorbidity, and level of functional impairment; Orimoto et al., 2012; Orimoto, Mueller, Hayashi & Nakamura, 2013; Walker et al., 2008; Weersing et al., 2002), caregiver/guardian (e.g., educational level, alcohol use), clinician (e.g., theoretical orientation; Brookman-Frazee et al., 2009; Orimoto et al., 2012) and

treatment (e.g., length of service, number of sessions; Kelley et al., 2010). Therapists do not seem to differentially apply practices for youth with a single DBD compared to youth with DBD and one additional diagnosis, but do tend to increase the diversity and dose of practices for youth with three or more diagnoses (Orimoto et al., 2013). Third, a recent factor analysis indicated that community therapists' specific practices tend to group into three major categories (Orimoto et al., 2012). The first set of practices reflects mostly behavioral interventions and is disproportionately applied by unlicensed clinicians with younger clients with inattention problems; the second set of practices is related to coping and self-control and is utilized more by licensed therapists; and the final set of practices is characterized by family interventions, more often employed with older youth with greater levels of impairment (Orimoto et al., 2012).

**The utility of treatment targets, progress ratings and practice elements in research.** In addition to the clinical advantages mentioned earlier, there are multiple benefits to researching services at the target, practice and progress rating level. The practice element level provides administrators and systems evaluators with the ability to examine practice-based evidence by identifying specific techniques that are most associated with treatment progress (e.g., Daleiden et al., 2004). This is relevant in that unlike randomized control trials, non-manualized services do not have a single standard intervention or a common monitoring system, making them difficult to assess (Garland et al., 2010; Schoenwald et al., 2011).

The use of treatment targets and progress ratings also effectively circumvent study design challenges frequently encountered when using a categorical diagnostic approach. Researchers are able to examine the treatment response of specific problems



across all youth, with less concern about whether the clients have multiple disorders, have more severe symptoms than other clients, or meet diagnostic criteria for inclusion in analyses (Krueger & Bezdjian, 2009).

Finally, implementation of monitoring measures in large mental health systems has demonstrated feasibility (e.g., Bickman, Kelley, Breda, Andrade, & Riemer, 2011; Schoenwald et al, 2010) and can serve as an aid to clinicians in providing a high standard of care (Bickman et al., 2011). Although observational modalities offer objective information and are considered to be the gold standard of analyses (e.g., TPOCS-SS; McLeod & Weisz, 2005; McLeod & Weisz, 2010), therapist reports are less time-consuming, require fewer resources, and are practical in day-to-day clinical contexts (Schoenwald et al, 2010). Examining usual care using these methods can provide finer-grained analyses of precisely which techniques are working and why, without the addition of burdensome instruments or the need for separate research funding.

Only two studies thus far have integrated targets, target-related progress ratings and practices to evaluate usual care (i.e., Mueller et al, 2010; Denenny & Mueller, 2012). Both of these efforts evaluated data from the Monthly Treatment and Progress Summary (MTPS; CAMHD, 2005), a therapist-report measure collaboratively developed by stakeholders in a local system of care. Mueller and colleagues (2009) examined whether use of particular practice elements was associated with greater rates of global functional improvement for youth with common primary diagnoses. They identified whether PDE for youth with each particular diagnosis predicted greater rate of functional improvement, using hierarchical linear modeling to account for longitudinal data nested within clients. The study found a non-significant trend toward the use of PDE being associated with

greater functional improvement for youth with a primary DBD diagnosis. These authors identified a comparable significant effect for practices regarding AD/HD and youth with a primary diagnosis of AD/HD, but no such trends on overall functioning for youth with primary anxiety or mood disorders.

Denenny and Mueller (2012) then sought to expand upon this prior work by comparing mean treatment progress ratings on targets for youth with disruptive behavior problems in Multisystemic Therapy versus non-manualized, intensive in-home services. Using a propensity matching design, findings indicated that the provision of Multisystemic Therapy (an empirically-supported package) and PDE content independently predicted positive five-month maximum progress rating scores. PDE content was a small partial mediator of the effect of treatment type (MST vs. intensive in-home) on therapy progress.

Despite having many strengths, these studies did not account for certain necessary considerations when conducting longitudinal studies in usual care. Mueller and colleagues (2009) examined client progress within the context of primary diagnoses, though the vast majority of youth carried more than one diagnosis. They also utilized a global measure of clinical functioning (i.e., CAFAS) as the outcome variable as opposed to more idiographic progress ratings tied to targets. Attempts to measure outcomes with a global functioning measure that pulls more for externalizing than internalizing problems (Ebesutani et al., 2011) might in part explain the absence of PDE prediction for anxiety and depression. Denenny and Mueller (2012) replaced overall clinical functioning with mean highest treatment progress ratings (i.e., highest progress ratings averaged across all targets within each episode) as the outcome measure but did not focus on targets specific

to disruptive behavior. Furthermore, this study did not use hierarchical modeling, nor did it account for potential therapists effects. Due to efforts to match cases in both levels of care, a restricted sample of intensive in-home clients was utilized.

### **Current Study**

The aim of the current investigation of practice-based evidence is to expand on findings from prior usual care studies with the following question: In the first five months of community treatment, does the rate of progress on average disruptive behavior targets (measured in monthly progress ratings) vary as a function of the proportionate application of PDEs for disruptive behavior problems? PDEs are defined by three separate lists of practices identified in 30% or more of the aggregated body of Level One (Best Support) evidence-based manuals for disruptive behavior (Appendix A): (1) for youth regardless of age, (2) for youth ages 12 years and under, and (3) for youth ages 13 years and older. The 30% criterion has been used in previous studies (e.g., Denenny & Mueller, 2012; Higa-McMillan et al. 2013) and reflects a decision to include practices found fairly frequently in evidence-based protocols while excluding practices not found in the literature and those found relatively infrequently. The proportion of practices used in a case that are PDE (as defined) will be used to control for the overall or total use of practices, which in prior work has also predicted outcomes (Denenny & Mueller, 2012). Additional exploratory analyses will seek to determine whether rate of change on average disruptive behavior targets varies as a function of the application of individual practices endorsed by therapists.

This study evaluated the first five-months of treatment in order to consider a reasonable length of intensive in-home services while creating a sample with sufficient

size. Notably, Multisystemic Therapy (Henggeler et al., 2009), a stand-alone Level One (Best Support) treatment protocol for moderate to severe disruptive behavior problems, has a planned treatment course of five months. Prior studies of this system of care also indicate that clients tend to show the greatest rate of progress during these initial months of treatment (Jackson et al., 2011).

It is hypothesized that greater average proportionate use of PDEs (PDE endorsement/Total practice elements endorsed) will be associated with a greater rate of improvement on a combined score of progress ratings for disruptive behavior targets. The empirical literature points to practice element differences in evidence-based packages across disorders and CAMHD is committed to evidence-based services, procedures, and tools, as reflected by its Child and Adolescent Service System Program (CASSP) principles (Nakamura et al, 2011). In addition, Denenny & Mueller's study (2012) of CAMHD data found a small but non-significant effect for the proportionate application of PDEs on overall treatment progress in intensive in-home services even when progress was measured broadly (incorporating all targets) and when the longitudinal nature of progress was ignored. Given the exploratory nature of follow-up analyses, it is not clear whether specific practices might be associated with rate of change on the response variable. However, since individual practices comprise the larger PDE composite predictor variables, it is possible that practices covered on the PDE variables might predict greater rates of improvement on average disruptive behavior progress ratings than practices not covered on the PDE variables.

## **CHAPTER 2. METHOD**

### **System of Care**

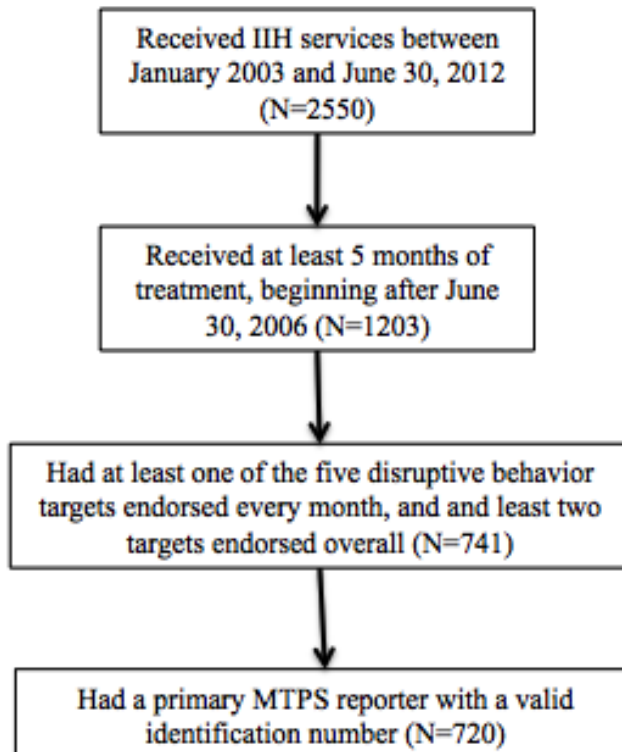
In the Hawai'i system of care, mental health services are provided to youth and families through the Department of Education's (DOE) school-based programs and an additional array of services contracted by the Department of Health (DOH) CAMHD (CAMHD, 2006). The CAMHD is equipped to provide therapy at multiple levels of care, including outpatient intensive in-home, community-based foster homes, group homes, residential treatment facilities and emergency services. The least restrictive service, intensive in-home, is a non-manualized treatment delivered to youth and their families, designed to improve families' abilities to stabilize youths' functioning in their current environments (CAMHD, 2006). Currently, CAMHD has contracted several private agencies across the state to provide intensive in-home treatment. Individuals offering treatment within these agencies consist of licensed qualified mental health professionals (QMHP), unlicensed mental health professionals (MHP), and paraprofessionals (PP; CAMHD, 2006).

Upon entry to the system, each youth is assigned to a care coordinator at one of the regional family guidance centers. Care coordinators are charged with the management, planning, and monitoring of client services and partner with families to review treatment progress across several client domains (individual, family, community, school, and peer; CAMHD, 2006).

### **Youth Participants**

Participants (N=720) in the current study consisted of all youth receiving at least five months of intensive-in home treatment, whose MTPS reporters endorsed (1) at least

one of the five disruptive behavior-related targets each month and (2) at least two of the five targets at any time in the treatment episode. Only the first five months of longer-term treatment (i.e., greater than or equal to five months) for clients newly admitted into the intensive in-home level of care in the CAMHD between July 1, 2006 and June 30, 2012 were included in the analyses (Figure 1).



*Figure 1.* Flow of Clients through Eligibility for Data Analyses

The selected sample had slightly higher rates of males (73% as opposed to 67%) and youth with a primary diagnosis of a DBD (34% as opposed to 27%), but otherwise reflected characteristics of youth receiving intensive in-home services from CAMHD as indicated in annual evaluations (e.g., Keir et al., 2011; see Table 1). The sample was ethnically diverse and had an average age of approximately 13 years.

Thirty-four percent of these youth met criteria for a primary DSM-IV-TR diagnosis of a disruptive behavior disorder and 58% of these youth met criteria for any diagnosis of a disruptive behavior disorder at the annual evaluation closest to the start of their treatment episode. Table 1 includes additional demographic statistics on the client sample.

Table 1

*Youth Participant Demographics (N=720)*

Characteristic	N	%
<i>Age</i>	M=12.59 (SD=3.83)	
<i>Gender</i>		
Female	197	27%
Male	523	73%
<i>Ethnicity</i>		
Multiracial	459	64%
Caucasian	111	15%
Native Hawaiian/Other Pacific Islander	65	9%
Asian	40	6%
African American	12	2%
Other	10	1%
American Indian/Alaska Native	3	.4%
Hispanic/Latino American	0	0%
Not available	20	3%
<i>Axis I primary diagnoses</i>		
Adjustment	53	7%
Anxiety	65	9%
Attentional	151	21%
Disruptive Behavior	245	34%
Miscellaneous	35	5%
Mood	128	18%
None Identified	1	.1%
Pervasive Developmental	5	1%
Psychotic Spectrum	9	1%
Substance Related	19	3%
<i>Any Axis I diagnoses</i>		
Adjustment	85	12%

Table 1 Continued

Characteristic	N	%
Anxiety	142	20%
Attentional	285	40%
Disruptive Behavior	419	58%
Miscellaneous	170	24%
Mood	212	29%
Pervasive Developmental	12	1%
Psychotic Spectrum	11	2%
Substance Related	97	14%
<i>Length of treatment episode (in days)</i>	M=312.57 (SD=200.19)	
<i>CAFAS subscale scores at treatment start</i>		
School	M=19.83 (SD=9.55)	
Home	M=20.07 (SD=8.78)	
Community	M=8.52 (SD=9.92)	
Role performance	M=24.26 (SD=6.93)	
Behavior	M=18.23 (SD=6.51)	
Emotion	M=16.19 (SD=6.93)	
Self-harm	M=3.39 (SD=7.44)	
Moods	M=16.51 (SD=7.07)	
Substance use	M=3.82 (SD=7.98)	
Thinking	M=2.92 (SD=6.26)	
<i>CAFAS Total at treatment start</i>	M=93.10 (SD=30.96)	
<i>Number of MTPS reporters per case</i>	M=1.18 (SD=0.41)	
1	596	83
2	118	16
3	5	1
4	1	0.1

### **MTPS Reporter Participants**

Two hundred and twenty five primary MTPS reporters provided clinical data on the youth sample, for an average of 3.2 clients per reporter ( $720/225 = 3.2$ ). Each case had between one and four reporters, and the primary reporting role was given to the clinician who submitted the greatest number of MTPSs for the client during the five-month study period. These providers were employed at one of the five local service



agencies included in the sample. The majority of reporters, henceforth titled “clinicians,” “providers” or “therapists” were unlicensed MHPs (64%) and had obtained masters’ degrees (approximately 90%) from pre-service training programs including social work, counseling, psychology, marriage and family therapy, and education (Table 2).

Table 2

*MTPS Primary Therapist Characteristics (N=225) and Agency Information (N = 5)*

Characteristic	N	%
<i>Level of licensure</i>		
Paraprofessional	5	2
Mental health professional (unlicensed)	145	64
Qualified mental health professional (licensed)	37	16
Missing	38	17
<i>Highest degree earned</i>		
High school diploma or GED	1	0.4
Bachelors	5	2
Masters	210	93
Doctor of psychology	4	2
Doctor of philosophy	4	2
Other	1	0.4
<i>Professional specialty</i>		
Clinical Psychology	14	6
Counseling (Education)	4	2
Counseling (Psychology)	47	21
Education	10	4
Marriage & Family Therapy	51	23
Justice Administration and Law	1	0.4
School Psychology	3	1
Social Work	57	25
Substance Abuse Counseling/	2	1
Other Non-Mental Health-Related Field	1	0.4
Development	1	0.4
Psychology	16	7
Other Mental Health-Related Field	6	3
Missing	12	5

Table 2 Continued

Characteristic	N	%
<i>Agency</i>		
1	18	8
2	16	7
3	7	3
4	54	24
5	130	58

**Data Source**

Clinical and demographic data were electronically extracted and de-identified from the Child and Adolescent Mental Health Management Information System (CAMHMIS) and the credentialing database by the Research Evaluation and Training (RET) office (Chorpita & Mueller, 2008).<sup>2</sup> CAMHIS maintains records on all registered clients, in accordance with CAMHD’s established operating procedures (CAMHD, 2006).

The credentialing database consists of demographic, educational, and professional information on clinicians across the system and is maintained by the CAMHD credentialing office. In order to include therapist variables in analyses, the string data field “education” was recoded into “highest mental-health degree earned” and “professional specialty” variables with codes based in part on the Therapist Background Questionnaire (Nakamura, Higa-McMillan, Okamura, & Shimabukuro, 2011). Each “education” cell was double coded by an advanced graduate student and a research

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<sup>2</sup> Several prior studies have examined youth outcomes within the CAMHD system (e.g., Denenny et al., 2012; Love et al., 2010; Mueller et al., 2009; Orimoto et al., 2012) and utilized data that partially overlaps with the present sample. These studies have neither asked the specific research question being addressed here nor have they integrated targets, practices, and client progress in a similar way.

assistant. In the event of disagreement between coders, two of the three coders spoke at length about codes until agreement was reached.

### **Human Subjects Considerations**

This study conducted analyses on existing data sets and all data were deidentified. Thus, this research was deemed “exempt” and was approved by the University of Hawai‘i at Mānoa’s Committee on Human Studies Institutional Review Board. Upon entry into the local system of care, youth clients and their legal guardian(s) received a complete description of CAMHD’s notice of privacy and disclosure procedures. They then provided written informed consent for the use of data for research purposes (Appendix B). This study met the stated standards of the Health Insurance Portability and Accountability Act (HIPAA) and Family Educational Rights and Privacy Act (FERPA).

### **Measurement**

#### **Monthly Treatment and Progress Summary (MTPS; CAMHD, 2005, 2008).**

The MTPS is a mandatory clinician-report form designed to collect ongoing information on service formats, settings, treatment targets, practice elements, and client progress ratings. Since July 1, 2006, CAMHD therapists have been required to submit a MTPS on a monthly basis for each client via a HIPAA compliant server, in order to receive reimbursement (Nakamura, Daleiden, & Mueller, 2007). Throughout the data collection period, CAMHD provided statewide trainings on the MTPS and offered easy online access to rater instructions and item definitions. Recent CAMHD Annual Evaluations indicated that MTPS completion rates were near perfect (Keir et al., 2011).

Approximately 3% of the cases had more than one MTPS per month. When this occurred, average scores on progress ratings and all endorsements of treatment targets and practice

elements across the multiple MTPSs for that month were included to create a single MTPS entry. Both the current MTPS form and detailed codebook defining all variables are available on the CAMHD website (<http://hawaii.gov/health/mental-health/camhd/library/pdf/paf/paf-002.pdf>; <http://hawaii.gov/health/mental-health/camhd/library/pdf/paf/paf-001.pdf>; Appendix C).

Community providers were instructed to indicate all specific practice elements utilized in treatment during the preceding month from a list of 63 predefined techniques and up to three additional write-ins. Recent work by Orimoto and colleagues (2012) indicates that the majority of practice elements organize statistically into three overlapping factors: behavioral management, 15 practice elements; cognitive/self-coping, 19 practice elements; family interventions, 13 practice elements. Practice elements have shown good clinician-coder interrater reliability ( $ICC \geq 0.60$ ) and good one- and three-month test-retest stability ( $k=.65$  and  $.50$ , respectively; Borntrager, Chorpita, Orimoto, Love & Mueller, 2013; Chorpita et al, 2005; Daleiden et al., 2004).

***Level One (Best Support) practices derived from the evidence base.*** This study assessed three key predictor variables, calculated via therapist-reported practice element data and a published list of Level One (Best Support) practice element frequencies found in empirically supported treatments for youth with disruptive behavior problems (PracticeWise LLC, 2012; Appendix A). The operational definition of Level One (Best Support) is synonymous with APA's "Well-Established" intervention definition, meaning that these treatment families have demonstrated effects in either a minimum of two good between group design experiments, or in a large series of controlled single-case experiments (where number of subjects are  $n \geq 9$ ). In addition, these interventions must

have utilized a manual and at least two different investigators must have confirmed their effects (Chorpita & Daleiden, 2009).

The primary variable of interest, Level One (Best Support) practices derived from the evidence base without age criteria, is abbreviated as Level One PDE. An additional two predictor variables were created to account for the age-related split in practice element profile patterns, as described in the introduction (Chorpita & Daleiden, 2009): (1) Level One (Best Support) practices derived from the evidence base for youth ages 12 years and under, abbreviated as Level One PDE Under 12 and (2) Level One (Best Support) practices derived from the evidence base for youth ages 13 years and older, abbreviated as Level One PDE 13 and Over.

To calculate the primary predictor variable, Level One PDE, each of the 54 practice elements that were present on both the 2005 and 2008 versions of the MTPS were classified as either a PDE or not, depending on whether that practice element had appeared in at least 30% of the Level One (Best Support) protocols identified through PracticeWise's coding procedures (18 practice elements total). Each MTPS was assigned a proportion score, which was computed by dividing the number practices endorsed that met the aforementioned criteria by the total number of practice elements endorsed within each month. This proportion score (range=0-1) was then averaged across each client's MTPSs (roughly one per month for five months), to create an average Level One PDE score.

As an example, suppose a provider endorsed 18 practice elements on three of the client's MTPSs and all of these practices met the 30% or greater Level One (Best Support) criteria. Then suppose that the same clinician endorsed ten practices in the next

two months, but only five of these practices met the 30% or greater Level One (Best Support) criteria. The youth's Level One PDE content score would be  $(18/18 + 18/18 + 18/18 + 5/10 + 5/10)/5 = 0.80$ , meaning that the average monthly proportion of practice elements that met the 30% or greater Level One (Best Support) criteria was 0.80. This definition is useful in examining overall PDE application and helps to control for variance between therapists with regard to rates of practice element endorsements (i.e., therapists who generally report many versus few practices each month).

The two additional predictor variables, Level One PDE Under 12 and Level One PDE 13 and Over, were calculated in a similar fashion. In order to meet criteria as a PDE for youth ages 12 years and under, the practice must have been in an average of 30% or more of Level One (Best Support) protocols for youth ages four to 12 years. Similarly, practice elements meeting PDE criteria for Level One PDE 13 and Over were in 30% or more of Level One (Best Support) protocols for youth ages 13 to 19 years. A list of practices considered as PDEs in each of the three variables is located in Appendix A.

***Treatment targets and progress ratings.*** On each MTPS (Appendix C), therapists were directed to indicate up to ten targets (from a list of 48 predefined targets) that were the focus of treatment during the reported month. They also provided clinician ratings of progress (i.e., progress ratings) associated with each selected target on a seven-point scale for each target: 1 = <0% improvement, i.e. deterioration; 2 = 0-10% no significant changes; 3 = 11-30% minimal improvement; 4 = 31-50% some improvement; 5 = 51-70% moderate improvement; 6 = 71-90% significant improvement; 7 = 91-100% complete. These idiographic ratings are based on changes on each target from the clients' initial baselines. Previous analyses of MTPS treatment targets found preliminary

support for both convergent and discriminant validity (Daleidan et al., 2004). Studies of MTPS progress ratings suggest that they are meaningfully related to at least two standardized measures of clinical functioning and provide client-specific outcome information that is amenable to systems evaluation (Nakamura et al., 2007).

This study evaluated as the criterion, the monthly average rate of change on progress ratings across the five disruptive behavior problem-related targets. The five targets (oppositonality, aggression, willful misconduct, anger, empathy) were selected from the list of 48 for four reasons: (1) they statistically factored onto the conduct (i.e., willful misconduct) or impulse control factors (i.e., oppositonality, aggression, willful misconduct, anger, empathy; Love et al, 2011), (2) they were frequently targeted in related samples (>15.1%; Love et al., 2010), (3) they reflected symptoms that characterized disruptive behavior problems based on the DSM-IV-TR (American Psychiatric Association, 2000), and (4) preliminary analyses of change on each target (i.e., maximum progress rating achieved less minimum progress rating achieved divided by total number of MTPSs) were positively correlated across the five targets. Though school attendance/truancy was originally considered as a target to be included, its change score was not significantly correlated with the change score for anger ( $r=-0.021$ ,  $p=0.83$ ) in the aforementioned analyses. Preliminary examination of these five targets on a different data set from Love and colleagues (2013) determined that the highest progress ratings achieved in the first six months of treatment were significantly and positively correlated with one another. Definitions of these targets are listed in Appendix C.

Scores were calculated for each month by summing disruptive behavior-specific progress ratings then dividing by the number of disruptive-behavior specific targets

endorsed, creating a mean disruptive behavior target rating for each month. As an example, if a provider endorsed oppositionality and aggression on a single MTPS and obtained progress ratings of 1 and 3 respectively, then the criterion score for that month would be  $(1 + 3) / 2 = 2$ . This definition controls for number of targets addressed in treatment per month and is similar to definitions utilized successfully in previous studies of youth clients in the Hawai'i system of care (e.g., Mueller et al, 2010). On occasion, MTPSs had targets endorsed without corresponding progress ratings: 0.3% of MTPSs with aggression, 0.2% for anger, virtually 0% for empathy, and 0.1% for both oppositional/noncompliant behavior and willful misconduct. Such targets and progress ratings were excluded from the calculation of the criterion score.

**Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1994).**

The CAFAS is a 200-item clinician measure that assesses youths' level of functional impairment. Each client's total CAFAS score at treatment entry was considered as a covariate in the client level of analyses, similar to procedures identified by Orimoto and colleagues (2012). Case managers in CAMHD assign behavioral descriptions ordered by level of impairment within eight domains of functioning, based on their experiences with clients. School Role Performance, Home Role Performance, Community Role Performance, Behavior Toward Others, Mood/Emotions, Mood/Self-Harmful Behavior, Substance Use, and Thinking subscale scores are calculated by scoring the highest level of impairment (i.e., severe = 30, moderate = 20, mild = 10, no/minimal = 0) endorsed within the respective domain of items. Total scores are obtained by summing across the eight subscales. Interpretation guidelines for the total score suggest: 0-10 = "None to minimal impairment", 20-40 = "Likely can be treated on an outpatient basis", 50-90 =



“May need additional services beyond outpatient care”, 100-130 = “Likely needs care which is more intensive than outpatient and/or which includes multiple sources of supportive care”, and 140+ = “Likely needs intensive treatment, the form of which would be shaped by the presence of risk factors and the resources available within the family and the community.” The CAFAS has been found to have acceptable internal consistency ( $\alpha = 0.73$  to  $0.78$ ), inter-rater reliability ( $0.92$ ), and stability across time (Hodges, 1995; Hodges & Wong, 1996). Studies of concurrent validity have indicated that CAFAS scores are related to severity of psychiatric diagnosis, intensity of care provided, restrictiveness of living settings, juvenile justice involvement, social relationship difficulties, school-related problems, and risk factors and can be validly used to track treatment change (Hodges & Gust, 1995; Mueller et al., 2010; Nakamura et al., 2007).

### **Data Analytic Strategy**

A three-level multilevel model (MLM; Raudenbush & Bryk, 2002; Singer & Willet, 2003) approach was utilized to address questions in this investigation. MLM is a form of regression that can be used to predict a client’s average progress rating at any particular time (criterion variable) on the basis of a number of predictor variables, at least one of which is time. For the purposes of this study, rank of MTPS months served as the time variable. This type of approach is able to estimate the intercept and rate of change, or slope, during treatment for each client (Singer & Willet, 2003) and group of clients based on (nested in) the MTPS clinician. MLM are well suited to address the aims of the study for several reasons: (1) they take into account the hierarchical nature of therapy data, (2) are able to consider MTPS providers as a random factor, (3) allow between- and within- MTPS provider relationships to be modeled simultaneously, (4) handle missing

values effectively (Snijders & Bosker, 2012), and (5) use estimation procedures that are robust for unequal sample sizes within MTPS reporters (Quene & van den Bergh, 2004).

This study roughly followed MLM procedures as outlined by Peugh (2010). The statistical steps are summarized here, and detailed further in the method and results sections. First, descriptive analyses were conducted. Next, appropriate parameter estimation methods and covariance structures were selected. Parameter estimation identifies the extent to which the sample covariance matrix representing the model specification effectively approximates the true population (Heck et al., 2010). Third, a three-level model without theoretical predictors such as PDE proportion, was developed to examine the necessity of including level 3 (therapist) in the model and identify the amount of variance in progress rating scores accounted for by each model level. Following this determination, various level 1 models were examined to determine the best way to model time. Then, level 2 (e.g. client age) and level 3 covariates (e.g. therapist's highest degree) were examined to see if any were predictive of rate of change and were thus necessary in the models testing the effect of PDE. The primary variable of interest, PDE, was included at level 2 because average proportionate application of PDE was practically believed to be applied at the client level, rather than at level 1 (time) or level 3 (therapist). As a result, the effects of PDE were examined via the parameter for the interaction between PDE and time and a main effect of PDE was not theoretically relevant. Full three-level models (three total, one for each PDE variable) were then used to test the effects of the PDE variables on rate of change in average disruptive behavior progress ratings and to examine effect sizes for any significant findings. Lastly, exploratory analyses utilized the same three-level model to examine whether the presence

or absence of each individual practice element (instead of PDE) was associated with rate of change on the criterion variable.

All models were estimated with Predictive Analytics SoftWare version 18 (PASW; SPSS, Inc., 2010) mixed model routines. Such models are identified as “mixed” because they include both fixed and random effects. Procedures incorporated restricted maximum likelihood estimation, which is a particular form of maximum likelihood estimation that utilizes a likelihood function calculated from transformed data, so that additional parameters have no effect. A first-order autoregressive (AR(1)) covariance structure and diagonal covariance types were employed to predict random effects, as they offered the best fit statistics and have both been recommended for use with repeated measures data (Heck et al., 2010). AR(1) includes two parameters (the error variance  $\sigma^2$  and the autocorrelation coefficient  $\rho$ ) and the diagonal covariance structure is defined by heterogenous variances and zero correlation between elements (Kwok et al., 2008; SPSS Inc., 2010). Mixed procedures handle missing data via a full information maximum likelihood (FIML) estimation algorithm, which is able to account for all data in the presence of some missing data.

**Descriptive analyses.** Standard descriptive statistics were conducted for each month at the between-subjects levels for the individual practice elements, PDE, target and progress rating measures.

**Assessing whether MLM is needed.** The potential models included nesting of occasions  $t$  within clients  $i$  within MTPS therapist  $j$ , with both clients and MTPS therapist modeled as random factors (e.g., Lutz, 2007). Therapists were treated as random factors due to the theoretical assumption that clients were assigned to therapists in a non-

systematic fashion. Intraclass correlations were calculated to determine if multilevel analyses were indeed warranted. These statistics examine variance in average disruptive behavior target progress ratings (the criterion variable), partitioned into its within- and between-group components (Hox, 2010). Following recommendations by Heck and colleagues (2010), intraclass correlations greater than 5% for time, client, and providers in the null model with no predictors (Model A) were considered as evidence for some variation in outcomes between groups. Levels with intraclass correlations of 5% or greater were considered as relevant levels for the model (Heck et al., 2010).

**Building the Level 1 model.** In order to determine the best fitting model of time and examine whether youths' average disruptive behavior progress ratings changed over time, a model with only time predictors at Level 1 was examined. The final time predictors were identified through an (1) examination of the shape of the within-subjects growth trend and (2) a comparison of goodness of fit statistics for unconditional growth models defining time as linear (Model B):

$$Y_{tij} = \pi_{0ij} + \pi_{1ij} \text{MTPSmonth}_{tij} + e_{tij}$$

quadratic (Model C):

$$Y_{tij} = \pi_{0ij} + \pi_{1ij} \text{MTPSmonth}_{tij} + \pi_{2ij} \text{MTPSmonth}_{tij}^2 + e_{tij}$$

or as a natural log transformation (Model D):

$$Y_{tij} = \pi_{0ij} + \pi_{1ij} \text{LN}(\text{MTPSmonth})_{tij} + e_{tij}$$

These three models were selected because they best reflected the shape of the within subjects growth curve and because they effectively described outcomes in other longitudinal studies of usual care (e.g., Warren et al., 2010; Lutz et al., 2007; Baldwin, Berkeljon, Atkins, Olsen & Nielsen, 2009; Singer & Willet, 2003). Specifically, linear,

quadratic, and natural log transformation models depicted average disruptive behavior progress ratings as a negatively accelerating function of MTPS months, better than other potential models (e.g., cubic, square root). After selecting the most theoretically accurate reflection of growth over time and testing competing multilevel models using fit indices (Peugh, 2010), the effect of time on the criterion variable was examined.

**Building the 3-Level model.** The study’s theoretical model proposes that the relationship between rate of change might vary across individuals, as clients improve at different rates. Thus, natural log of time was explained as a function of youth characteristics and the predictor PDE variable (MLM level 2; see “Building the Level 1 Model” above). At level 3, the therapist reporter level, variation in client-level coefficients was broken down into random components as indicated below. The relationship between the criterion variable and natural log of time was represented via the following equation at level 1:

$$Y_{ij} = \pi_{0ij} + \pi_{1ij} \text{LN}(\text{MTPSmonth})_{ij} + e_{ij}$$

PDE, client characteristics including age, gender, ethnicity, CAFAS score at intake, length of total treatment episode and number of diagnoses were considered as predictors of rate of change at level 2:

$$\pi_{0ij} = \beta_{00j} + r_{0ij}$$

$$\pi_{1ij} = \beta_{10j} + \beta_{11j}(\text{PDE})_{ij} + r_{1ij}$$

Therapist reporter characteristics consisting of level of licensure, professional specialty, highest degree earned, and provider agency were assessed as potential covariates and predictors of PDE application and related average disruptive behavior progress ratings at level 3:

$$\beta_{00j} = \gamma_{000} + u_{00j}$$

$$\beta_{10j} = \gamma_{100} + u_{10j}$$

$$\beta_{11j} = \gamma_{110} + u_{11j}$$

Only variables with a statistically significant relationship with average disruptive behavior progress ratings when in a two-way interaction with the time variable (level 2) or a three-way interaction with time and the PDE variable were retained in the analyses, for a full model of:

$$Y_{ij} = \gamma_{000} + \gamma_{100} \text{LN(MTPSmonth)}_{ij} + \gamma_{110} (\text{PDE}_{ij} * \text{LN(MTPSmonth)}_{ij}) + r_{1ij} * \text{LN(MTPSmonth)}_{ij} + u_{10j} * \text{LN(MTPSmonth)}_{ij} + u_{11j} * (\text{PDE}_{ij} * \text{LN(MTPSmonth)}_{ij}) + e_{ij} + r_{0ij} + u_{00j}$$

Such criteria have been demonstrated in previous studies (e.g., Lutz et al., 2007) and have been suggested to provide more accurate model specification, than including all covariates, regardless of statistical significance.

**Examining effects of PDE variables and effect sizes.** After determining the final three-level model, the interaction of time and the Level One PDE variable was examined as a predictor of average disruptive behavior progress ratings. Both Level One PDE Under 12 and Level One PDE Over 13 were also assessed as predictors of the criterion.

In order to evaluate the effectiveness of the PDE variables in explaining between-individual and between-therapist variation, pseudo-R<sup>2</sup> statistics were calculated for each of the three levels (Snijders & Bosker, 2012). The pseudo-R<sup>2</sup> statistic is an estimate of the proportion of explained variance in the random effect by each variance component. Said another way, the pseudo-R<sup>2</sup> is calculated by determining the difference between the

variance component for the null and fitted models, then dividing by the variance component for the null model. Given that the explained variance is the analog of the  $R^2$  change, Cohen's (1998) guideline can be adopted such that a pseudo- $R^2$  statistic of .02, .13 and .26 represent small, medium and large effects respectively.

Most MLM analyses do not report pseudo- $R^2$  measures because they are considered tentative at best and are influenced by the level and scale of the variables of interest. For these reasons, pseudo- $R^2$  statistics for the current study should be considered as exploratory and likely underestimate the effect size (Heck et al., 2010).

**Individual practice elements and average disruptive behavior progress ratings.** Each of the individual practice elements was examined to assess whether or not it predicted average disruptive behavior progress ratings when in an interaction with time. Practice elements were coded as present ("1") if they were endorsed at any time in the first five months of treatment and absent ("0") if they were never endorsed on the given client's MTPSs. Analyses utilized the identical three-level model as in aforementioned examinations of the PDE variables, but substituted (one by one) individual practice elements for PDE. No effort was used to control for cumulative alpha or skew of predictor variables, which tend to have modes of zero. As a result, these analyses should be considered exploratory rather than hypothesis testing.

## CHAPTER 3. RESULTS

### Descriptive Analyses

Figure 2 depicts the means for the core criterion variable across the five-month study window. Skewness (range = -0.30 - 0.11) and kurtosis (range = -0.59 – 0.42) scores combined with visual examinations of normality curves for the criterion variable across each of the five MTPS months suggested normality. As can be seen in Figure 2, the mean progress rating shows a negatively accelerating curve, suggesting that modeling time in a non-linear fashion might increase Level 1 (within subjects) model fit. Five-month episode means and standard deviations for the three predictor variables were  $M=0.44$  ( $SD=0.10$ ) for Level One PDE,  $M=0.32$  ( $SD=0.09$ ) for Level One PDE Under 12, and  $M=0.51$  ( $SD=0.11$ ) for Level One PDE Over 13.

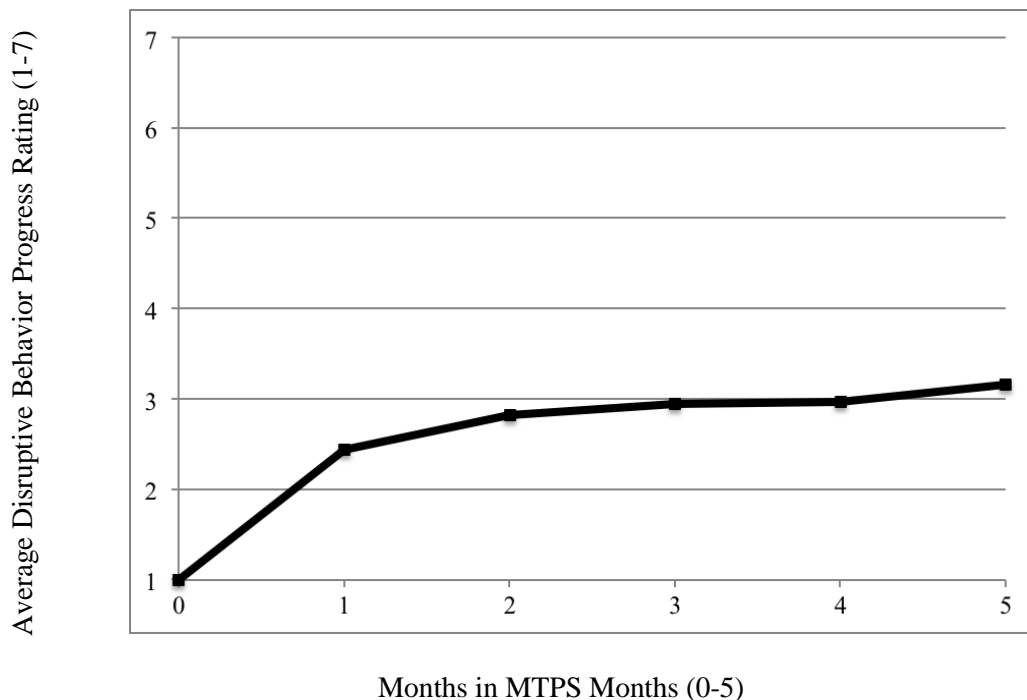


Figure 2. Average Mean Disruptive Behavior Progress Rating by MTPS Month (N=720)



### **Assessing Whether MLM is Needed**

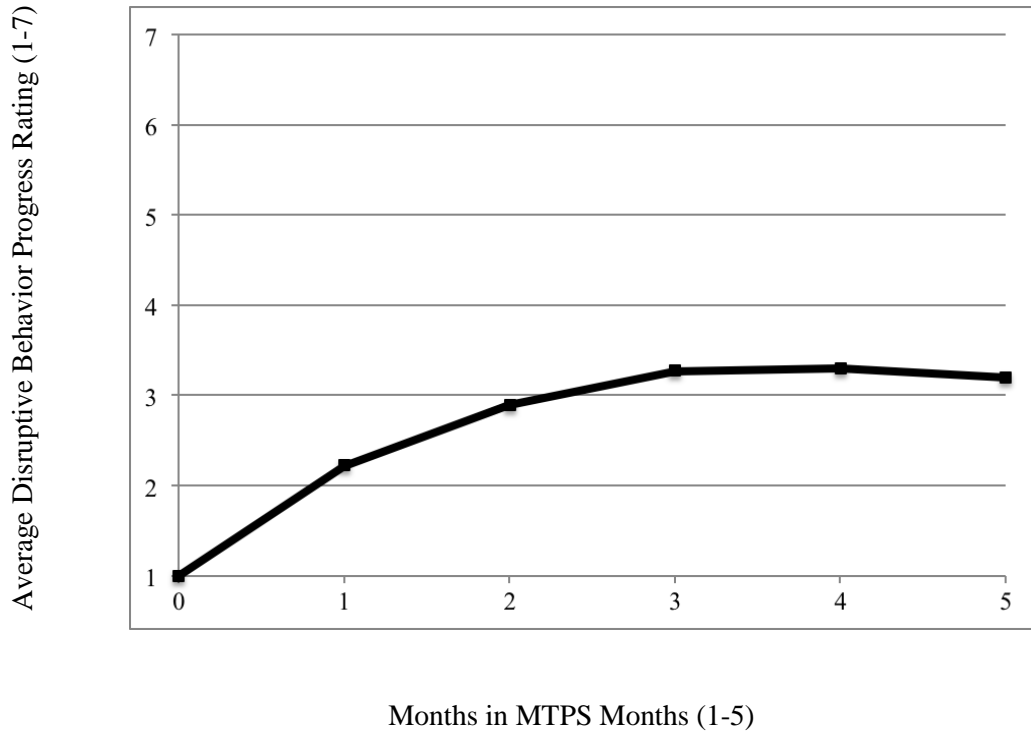
Intraclass correlations were calculated for the outcome variable at the within (MLM level 1, time) and between group levels (MLM levels 2 and 3, clients and clinicians respectively). Time (months in treatment) accounted for 71.86% of total variance in progress rating scores, while client differences accounted for 1.80% (level 2), and therapists accounted for 26.35% (level 3) of the variance. Generally, intraclass correlations greater than 5% in the null predictors model suggest that there is at least some variation in outcomes between groups (Heck et al., 2010).

Since the time variable is not included in the null predictors model, it is likely that the model overestimated variance at the occasion level and underestimated variance at the client level. The client level (MLM level 2) was not significant in the initial estimate of intraclass correlations, but the addition of the time variable resulted in more accurate, significant variability across all three levels (e.g., Hox, 2010). Utilizing this approach, time (defined as natural log of months in treatment) accounted for 65.72% of total variance in average progress rating scores, clients accounted for 7.86% (level 2), and therapists accounted for 26.42% (level 3) of the variance. Such results indicate the relevance of utilizing a statistical model that includes all three levels.

### **Building the Level 1 Model**

Visual examination of the within subject growth curves for a 5% random sampling of clients indicated substantial differences in slopes: some youth improved, some worsened, and some showed no improvement (see Figure 3). Inspection of the graph of client progress for the entire sample appeared to be a negatively accelerating

function of number of MTPS months. As such, fit statistics were compared for three different models, estimating time as linear (Model B), quadratic (Model C) and as a natural log transformation (Model D). Results for these fit statistics are listed in Table 3.



*Figure 3. Average Mean Disruptive Behavior Progress Rating by MTPS Month of a 5% Random Sample of the Total Sample (n=42)*

The natural log transformation of MTPS months offered the best fit statistics and reflected the graphical representation of growth over time. The linear slope for natural log of time in months for Model D was significant ( $\gamma_{100} = 0.40$ ;  $SE = 0.04$ ;  $p \leq 0.001$ ), indicating that youth clients significantly improved in average disruptive behavior progress ratings per natural log of month.

Table 3.

*Comparing Fit of Successive Multilevel Models Predicting Monthly Rate of Change in Average Disruptive Behavior Target Progress Ratings (N=720)*

		Model A (Null Predic- tors)	Model B (Linear Change)	Model C (Quad- ratic Change)	Model D (Natural Log Transforma- tion of Time)
<i>Fixed effects</i>					
Composite model	Intercept	1.80**	2.34**	2.06**	2.42**
		(SE= 0.06)	(SE= 0.06)	(SE= 0.09)	(SE= 0.06)
	<i>MTPSmonth</i>		0.15**	0.40**	
			(SE= 0.02)	(SE=0.0 6)	
	<i>MTPSmonth</i> <sup>2</sup>			-0.04**	
			(SE= 0.01)		
	<i>LN (MTPSmonth)</i>				0.40**
					(SE=0.04)
<i>Variance components</i>					
Level-1 (Time)	Within-person	1.20**	0.90**	0.88**	0.87**
Level-2 (Client)	In intercept	0.03	0.09*	0.10*	0.14**
	In rate of change		0.01**	0.01**	0.10**
Level-3 (Therapist)	In intercept	0.44**	0.35**	0.36**	0.36**
	In rate of change		0.01*	0.01	0.10*
	In quadratic time			0.00	
<i>Goodness of fit</i>					
	AIC	9107.39	8945.64	8938.69	8923.62
	BIC	9131.46	8981.75	8980.81	8959.72

\* $p \leq 0.05$ , \*\* $p \leq 0.001$

### **Building the 3-Level Model**

Client characteristics including age, gender, ethnicity, CAFAS score at intake, length of total treatment episode and number of diagnoses were considered as MLM client level 2 covariates, while therapist reporter characteristics such as level of licensure, professional specialty, highest degree earned, and provider agency were assessed as covariates at the MLM therapist level 3. None of these client-related variables indicated a significant interaction effect with time on average disruptive behavior progress ratings. Further, no therapist-related variables evidenced significant interactions with time and the PDE variables. Thus, no client or therapist characteristic variables were included in the final model.

### **Examining Effects of PDE Variables and Effect Sizes**

Results from the three-level MLM demonstrated a positive but non-significant trend, such that a greater proportion of PDE Level One applied was associated with greater change in average disruptive behavior progress ratings per natural log of MTPS month ( $\gamma_{110} = 0.53$ ;  $p \leq 0.10$ ; see Table 5). Two additional separate analyses were conducted, examining Level One PDEs for youth at and above age 13 and for Level One PDEs for youth at or below age 12 (Chorpita & Daleiden, 2009). The time by Level One PDE Under 12 interaction was not significantly associated with average disruptive behavior progress ratings, although the coefficient was positive ( $\gamma_{110} = 0.24$ ). The Level One PDE Over 13 and time interaction was significant ( $\gamma_{110} = 0.70$ ;  $p \leq 0.05$ ), indicating that a greater proportion of Level One PDE Over 13 applied was associated with greater average change in disruptive behavior progress ratings per natural log of MTPS month. It should also be noted that fit indices for the model with Level One PDE Over 13

variable were seemingly - though not necessarily statistically - better (AIC=8918.20; BIC=8954.30) than the models including the Level One PDE (AIC=8921.26; BIC=8957.36) and Level One PDE Under 12 variables (AIC=8923.52; BIC=8959.62).

Table 4

*Multilevel Models Predicting Monthly Rate of Change in Average Disruptive Behavior Target Progress Ratings as a Function of Proportionate Application of Practices Derived from the Evidence-Based Literature (N=720)*

		Model with PDE Defined as Level One (Best Support)	Model with PDE Defined as Level One (Best Support) for Age 12 Years and Under	Model with PDE Defined as Level One (Best Support) for Age 13 Years and Over
<i>Fixed effects</i>				
Composite model	Intercept (initial status)	2.42** (SE=0.06)	2.42** (SE=0.06)	2.42** (SE=0.60)
	LN(MTPSMonth)	0.18 (SE=0.14)	0.33* (SE=0.11)	0.05 (SE=0.15)
	LN(MTPSMonth) x PDE Level One (Best Support)	0.52 (SE=0.30)		
	LN(MTPSMonth) x PDE Level One (Best Support) 12 Years and Under		0.24 (SE=0.33)	
	LN(MTPSMonth) x PDE Level One (Best Support) 13 Years and Older			0.70* (SE=0.28)

Table 4 Continued.

		Model with PDE Defined as Level One (Best Support)	Model with PDE Defined as Level One (Best Support) for Age 12 Years and Under	Model with PDE Defined as Level One (Best Support) for Age 13 Years and Over
<i>Variance components</i>				
Level-1 (Time)	Within-person	0.87**	0.87**	0.87**
Level-2 (Client)	In intercept	0.14**	0.14**	0.14**
	In rate of change	0.10**	0.10**	0.10**
Level-3 (Therapist)	In intercept	0.36**	0.36**	0.36**
	In rate of change	0.10**	0.10*	0.10*
<i>Goodness of fit</i>				
	AIC	8921.26	8923.52	8918.20
	BIC	8957.36	8959.62	8954.30

\* $p \leq 0.05$ , \*\* $p \leq 0.001$

Exploratory pseudo- $R^2$  statistics were calculated via variance components in rate of change to determine the amount of variance accounted for by the significant PDE variable at all three levels (Snijders and Bosker; 2012; Table 5). Level One PDE Over 13 explained (.868108-.866150/.868108) 0.2% of the variance in rate of change of average progress ratings at the within subjects level (level 1), (.101106-.100351/.101106) 0.7% in at the between client level (level 2), and (.104786-.101682/.104786) 2.9% at the therapist level (level 3; Table 5). Following conventions set forth by Cohen (1998), Level One PDE Over 13 had a minimal to small effect on predicting the rate of change in average disruptive behavior progress ratings. These findings were consistent with the tests of significance for the individual parameter estimates, as shown in Table 5.

## **Individual Practice Elements and Average Disruptive Behavior Progress Ratings**

Table 5 lists all of the practice elements evaluated in this study, along with the percentages of Level One (Best Support) protocols that were determined to include each of them (PracticeWise, LLC, 2013). The table also incorporates the frequencies and percent of cases that received each practice element at least once during the five-month period of analyses. Separate exploratory models were conducted with practice elements individually to determine coefficients reflecting the practice element (absent/present) by natural log of MTPS month interaction. Practice elements are listed based on the size of this coefficient, regardless of n-size or statistical significance.

Several practices were identified as having a significant, positive interaction with natural log transformation of time on average disruptive behavior progress ratings. Specifically, the application of communication skills ( $\gamma_{110}=0.23$ ), self-monitoring ( $\gamma_{110}=0.23$ ), maintenance or relapse prevention ( $\gamma_{110}=0.22$ ), self-reward or self-praise ( $\gamma_{110}=0.20$ ), skill building ( $\gamma_{110}=0.17$ ), assertiveness training ( $\gamma_{110}=0.16$ ), therapist praise or rewards ( $\gamma_{110}=0.16$ ), and mindfulness ( $\gamma_{110}=0.13$ ) practices were associated with greater rates of improvement on progress ratings. There were also two practices that exhibited significant, negative interactions with time on the criterion variable. Line of sight supervision ( $\gamma_{110}=-0.15$ ), and supportive listening or client-centered practices ( $\gamma_{110}=-0.17$ ) were associated with less improvement across time.

Table 5

*Frequency of Level One (Best Support) Protocols with PE, Frequency of Clients Receiving PE at Least Once in Completed Treatment Episode, and Fixed Effects for Individual PEs (N=720)*

Practice Element	% Level One (Best Support) Protocols	% Level One (Best Support) Protocols for Youth 12 Years & Under	% Level One (Best Support) Protocols for Youth 13 Years & Older	N	%	Coefficient (LN Months x PE)	p
Hypnosis				9	1	0.35	0.13
Biofeedback or neurofeedback				21	3	0.26	0.12
Communication skills <sup>a,b,c</sup>	34	34	36	619	86	0.23	<0.01*
Free association				38	5	0.23	0.09
Self-monitoring <sup>c</sup>	19	12	51	312	43	0.23	<0.01**
Maintenance or relapse prevention <sup>a,c</sup>	31	28	49	130	18	0.22	<0.01**
Self-reward or self-praise	9	8	24	271	38	0.20	<0.01**
Skill building <sup>c</sup>	14	8	30	484	67	0.17	0.01*
Assertiveness training	13	6	23	195	27	0.16	0.03*
Therapist praise or rewards <sup>a</sup>	32	28	28	526	73	0.16	0.03*
Mindfulness				255	35	0.13	0.03*
Thought field therapy				19	3	0.13	0.44
Activity scheduling	3	1	0	398	55	0.11	0.06
Catharsis				62	9	0.11	0.31
Eye movement or tapping				9	1	0.11	0.65
Relaxation	14	13	22	309	43	0.11	0.06
Parent or teacher praise <sup>a,b,c</sup>	76	86	54	456	63	0.10	0.11



Table 5 Continued

Practice Element	% Level One (Best Support) Protocols	% Level One (Best Support) Protocols for Youth 12 Years & Under	% Level One (Best Support) Protocols for Youth 13 Years & Older	<i>N</i>	%	Coefficient (LN Months x PE)	<i>p</i>
Tangible rewards <sup>a,b,c</sup>	61	77	38	329	46	0.10	0.08
Cognitive <sup>a,b,c</sup>	33	31	63	542	75	0.09	0.18
Emotional processing				537	75	0.09	0.21
Medication or pharmacotherapy				139	19	0.09	0.22
Social skills training <sup>a,c</sup>	34	24	75	475	66	0.09	0.16
Natural and logical consequences <sup>a</sup>	34	29	28	599	83	0.08	0.35
Insight building	8	7	18	464	64	0.07	0.26
Exposure	3	2	3	102	14	0.06	0.51
Parent or teacher monitoring <sup>a,b,c</sup>	44	53	41	408	57	0.06	0.32
Peer pairing	9	8	9	87	12	0.06	0.46
Stimulus control or antecedent <sup>b</sup> management	26	40	8	202	28	0.06	0.40
Mentoring	2	4	0	294	41	0.05	0.47
Motivational interviewing				305	42	0.05	0.46
Play therapy	13	10	0	190	26	0.05	0.43
Problem solving <sup>a,b,c</sup>	56	51	78	597	83	0.05	0.52
Psychoeducational-child <sup>c</sup>	11	6	31	463	64	0.05	0.44
Time out <sup>a,b</sup>	57	74	7	164	23	0.05	0.41
Modeling <sup>a,b,c</sup>	44	46	51	443	62	0.04	0.55
Functional analysis	13	4	28	76	11	0.03	0.72
Guided imagery	7	2	22	86	12	0.02	0.80

Table 5 Continued

Practice Element	% Level One (Best Support) Protocols	% Level One (Best Support) Protocols for Youth 12 Years & Under	% Level One (Best Support) Protocols for Youth 13 Years & Older	<i>N</i>	%	Coefficient (LN Months x PE)	<i>p</i>
Commands <sup>a,b</sup>	54	66	7	324	45	0.01	0.87
Marital therapy <sup>c</sup>	14	2	34	49	7	0.00	0.97
Response prevention	2	1	0	136	19	0.00	0.95
Educational support <sup>c</sup>	20	12	34	400	56	-0.01	0.90
Parent coping <sup>c</sup>	29	26	31	572	79	-0.01	0.86
Ignoring or differential reinforcement of other behavior <sup>a,b</sup>	55	67	7	195	27	-0.02	0.78
Family therapy <sup>c</sup>	17	12	34	574	80	-0.03	0.69
Interpretation	0	0	0	158	22	-0.03	0.67
Family engagement	14	5	26	526	73	-0.04	0.52
Relationship or rapport building	16	7	26	531	74	-0.07	0.28
Psychoeducational-parent <sup>a,b,c</sup>	52	60	37	517	72	-0.08	0.22
Crisis management	13	7	26	326	45	-0.10	0.10
Milieu therapy				55	8	-0.10	0.35
Response cost <sup>a,b,c</sup>	32	35	34	135	19	-0.11	0.14
Twelve step program				18	3	-0.11	0.53
Line of sight supervision	0	0	0	164	23	-0.15	0.03*
Supportive listening or client-centered				589	82	-0.17	0.03*

*Note.* PEs without frequencies for Level One (Best Support) protocols with practice elements (1<sup>st</sup>-3<sup>rd</sup> columns) were not listed within the PracticeWise, LLC database.

Table 5 Continued

<sup>a</sup> PE included in the PDE proportion score for Level One (Best Support) disruptive behavior problem type, without age restrictions

<sup>b</sup> PE included in the PDE proportion score for Level One (Best Support) disruptive behavior problem type, for youth ages 12 years and under

<sup>c</sup> PE included in the PDE proportion score for Level One (Best Support) disruptive behavior problem type, for youth ages 13 years and older

*\* $p \leq 0.05$ , \*\* $p \leq 0.01$*

## CHAPTER 4. DISCUSSION

The current study examined whether greater PDE utilization enhanced therapy progress for youth with disruptive behavior targets in the first five months of intensive in-home treatment. Results indicated that indeed, PDE was a significant predictor, when defined by practices found in 30% or more of Level One (Best Support) treatment manuals for disruptive behavior problems for youth ages 13 years and older. In addition, there were non-significant, yet positive, trends indicating that a greater use of practices present in 30% or more of treatment manuals achieving Level One (Best Support) status for youth without an age restriction (Level One PDE) and for youth 12 years old and younger (Level One PDE Under 12) predicted greater average progress.

Consistent with prior studies of the CAMHD (e.g., Orimoto et al, 2012) and other examinations of client change over time (e.g., Lutz et al, 2007; Warren et al., 2010), the within-subjects client improvement rate was non-linear and, in this case, best fitted by a natural log curve. Intraclass correlations including time as a predictor indicated that level 1 - time (months in treatment) accounted for most of the variance in average progress ratings (65.72%), while level 2 - clients accounted for 7.86% and level 3 - therapists accounted for 26.42% of the variance. Interestingly, no client (i.e., age, gender, level of clinical functioning) or therapist (i.e., level of licensure, highest degree earned, professional specialty, agency) variables available in the current data set predicted rate of change. However, intercepts and slopes varied between clients such that some clients improved, some worsened, and some stayed the same in average progress ratings. Intercepts and slopes also varied between therapists as some tended to treat youth who improved, got worse, or remained the same in average progress ratings. Prior studies of

therapist effects reported that therapists accounted for 5-17% of the variance (Kim et al., 2006; Lutz et al., 2007; Wampold & Brown, 2005), which is notably less than the findings in this study. While it is not clear why these results differ, it is possible that variance accounted for by practice selection might be captured by the therapist level. At the more micro level, the use of 40 of 54 specific practices were associated with greater improvement, although only eight of these were statistically significant ( $p < .05$ ). Of the 14 practice elements associated with less improvement, two were statistically significant (supportive listening and line of sight supervision).

All three of the tested measures of PDE (Level One PDE, Level One PDE Under 12, Level One PDE Over 13) predicted average disruptive behavior progress ratings in the hypothesized positive direction, though only Level One PDE Over 13 significantly predicted the criterion when in an interaction with natural log of month. However, methodological artifacts might have skewed findings. It is possible that the relative older age of clients in the sample ( $M=12.59$  years;  $SD=3.83$ ) slanted results such that base rates of practice elements specific to Level One PDE Under 12 were lower than those for practice elements associated with Level One PDE Over 13. When analyses were conducted on a subsample of the population for youth ages 13 years and older ( $n = 420$ ), none of the predictor variables significantly predicted average disruptive behavior progress ratings when in an interaction with natural log of month. Both parameter estimates, Level One PDE ( $\gamma_{110} = 0.24, p=0.57$ ) and Level One PDE Over 13 ( $\gamma_{110} = 0.55; p=0.15$ ), were positive, indicating a positive relationship between the PDE variable and improvement on the criterion, while the parameter estimate for the interaction of natural log of month and Level One PDE Under 12 was negative ( $\gamma_{110} = -0.46; p=0.31$ ).

At the same time, the interaction of the time variable with Level One PDE Under 12 ( $\gamma_{110} = 1.17; p \leq 0.05$ ) and the interaction of the time variable with Level One PDE Over 13 ( $\gamma_{110} = 0.68; p \leq 0.10$ ) both predicted greater rates of average disruptive behavior progress ratings in a subsample of youth less than 13 years old ( $n = 300$ ). These slight variations in sample-specific findings suggest that therapists might be thoughtfully applying practices and varying their approaches based, at least in part, on client age. At the same time, client age was not found to be a significant predictor of average disruptive behavior progress ratings in the full sample, indicating that age, as a covariate, was unlikely to have a significant influence on findings.

Therapists' work with clients is part of a dynamic and interactive process and client progress or lack of progress might have influenced therapists' actual utilization of PDE. For example, in the event of a crisis, therapists might employ a variety of both evidence-based and non-evidence-based practice elements or target a great number of topics in sessions in order to address the client issue (e.g., Kelley et al., 2010). Brief exploratory analyses examining the correlations between the presence or absence of the crisis management practice element and the suicidality treatment target with the three measures of PDE indicated some evidence for significant, negative associations. Crisis management was negatively associated with Level One PDE Over 13 ( $r = -0.17; p = 0.00$ ), Level One PDE Under 12 ( $r = -0.01, p = 0.74$ ), and Level One PDE ( $r = -0.09, p = 0.02$ ), though only significantly negatively associated with Level One PDE and Level One PDE Over 13. Suicidality was non-significantly negatively associated with Level One PDE Over 13 ( $r = -0.28; p = 0.45$ ), Level One PDE Under 12 ( $r = -0.04, p = 0.33$ ), and Level One

PDE ( $r=-0.06$ ,  $p=0.10$ ). Additional studies should thus examine the sequential, iterative relationship between practice application and client progress or lack of progress.

Despite such potential artifacts, the significance of Level One PDE Over 13 on youth progress has practical and clinical relevance. Of the 19 practice elements meeting criteria for Level One PDE Over 13, only eight directly required the involvement of caregivers. This is less than found in the Level One PDE Under 12 list, which necessitates caregivers in at least ten of the 15 practice elements. While there was significant overlap in practices on the two age-specific PDE variables, with half of the practices encompassing the Level One PDE Over 13 variable (problem solving, cognitive, parent or teacher praise, modeling, parent or teacher monitoring, tangible rewards, psychoeducational-caregiver, communication skills, response cost) also being present on the Level One PDE Under 12 variable, several practices were unique to the Level One PDE Over 13 variable (social skills training, self-monitoring, maintenance and relapse prevention, family therapy, educational support, marital therapy, caregiver coping, psychoeducational-child, skill building). These practices appeared to be aimed at improving the family ecology or helping the youth help him- or herself, rather than assisting caregivers in shaping oppositional behaviors. Due to the increased complexity, comorbidity and older age of clients served in usual care (e.g., Garland et al., 2010), it makes some sense that youth-focused strategies over caregiver-specific strategies might carry greater potency in community mental health settings. This is consistent with evidence-based, multisystem-oriented treatments such as Multisystemic Therapy (Henggeler et al, 1997) that involve intensive, family- and community-based treatments to decrease significant rule-breaking behavior.

That said, there were some practice elements associated with the Level One PDE Over 13 variable that did involve caregivers in the therapeutic process. Five of these eight practices, specifically praise, tangible rewards, psychoeducation-caregiver, monitoring and response cost, were also present on Level One PDE and Level One PDE Under 12, suggesting that such practices were relevant across childhood and adolescence. The last three practices, family therapy, marital therapy, and parent or caregiver coping, were not also accounted for by either of the other variables (Level One PDE and Level One PDE Under 12) and seemed to be aimed at repairing family relationships and decreasing family stress. Such strain is common in community mental health clients, and it is possible that therapists selected practices that addressed family dynamics and youth skills, regardless of whether or not those practice elements were utilized more frequently with older youth.

However, the relative effect of the Level One PDE Over 13 variable was minimal to small, based on different approaches to pseudo- $R^2$  calculations. In some ways, this is not surprising as prior comparisons of evidence-based treatment and usual care found a small to medium mean effect size for evidence-based treatments (0.25-0.30; Weisz et al., 2006). At best, examining the change in the random effect at MLM level 3 suggests that the effect of Level One PDE Over 13 is small, offering a 2.9% reduction in variance. Taking a more conservative approach, the pseudo- $R^2$  for MLM level 1 is 0.2%, indicating a minimal effect, even though the variable is statistically significant in predicting change in average disruptive behavior progress ratings. There are several potential explanations for this finding. First, shared variance in the model might be skewing effect sizes, since some therapists had a single client in the sample population. If more of the model



variance is accounted for at the therapist level, it is likely that the effect of PDE, which is modeled at client level 2, will be underestimated. At the same time, brief additional analyses of the three PDE predictor variables via a 2-level null model MLM analyses, with client at level 1, therapist at level 2 and PDE as the criterion showed therapists accounting for 52% of the variance for Level One PDE Over 13, 50% of the variance for Level One PDE Under 12, and 50% of the variance for Level One PDE. Thus overall, approximately 50% of the variability in PDE appears to lie between therapists, lending greater evidence for the presence of unexplained variance and the relevance of including a therapist level (level 3) in the primary analyses for the study. Certainly therapist effects cannot fully be disentangled from PDE effects, but additional studies examining the degree to which different therapists or groups of therapists favor certain practices over others might provide initial clues about underlying processes. It is also possible that therapists might have over- or understated their use of endorsed practice elements. As an example, providers claiming to have utilized praise with clients might not have administered the practice element with the same consistent degree of fidelity in a high quality fashion. Future studies should consider incorporating measures of fidelity or dosage to determine the degree to which such variables influenced effect sizes.

Despite the small effects identified by exploratory pseudo-  $R^2$ , the proportionate application of the Level One PDE Over 13 variable still appears to have clinical significance. Notably, the fixed parameter estimate for rate of change for the model including the PDE variable is almost twice as large ( $\gamma_{110} = 0.70$ ;  $p \leq 0.05$ ; Table 5) as the fixed parameter estimate of rate of change in the model without any PDE variable ( $\gamma_{110} = 0.40$ ;  $p \leq 0.05$ ). Since log of time is a difficult construct to appreciate at a clinical level,

regression analyses were employed to determine the degree to which Level One PDE Over 13 predicted average disruptive behavior progress rating within the final month of the five month sample window. Analyses demonstrated that Level One PDE Over 13 significantly predicted the 5<sup>th</sup> month of average disruptive behavior progress ratings,  $\beta = 0.11$ ,  $t(719) = 3.00$ ,  $p < 0.05$ , such that a one unit increase in Level One PDE Over 13 application evidenced a 0.11 increase in the final average disruptive behavior progress rating for a given client. In addition, Level One PDE Over 13 explained a significant proportion of variance in average disruptive behavior progress ratings,  $R^2 = 0.01$ ,  $F(1, 718) = 8.993$ ,  $p < 0.05$ .

Though exploratory and necessitating replication, the findings about specific practice elements predicting rate of change offer clues about how disruptive behavior problems progress and are addressed. Some of these results are clearly consistent with the overall findings and the relevance of youth-focused strategies. Practice elements that both contributed to the Level One PDE Over 13 variable and significantly predicted rate of change in average disruptive behavior progress ratings on their own included the following youth-aimed practices: communication skills, self-monitoring, maintenance or relapse prevention, and skill building. Though not incorporated on the Level One PDE Over 13 variable, other practices pointed to the importance of supporting youth in their current environments, including assertiveness training and mindfulness, and self-reward or self-praise. But there were some anomalies. As examples, hypnosis and biofeedback demonstrated the two highest associations with rate of improvement. However, both had very low base rates, appearing in roughly 1% and 3% of cases respectively. Free association and thought field therapy also had high coefficients, but low base rates (5%

and 3%). Clearly more research is needed to determine whether such results are the product of statistical artifacts or carry clinical importance.

Some practice elements appearing in many Level One (Best Support) treatment protocols (e.g. parent coping, family therapy, response cost and psychoeducation-parent) were related to less improvement, albeit non-significantly. As mentioned earlier, one hypothesis is that youth and their families in public mental health service samples tend to experience multiple life and environmental stressors, making it challenging for parents or caregivers to participate in treatment. It seems possible that in this treatment as usual setting, therapeutic efforts to develop these sorts of parental and family interventions can be unproductive. In such cases, practices that help youth help themselves might be more effective and useful in maintaining treatment gains than those aimed at supporting parents.

Relatedly, two practices, when endorsed at any point in the five months of treatment, were associated with slowed rate of average disruptive behavior progress rating improvement: supportive listening and client centered and line of sight supervision. This is consistent with the body of research thus far, as line of sight supervision was not present in any of the Level One (Best Support) protocols for disruptive behavior problems. It is likely that simply observing a youth for the purpose of maintaining safe and appropriate behavior is not sufficient in increasing or even maintaining response to treatment in complex, community samples. It might also indicate again that the endorsement of line of sight supervision, or other similar practices linked to lower average disruptive behavior progress rating (e.g., crisis management) might be a natural reaction to poor client progress. As an example, youth who are improving on treatment

targets might be less likely to necessitate close observation, as they become better able to manage their behaviors and emotions in their own environments. The supportive listening and client-centered practice element was not coded within the current list of Level One (Best Support) protocols and was thus not included in any of the composite predictor variables. At the same time, it is likely that a non-judgmental, reflective discussion with the child (without additional skills) might not adequately address progress on his or her rule-breaking and oppositional treatment targets. Clinicians might be more likely to utilize this practice element as an engagement strategy with parents or youth. Still much more research is necessary to explain the specific reasons for these findings.

It is possible that youth-focused strategies are needed to supplement the more standard parent management training practices in community mental health. Even if caregivers are able to be active members of the treatment team, youth clients might also require the skills and motivation necessary to decrease their oppositional and rule-breaking behaviors. This might explain why practices such as parent praise had positive parameter estimates, but did not significantly predict average disruptive behavior progress ratings. Nevertheless, the degree to which combinations or sequenced combinations of a few specific practices influencing rate of improvement is an open question. This is particularly relevant, as certain practices (e.g., problem solving, social skills training, cognitive) that were included in the PDE variable, Level One PDE Over 13, were not significantly related to the slope of the outcome variable on their own. While that might be an artifact of base rates, this study was only able to evaluate the effect of individual practice elements and a composite group of practices on rate of

change in progress ratings. Future studies could examine the combined effect of theoretically-derived clusters of practice elements on client progress.

No available youth or therapist characteristics were significantly associated with progress ratings when in an interaction with the time or time by PDE. In the model with the Level One PDE Over 13 variable, parameter estimates of the demographic variables by time or the demographic variables alone were small (range=-0.0005 – 0.14) relative to the Level One PDE Over 13 by time interaction ( $\gamma_{110}=0.54$ ). This indicates that the PDE variable accounts for more of the variance in average disruptive behavior progress ratings than demographics. That said, there still appears to be considerable variance, some of which might be explained by client or therapist effects of unknown origin.

Overall findings are promising for many reasons. This study is the first of its kind to utilize distilled practice elements and treatment targets to evaluate youth rate of progress on clinician-defined targets. While others such as Denenny and Mueller (2012) have suggested that PDE content might mediate youth progress, the current results indicate that the use of PDE can both feasibly align with the evidence-based service research to date and predict progress in usual care.

Results also reveal that targets, rather than diagnoses, can be used to examine youth problems even in the context of significant multimorbidity and client complexity. Given the many recent criticisms of the DSM V and the low degree of diagnostic consistency in community mental health planning (Young et al, 2007), it appears informative to plan and assess treatment based on a constellation of team-identified treatment targets. This has relevant clinical utility, as both providers and clients might be more invested in improvements on shared targets and goals that influence quality of life,

rather than on global functioning (Becker et al., 2011; Daleiden & Chorpita, 2005; Weisz et al. 2011). Such an approach is in line with increased calls for idiographic measures of treatment (e.g., Barlow & Nock, 2009) and client-guided methods of clinical assessment (e.g., Eifert, Evans, & McKendrick, 1990; Hoagwood et al., 2010).

Community therapists maintain that evidence-based treatment manuals, particularly those addressing a single problem area, have questionable adaptability for their complex, comorbid clients. While this might be true about manualized treatment, it is a less valid argument from the modularized or practice element viewpoint. However, it is challenging to disseminate and implement full, manualized programs into usual care settings, particularly given the need for engagement from multiple levels within a system. Community mental health systems serve diverse populations and the high rate of burnout and turnover in usual care make it difficult to maintain all therapists at a high degree of skilled delivery of manuals. That said, these findings suggest that therapists might be able to increase client improvement by utilizing techniques that have been identified as having best support in the research literature. Therapists may not need to have the burden of being trained to fidelity in a full treatment manual for disruptive behavior problems, but might be able to benefit from learning certain common elements for that problem area.

### **Limitations**

The findings of this study should be interpreted within the context of several broad limitations. Though these analyses offered greater precision with regard to specific practices and targets, it is possible that findings were understated on account of the use composite variables for both the predictors and criterion. A different combination of targets might have yielded other results. The current model examines the outcome

variable as a composite average of the five disruptive behavior treatment target progress ratings indicated in a given month. Although these targets are likely to respond similarly to PDEs for disruptive behavior problems, it is possible that creating an average score might have confounded progress on specific targets. However, preliminary analyses of the progress ratings of these targets suggest that they were correlated with one another. A brief examination of three<sup>3</sup> of the five individual target progress ratings (oppositonality, anger, aggression) also indicated that rate of change in discrete target progress ratings varied in the predicted direction as a function of PDE application, though not necessarily significantly.

Second, there is currently no universal agreement on the operational definition of PDEs and it is possible that the 30% inclusion criteria for determining whether a given practice element was a PDE was more or less restrictive than necessary. As a result, this study tested the sensitivity of the models to varying coding criteria, such as PDE variables defined by more and less conservative frequency cut offs and weighted variables incorporating the frequency of practice elements in Level One (Best Support) protocols. It is also possible that the combination of certain PDEs in the presence of a particular sequence of targets might be more predictive of monthly rates of change than the current variables. While outside the scope of the current study, future research might examine whether youth outcomes are better predicted by other specific criteria such as chunks or sequences of PDEs.

Though the blend of PracticeWise's coding procedures and the MTPS created an extensive list of practice elements, the scope of practices examined was not necessarily

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<sup>3</sup> The distribution of the two remaining targets (empathy, willful misconduct), when examined alone deviated from normality and therefore were not examined in this analysis. .

exhaustive. Some practices included by PracticeWise were not included on both the 2005 and 2008 versions of the MTPS and were thus not incorporated in final analyses (e.g., psychoeducation – teacher or school staff). The MTPS also has limited ability to assess and track specific Rogerian, humanistic, and psychodynamic treatment practices. Indeed the inclusion of some of these practices within analyses might influence effects and/or the effect size. That said, this study utilized an up-to-date list of PDEs with relatively stringent criteria.

It is methodologically challenging to study treatment as usual, owing to the fact that data are nested in multiple levels (e.g., therapist, agency, level of care) and typically obtained in numerous ways. Thus, it is certainly possible that therapists and provider organizations systematically varied treatment within their caseloads in ways that were not addressed by our analyses. For instance, administrators might have assigned their toughest cases to their most effective therapists. If strong therapists were characterized by high use of evidence-based practices, then PDE effects could be attenuated. In addition, our limited data set did not include theoretical orientation or non-specific common therapeutic elements such as therapist warmth or alliance as predictors. Analyses also did not account for effects of potential interactions, such as the match between clients and therapists, the fit of practices and clients, or the possibility that different therapists are more likely to apply certain practices. As an example of the latter point, Orimoto and colleagues (2012) found that treatment teams consisting of at least one paraprofessional were more likely to utilize behavior management practices. Thus, it is possible that paraprofessionals might be more effective at applying PDEs associated with behavior management than PDEs related to cognitive or self-coping, which might



result in greater rates of improvement for clients with whom they apply PDEs associated with behavior management. Without controlling for such variability, findings might be over- or underestimating the effect of PDE. The data set additionally lacked measures of organizational culture, leadership and supervision. Clinicians within provider agencies that encouraged evidence-based practice application might have been more likely than other therapists to utilize PDE. Such qualities might be accounting for some variance of PDE in our model. While each of these questions is outside the scope of the current study, an initial first step might seek to determine whether specific client or therapist characteristics are associated with PDE application. That said, therapists' professional specialty, highest degree earned, and a binary coding of membership in a particular provider agency were not significantly associated with rate of change overall or when in an interaction with PDE. Furthermore, this study sought to capture variance in the type of treatment being applied, while most randomized control trials attempt to limit the variance in treatment itself. Future research might examine the degree to which such additional variables including (but not limited to) hours of supervision, attitudes towards evidence-based practice and knowledge of evidence-based services might contribute to rate of change in youth progress.

The use of state-mandated measures in evaluating treatment outcomes was practical because it decreased the potential for added burden on reporters and could be widely used. Nevertheless, the individual completing the MTPS might not have always been the clinician who provided the most service to the client. This potentially influenced the degree to which therapist characteristics were associated with the criterion variable. It is hoped and assumed that if therapists did indeed provide treatment in teams, they

were well aware of the scope and details of services provided to the clients for whom they submitted the MTPS.

The utilization of therapists' self-report of treatment techniques and targets is a simple and cost-effective method to assess treatment as usual, but several studies indicate discrepancies between direct observations of therapist behaviors and their self-reports (Carroll & Rounsaville, 2007; Hurlburt et al, 2009). On the other hand, a recent study conducted by Chapman, McCart, Letourneau & Sheidow (2013) suggested that therapists were relatively consistent with treatment experts in their ratings of personal adherence to an adolescent treatment protocol. Borntrager and colleagues (2013) also demonstrated that therapists' reports of MTPS practice elements showed good validity. Though more research is needed to both understand and control for these discrepancies, the MTPS appears to be an effective and efficient measure of the therapeutic process.

Next, the current study evaluated the practices endorsed over time but was unable to examine the exact intensity or quality with which the practice elements were applied during sessions. This is particularly pertinent, as efforts to describe usual care seek to go beyond the superficial description of practices to evaluate more specific reasons for treatment success. However, the fact that certain descriptive findings (e.g., similar average number of PEs endorsed) from previous studies of the MTPS (Orimoto et al., 2013) have reasonable congruence with results found with the TPOCS-S (McLeod et al., 2001; Garland et al, 2010) presents greater support for the MTPS as a reasonable metric in clinical practice.

The study sample was comprised of mostly adolescent males with moderate to severe, comorbid psychopathology in a single system of care. Though research on

disruptive behavior problems is often disproportionately male, the CAMHD population is more severe than samples in other studies of treatment as usual (e.g., Garland et al, 2010). These analyses also evaluated results within a state that had undergone considerable reform, involving the promotion of evidence-based practices. Izmirian and Nakamura (under review) have found that providers in the CAMHD might have more favorable attitudes towards evidence-based practices than behavior health providers in the Department of Education. Such findings indicate the treatment approaches and outcomes in other levels of care (e.g. out-of-home services) and in other systems of care is still an open question.

### **Conclusions and Future Directions**

The high intensity and cost of treatment for youth with disruptive behavior problems has called for an increased focus on accountability in mental health practice and a detailed understanding of practice-based evidence and the science and practice gap. Patients, therapists, and systems in actual practice are indeed diverse and complex. Yet the research literature and practice-based evidence from the Hawai'i system of care demonstrate that the use of PDEs is associated with greater rates of improvement for youth with disruptive behavior problems, with statistical and clinical significance. Indeed youth and their therapists might benefit from the encouraged use of PDEs, even in the face of high case complexity. Rather than mandating the implementation of full manuals, it seems possible to improve youth rate of progress by helping therapists to incrementally increase their knowledge and use of specific techniques or common elements. Of course, these findings could also inform practice guidelines, therapist pre-service training, and/or public policy recommendations. Clients and families might also gain greater

understanding of the relevance of PDE, resulting in increased demand for such services within community mental health.

Due to the subtleties of study results, future research should attempt to ask questions about such nuanced elements of treatment and treatment success. Namely, is the specific sequence of practice element application relevant to outcomes? Are there certain clusters of practice elements that offer greater rates of progress than others? Are there specific practice element combinations that are useful in the presence of a particular treatment target? Can this study be replicated with other common youth problems such as mood and anxiety?

With the onset of widespread health care reform, it will be vital to continue to distill the evidence-base to the specific components of treatments that offer the greatest value to the youth clients and their families. Though the current investigation was able to comment on helpful ingredients in the recipe for treatment progress, it did not offer specific steps for combining them. Thus, effective and efficient measures of practice (e.g., the MTPS) will be vital in ongoing efforts to evaluate practice-based evidence and enhance feedback and individual reflection.

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## APPENDICES

### Appendix A: Frequency of Level One (Best Support) Protocols for Disruptive Behavior Problems Consisting of Practice Elements,

Based on Client Age

Practice Element	Client Age																		
	All	Mean	Mean																
	Ages	4-12	13-19	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Praise	76	86	54	95	94	97	94	92	77	76	73	72	57	63	62	60	54	34	50
Tangible Rewards	61	77	38	62	67	79	88	89	77	80	76	72	53	55	53	47	39	17	
Time Out	57	74	7	92	91	86	85	86	66	60	52	47	18	13	15				
Problem Solving	56	51	78	48	49	61	60	50	39	44	52	58	70	71	62	80	77	84	100
Differential Reinforcement of Other Behavior	55	67	7	87	85	79	75	77	62	56	45	40	18	13	15				
Commands	54	66	7	89	88	83	69	71	54	56	45	40	18	13	15				
Psychoeducation - Caregiver	52	60	37	62	67	75	72	71	47	48	52	47	48	55	53	47	39	17	
Modeling	44	46	51	39	43	47	50	48	47	44	45	50	40	34	29	40	47	67	100
Monitoring	44	53	41	34	40	43	50	53	62	68	66	58	53	55	58	54	47	17	
Goal Setting	37	36	57	14	19	15	29	33	54	60	56	47	57	63	67	67	62	34	50
Social Skills Training	34	24	75	14	19	22	22	21	24	28	28	40	48	55	67	87	85	84	100
Communication Skills	34	34	36	17	16	22	35	33	35	44	49	54	44	46	43	54	47	17	
Natural & Logical Consequences	34	29	28	39	43	43	38	33	12	12	18	22	31	38	39	40	31	17	
Cognitive	33	31	63	14	16	18	32	27	39	44	42	47	44	38	43	60	70	84	100
Attending	33	38	3	59	61	50	47	42	24	20	21	22	9	5	5				

Practice Element	All Ages	Mean	Mean	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
		4-12 Years	13-19 Years																	
Response Cost	32	35	34	23	19	18	29	33	43	52	52	50	44	46	48	47	39	17		
Therapist																				
Praise/Reward	32	28	28	23	28	29	29	24	31	32	28	29	35	38	34	40	31	17		
Maintenance/Relapse																				
Prevention	31	28	49	12	10	8	25	24	31	40	45	54	44	50	53	60	54	34	50	
Caregiver Coping	29	26	31	25	28	36	32	27	16	20	25	29	35	42	39	47	39	17		
Stimulus Control or																				
Antecedent Mgmt	26	40	8	28	34	33	38	42	50	52	45	40	18	17	20					
Educational Support	20	12	34	6	10	8	7	6	12	16	21	25	35	42	43	54	47	17		
Self-Monitoring	19	12	51				13	12	20	16	21	25	27	30	29	40	47	84	100	
Family Therapy	17	12	34	3	4	4	10	9	12	16	25	29	35	42	43	54	47	17		
Relationship/Rapport																				
Building	16	7	26	12	13	8				4	11	15	27	34	34	40	31	17		
Marital Therapy	14	2	34							4	14		35	42	43	54	47	17		
Talent or Skill																				
Building	14	8	30	3	4	4	4	3	4	8	18	22	31	38	39	47	39	17		
Family Engagement	14	5	26	3	4					4	8	11	15	27	34	34	40	31	17	
Relaxation	14	13	22	9	10	11	16	15	8	12	18	22	18	21	15	14	16	17	50	
Functional Analysis	13	4	28							4	11	18	31	38	39	40	31	17		
Crisis Management	13	7	26	3	4	4	4	3	4	8	14	18	27	34	34	40	31	17		
Assertiveness																				
Training	13	6	23					3	8	12	11	18	27	25	29	20	24	34		
Behavioral																				
Contracting	13	20	7	9	10	11	19	24	35	32	25	18	18	13	15					
Play Therapy	13	10	0	28	25	18	10	9												
Psychoeducation -																				
Child	11	6	31							4	8	18	22	27	30	20	27	31	34	50

Practice Element	All Ages	Mean	Mean	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		4-12 Years	13-19 Years																
Individual Therapy for Caregiver	11	3	26							4	11	15	27	34	34	40	31	17	
Self-Reward/Self- Praise	9	8	24	3	4	4	10	9	12	8	7	11	9	13	20	20	24	34	50
Anger Management	9	10	18	3	4	4	10	9	16	16	14	15	9	13	10	14	16	17	50
Peer Pairing	9	8	9	9	10	11	10	9			11	11	18	17	10	7	8		
Insight Building	8	7	18				7	6	12	12	11	11	9	13	10	14	16	17	50
Guided Imagery	7	2	22								7	11	18	21	15	14	16	17	50
Exposure	3	2	3								7	8	9	9					
Activity Selection	3	1	0	6	7														
Psychoeducation - Teacher or School Staff	3	3	0	3	4	4	4			4	4	4							
Self-Verbalization	3	5	0	3	4	4	4	3	8	8	7	4							
Case Management	2	2	0	3	4	4	4	3	4										
Mentoring	2	4	0	3	4	4	4	3	4	4	4	4							
Response Prevention	2	1	0	3	4														
Support Networking	2	1	0							4	4	4							
Interpretation		0	0																
Line of Sight																			
Supervision		0	0																
Narrative		0	0																
Personal Safety Skills		0	0																



Appendix B: CAMHD Notice of Privacy Practices

CAMHD Notice of Privacy Practices

Child and Adolescent Mental Health Division

**Notice of Privacy Practices**

**Effective April 14, 2003**

**Child and Adolescent Mental Health Division  
("CAMHD")**

**THIS NOTICE EXPLAINS HOW MEDICAL INFORMATION ABOUT YOUR CHILD MAY BE USED AND DISCLOSED. IT ALSO EXPLAINS HOW YOU CAN ACCESS THIS INFORMATION. PLEASE READ IT CAREFULLY.**

**Understanding Your Child's Protected Health Information:**

CAMHD staff and doctors take notes each time your child visits them. They write down what they think is your child's condition and how they plan to care for them. Your child's health record has information that can identify him or her. This kind of information is known as "Protected Health Information." Your child's name and Social Security number are types of PHI.

If you know what is in the health record you can better protect your child's Protected Health Information ("PHI"). You can also ask how PHI will be used. You can decide if PHI should be disclosed. You can make sure that the health record is accurate.

**Our Duties:**

CAMHD must:

- Protect the privacy of PHI.
- Tell you about our legal duties.
- Tell you about our privacy practices. You have the right to know how CAMHD uses PHI.
- Abide by this notice.

CAMHD can change its practices at any time. We will mail you a copy of any new notice within 60 days.

CAMHD will ask for your consent before disclosing PHI. CAMHD can disclose PHI without your permission. But any release of PHI will follow the law, as explained in this notice.

**Your Child's Health Information Rights:**

CAMHD owns your child's health record. However, the information in the record belongs to your child. On behalf of your child you have the right to:

- View or get paper copies of PHI.

- Decide how we send PHI to you. For example, CAMHD usually sends information by mail. You may ask to get PHI by other means, such as fax. You may also ask us to send PHI to another address.
- Ask to limit the use and disclosure of PHI. CAMHD is not required by law to agree to every request.
- Ask for corrections to your child's health record.
- Get an accounting of PHI disclosures.
- Change your mind about allowing use or disclosures of PHI. This does not apply to disclosures that have already happened.

**Information that does not identify your child is used for:**

- Medical and mental health research.
- Planning and improving services.
- Improving health care.

**Examples of Disclosures for Treatment, Payment, and Health Operations:**

CAMHD sometimes has to share PHI with other agencies to provide services. CAMHD will only share the minimum necessary PHI with them. We will also require them to protect the PHI they receive.

CAMHD will use and share PHI for the following purposes:

***Treatment.*** For example: A CAMHD professional notes your child's and the treatment team's expectations in the health record. A doctor logs the actions taken and his or her observations. The care coordinator can review your child's record later to see if those goals were met.

***Payment.*** For example: A provider sends a bill to CAMHD. The bill or accompanying materials may contain PHI.

***Regular Health Operations.*** For example: CAMHD staff uses PHI to evaluate treatment outcomes. This helps CAMHD to improve our services.

**Other Uses or Disclosures (Permission not Needed):**

***Business Associates.*** For example: CAMHD provides some of its services by contract. We may hire an auditor to review financial records. Those records may contain PHI about your child.

***Health Oversight.*** CAMHD may share PHI with certain government oversight agencies. The U.S. Department of Health and Human Services is an example of such an agency.

***Law Enforcement.*** CAMHD may share PHI for law enforcement purposes.

***Coroners, Medical Examiners and Funeral Directors.*** CAMHD may share PHI with people who need it to do this type of work.

***Organ Donation and Disease Registers.*** CAMHD may share PHI with authorized organ

donation and transplantation organizations.

**Research.** CAMHD may share information with researchers under certain conditions. An Institutional Review Board (IRB) must approve the research project. The IRB will also enforce rules that require researchers to keep PHI private.

**Public Health.** CAMHD may have to disclose PHI to prevent or control disease, injury, or disability. CAMHD may share PHI with public health authorities for those reasons.

**Correctional institution.** If your child is at a correctional facility, CAMHD can provide PHI to the facility. We will share PHI with the facility when needed to protect the health and safety of your child and others.

**Victims of Abuse (including Child Abuse), Neglect or Domestic Violence.** CAMHD is required to report all suspected cases of abuse or neglect. CAMHD must contact the Police or Child Protective Services to make a report. These reports may contain PHI.

**Specialized Government Functions.** CAMHD may disclose PHI for national security or intelligence purposes. We may disclose PHI to protective services for the President. It may disclose PHI to others as required by law.

**Judicial and Administrative Hearings.** CAMHD may share PHI in judicial or administrative hearings. CAMHD will only share PHI after being served with an order of a court or administrative tribunal. CAMHD may also share PHI to respond to lawful processes. Subpoenas are a common type of lawful process.

**Other Government Agencies.** CAMHD may share PHI with other government agencies if necessary to verify that your child is entitled to other benefits or services.

### **Family Educational Rights and Privacy Act (FERPA)**

Your child's records may also be considered "education records." CAMHD will only disclose information in your child's education records as allowed by FERPA regulations. The Department of Education provides you with your child's FERPA notice.

### **For More Information or to Report a Problem:**

You may contact us if you have other questions or want more information. Please call the CAMHD Privacy Coordinator at (808) 733-8370. You may also write to:

CAMHD Privacy Coordinator  
3627 Kilauea Avenue, Suite 101  
Honolulu, HI 96816

You can also file a complaint with the U.S. Department of Health and Human Services. You may contact them at:

Office of Civil Rights  
Medical Privacy, Complaint Division  
U.S. Department of Health and Human Services  
200 Independence Avenue, S.W., HHH Bldg., Room 509H

Washington, DC 20201  
Phone: (866) 627-7748  
TTY: (886) 788-4989  
E-mail: www.hhs.gov/ocr

No one will face retaliation for filing a complaint.

My signature below indicates that I have been provided with a copy of the notice of privacy practices.

Name: \_\_\_\_\_

Child's Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Relationship to child: \_\_\_\_\_

Effective Date: April 14, 2003.  
Distribution: Original to CAMHD.  
Copy to Parent/Guardian.  
6/03

Appendix C: Monthly Treatment and Progress Summary, Instructions, and Codebook

## SERVICE PROVIDER MONTHLY TREATMENT & PROGRESS SUMMARY Child and Adolescent Mental Health Division (CAMHD)

**Instructions:** Please complete and electronically submit this form to CAMHD by the 5<sup>th</sup> working day of each month (summarizing the time period of 1<sup>st</sup> to the last day of the previous month). The information will be used in service review, monitoring, planning and coordination in accordance with CAMHD policies and standards. Mahalo!

### Monthly Treatment and Progress Summary, Instructions, and Codebook

Client Name:	CR #:	DOB:
Month/Year of Services:	Eligibility Status:	Level of Care (one per form):
Axis I Primary Diagnosis:	Axis I Secondary Diagnosis:	Axis I Tertiary Diagnosis:
Axis II Primary Diagnosis:	Axis II Secondary Diagnosis:	

**Service Format (circle all that apply):**

Individual      Group      Parent      Family      Teacher      Other: \_\_\_\_\_

**Service Setting (circle all that apply):**

Home      School      Community      Out of Home      Clinic/Office      Other: \_\_\_\_\_

Service Dates:																	
----------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**Targets Addressed This Month (number up to 10):**

	Activity Involvement		Community Involvement		Hyperactivity		Positive Peer Interaction		Shyness
	Academic Achievement		Contentment, Enjoyment, Happiness		Learning Disorder, Underachievement		Phobia/Fears		Sleep Disturbance
	Adaptive Behavior/Living Skills		Depressed Mood		Low Self-Esteem		Positive Thinking/Attitude		Social Skills
	Adjustment to Change		Eating, Feeding Problems		Mania		Pregnancy Education/Adjustment		Speech and Language Problems
	Aggression		Empathy		Medical Regimen Adherence		Psychosis		Substance Use
	Anger		Enuresis, Encopresis		Occupational Functioning/Stress		Runaway		Suicidality
	Anxiety		Fire Setting		Oppositional/Non-Compliant Behavior		School Involvement		Traumatic Stress
	Assertiveness		Gender Identity Problems		Peer Involvement		School Refusal/Truancy		Treatment Engagement
	Attention Problems		Grief		Peer/Sibling Conflict		Self-Control		Willful Misconduct, Delinquency
	Avoidance		Health Management		Personal Hygiene		Self-Injurious Behavior		Other:
	Cognitive-Intellectual Functioning		Housing/Living Situation		Positive Family Functioning		Sexual Misconduct		Other:

CR # \_\_\_\_\_ (please repeat the number here)

**Progress Ratings This Month (check appropriate rating for any target numbers endorsed as targets):**

#	Deterioration < 0%	No Significant Changes 0%-10%	Minimal Improvement 11%-30%	Some Improvement 31%-50%	Moderate Improvement 51%-70%	Significant Improvement 71%-90%	Complete Improvement 91%-100%	Date (If Complete)
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

**Intervention Strategies Used This Month (check all that apply):**

Activity Scheduling	Emotional Processing	Line of Sight Supervision	Personal Safety Skills	Stimulus or Antecedent Control
Assertiveness Training	Exposure	Maintenance or Relapse Prevention	Physical Exercise	Supportive Listening
Attending	Eye Movement, Tapping	Marital Therapy	Play Therapy	Tangible Rewards
Behavioral Contracting	Family Engagement	Medication/ Pharmacotherapy	Problem Solving	Therapist Praise/Rewards
Biofeedback, Neurofeedback	Family Therapy	Mentoring	Psychoeducation, Child	Thought Field Therapy
Care Coordination	Free Association	Milieu Therapy	Psychoeducation, Parent	Time Out
Catharsis	Functional Analysis	Mindfulness	Relationship or Rapport Building	Twelve-Step Program
Cognitive	Goal Setting	Modeling	Relaxation	Other:
Commands	Guided Imagery	Motivational Interviewing	Response Cost	Other:
Communication Skills	Hypnosis	Natural and Logical Consequences	Response Prevention	Other:
Crisis Management	Ignoring/Differential Reinforcement of Other Behavior	Parent Coping	Self-Monitoring	
Cultural Training	Individual Therapy for Caregiver	Parent/Teacher Monitoring	Self-Reward/ Self-Praise	
Discrete Trial Training	Insight Building	Parent/Teacher Praise	Skill Building	
Educational Support	Interpretation	Peer Pairing	Social Skills Training	

CR # \_\_\_\_\_ (please repeat the number here)

Psychiatric Medications (List All)	Total Daily Dose	Dose Schedule	Check if Change	Description of Change
_____	_____	_____	...	_____
_____	_____	_____	...	_____
_____	_____	_____	...	_____
_____	_____	_____	...	_____
_____	_____	_____	...	_____

Projected Discharge Date: \_\_\_\_\_ ... Check if Discharged During Current Month

**IF YOUTH WAS DISCHARGED THIS MONTH, PLEASE COMPLETE ITEMS A & B:**

**A. Discharge Living Situation (check one):**

- Home                       Foster Home                       Group Care                       Residential Treatment  
 Institution/Hospital                       Jail/Correctional Facility                       Homeless/Shelter                       Other: \_\_\_\_\_

**B. Reason(s) for Discharge (check all that apply):**

- Success/Goals Met                       Insufficient Progress                       Family Relocation  
 Runaway/Elopement                       Refuse/Withdraw                       Eligibility Change                       Other: \_\_\_\_\_

**Outcome Measures:** Optional. If you have any of the following data, please report the most recent scores:

CAFAS (8 Scales): (1-School: ) (2-Home: ) (3-Community: ) (4-Behavior Toward Others: )			Date:
(5-Moods/Emotions: ) (6-Self-Harm: ) (7-Substance: ) (8-Thinking: ) (Total: )			
CASII/CALOCUS (Total):	CASII/CALOCUS (Level of Care):		Date:
CBCL (Total Problems T):	CBCL (Internalizing T):	CBCL (Externalizing T):	Date:
YSR (Total Problems T):	YSR (Internalizing T):	YSR (Externalizing T):	Date:
TRF (Total Problems T):	TRF (Internalizing T):	TRF (Externalizing T):	Date:
Arrested During Month? (Y/N):	School attendance (% of days):		

**Comments/Suggestions (attach additional sheets if necessary):**

Provider Agency & Island: _____	Clinician Name and ID#: _____
Provider Supervisor Signature: _____	Clinician Signature: _____
Submitted to CAMHD (date): _____	Care Coordinator: _____



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- Home –Working with youth or family members in the youth’s home
- School –Working with youth or professionals in the youth’s educational setting, other than in the context of an IEP/MP meeting
- Community – Working with youth or others in the youth’s community/neighborhood
- Out of Home – Working with the youth or family in a residential facility
- Clinic/Office – Working with the youth or family in a clinical office
- Other – Another setting not specified above; please write description

For Service Dates, please provide the dates for each service provided during that month. If additional space is required, please continue writing dates in the area below the boxes provided. If the service was provided out of home (i.e., continuously), please provide start and end dates for that month’s services and put the word “to” in between in one of the boxes.

### Targets

Targets are the strengths and needs being addressed as part of the mental health services for that youth.

When completing the Targets Addressed This Month, please put numbers (1, 2, 3...) rather than checkmarks (X, D) to the left of each target addressed. This is so that progress ratings in the next section can be attached to each target. For example, if “Academic Achievement” was targeted, place a “1” in the box to the left of that target on the form. Numbers do not need to reflect any particular order. If more than 10 targets were addressed during the month, please provide only those you feel are the 10 most important. If a target was addressed for which there is no option, please number the “other” box, and write in the target.

The list of treatment targets is intended to provide a summary of strengths and needs that are commonly targeted for change during mental health service provision. These problem areas are NOT diagnostic descriptions and the primary targets for treatment may change over time for a particular youth. For example, when treating a youth with an eating disorder, treatment may target eating/feeding behavior at one point, but target medical regimen adherence or positive family functioning on other occasions. These treatment targets are for progress summary purposes and should NOT replace the detailed specification of goals and objectives as part of the treatment planning process.

### Definitions of Targets

1. **Academic Achievement** – Issues related to general level or quality of achievement in an educational or academic context. This commonly includes performance in coursework, and excludes cognitive-intellectual ability/capacity issues (#11) and specific challenges in learning or achievement (#24)
2. **Activity Involvement** – Issues related to general engagement and participation in activities. Only code here those activities that are not better described by the particular activity classes of school involvement (#40), peer involvement (#30), or community involvement (#12).
3. **Adaptive Behavior/Living Skills** – Skills related to independent living, social functioning, financial management, and self-sufficiency that are not better captured under other codes

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such as personal hygiene (#33), self-management/self-control (#43), social skills (#47), housing/living situation (#22), or occupational functioning/stress (#28).

4. **Adjustment to Change** – Issues related to a youth’s global response to a life transition or specific challenge (e.g., change of school, living situation, treatment transition or discharge, etc.).
5. **Aggression** – Verbal and/or physical aggression, or threat thereof, that results in intimidation, physical harm, or property destruction.
6. **Anger** – Emotional experience or expression of agitation or destructiveness directed at a particular object or individual. Common physical feelings include accelerated heartbeat, muscle tension, quicker breathing, and feeling hot.
7. **Anxiety** – A general uneasiness that can be characterized by irrational fears, panic, tension, physical symptoms, excessive anxiety, worry, or fear.
8. **Assertiveness** – The skills or effectiveness of clearly communicating one’s wishes. For example, the effectiveness with which a child refuses unreasonable requests from others, expresses his/her rights in a non-aggressive manner, and/or negotiates to get what s/he wants in their relationships with others.
9. **Attention Problems** – Described by short attention span, difficulty sustaining attention on a consistent basis, and susceptible to distraction by extraneous stimuli.
10. **Avoidance** – Behaviors aimed at escaping or preventing exposure to a particular situation or stimulus.
11. **Cognitive-Intellectual Functioning** – Issues related to cognitive-intellectual ability/capacity and use of those abilities for positive adaptation to the environment. This includes efforts to increase IQ, memory capacity, or abstract problem-solving ability.
12. **Community Involvement** – Issues related to the amount of involvement in specific community activities within the child’s day.
13. **Contentment/Enjoyment/Happiness** – Refers to issues involving the experience and expression of satisfaction, joy, pleasure, and optimism for the future.
14. **Depressed Mood** – Behaviors that can be described as persistent sadness, anxiety, or "empty" mood, feelings of hopelessness, guilt, worthlessness, helplessness, decreased energy, fatigue, etc.
15. **Eating/Feeding Problems**– Knowledge or behaviors involved with the ingestion or consumption of food. May include nutritional awareness, food choice, feeding mechanics (e.g., swallowing, gagging, etc.), and social factors relating with eating situations.
16. **Empathy** – Identifications with and understanding of another person’s situation, feelings, and motives.
17. **Enuresis/Encopresis** – Enuresis refers to the repeated pattern of voluntarily or involuntarily passing urine at inappropriate places during the day or at night in bed or clothes. Encopresis refers to a repeated pattern of voluntarily or involuntarily passing feces in inappropriate places.
18. **Fire Setting** – Intentionally igniting fires.
19. **Gender Identity Problems** – Issues related with a youth’s self-concept or self-understanding involving gender roles and social behaviors in relation to their biological sex. This does not address self-concept issues involving sexual orientation, which would be coded as “other.”
20. **Grief** – Feelings associated with a loss of contact with a significant person in the youth’s environment (e.g., parent, guardian, friend, etc.).

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21. **Health Management** – Issues related to the improvement or management of one’s health, inclusive of both physical illness and fitness. In addition to dealing with the general development of health-oriented behavior and management of health conditions, this target can also focus on exercise or lack of exercise.
22. **Housing/Living Situation** – Refers to finding or stabilizing an appropriate living situation for a youth.
23. **Hyperactivity** – Can be described by fidgeting, squirming in seat, inability to remain seated, talking excessively, difficulty engaging in leisure activities quietly, etc.
24. **Learning Disorder, Underachievement** – Refers to specific challenges with learning or educational performance that are not better accounted for by cognitive-intellectual functioning (#11) or general academic achievement (#1).
25. **Low Self-Esteem** – An inability to identify or accept his/her positive traits or talents, and accept compliments. Verbalization of self-disparaging remarks and viewing him or herself in a negative manner.
26. **Mania** – An inflated self-perception that can be manifested by loud, overly friendly social style that oversteps social boundaries, and high energy and restlessness with a reduced need for sleep.
27. **Medical Regimen Adherence** – Knowledge, attitudes, and behaviors related to regular implementation procedures prescribed by a health care professional. Commonly include lifestyle behaviors (e.g., exercise, nutrition), taking medication, or self-administration of routine assessments (e.g., taking blood samples in a diabetic regimen).
28. **Occupational Functioning/Stress** – Issues related to career interests, seeking employment, obtaining work permits, job performance, or managing job stress or strain that are not better characterized under other targets (e.g., anxiety).
29. **Oppositional/Non-Compliant Behavior** – Behaviors that can be described as refusal to follow adult requests or demands or established rules and procedures (e.g., classroom rules, school rules, etc.).
30. **Peer Involvement** – A greater involvement in activities with peers. Activities could range from academic tasks to recreational activities while involvement could range from working next to a peer to initiating an activity with a peer.
31. **Peer/Sibling Conflict** – Peer and/or sibling relationships that are characterized by fighting, bullying, defiance, revenge, taunting, incessant teasing and other inappropriate behaviors.
32. **Phobia/Fears** – Irrational dread, fear, and avoidance of an object, situation, or activity.
33. **Personal Hygiene** – Challenges related to self-care and grooming.
34. **Positive Family Functioning** – Issues related with healthy communication, problem-solving, shared pleasurable activities, physical and emotional support, etc. in the context of an interaction among multiple persons in a family relation, broadly defined.
35. **Positive Peer Interaction** – Social interaction and communication with peers that are pro-social and appropriate. This differs from peer involvement (#30) in that it focuses on interactional behavior, styles, and intentions, whereas peer involvement targets actual engagement in activities with peers regardless of interactional processes.
36. **Positive Thinking/Attitude** – This target involves clear, healthy, or optimistic thinking, and involves the absence of distortions or cognitive bias that might lead to maladaptive behavior.
37. **Pregnancy Education/Adjustment** – Issues related to helping a pregnant youth prepare and adjust to parenthood.

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38. **Psychosis** – Issues related to atypical thought content (delusions of grandeur, persecution, reference, influence, control, somatic sensations), and/or auditory or visual hallucinations.
39. **Runaway** – Running away from home or current residential placement for a day or more.
40. **School Involvement** – Detailed description of amount of involvement in specific school activities within the child’s scheduled school day.
41. **School Refusal/Truancy** – Reluctance or refusal to attend school without adult permission for the absence. May be associated with school phobia or fear manifested by frequent somatic complaints associated with attending school or in anticipation of school attendance, or willful avoidance of school in the interest of pursuing other activities.
42. **Self-Injurious Behavior** – Acts of harm, violence, or aggression directed at oneself.
43. **Self-Management/Self-Control** – Issues related to management, regulation, and monitoring of one’s own behavior.
44. **Sexual Misconduct** – Issues related with sexual conduct that is defined as inappropriate by the youth’s social environment or that includes intrusion upon or violation of the rights of others.
45. **Shyness** – Social isolation and/or excessive involvement in isolated activities. Extremely limited or no close friendships outside the immediate family members. Excessive shrinking or avoidance of contact with unfamiliar people.
46. **Sleep Disturbance** – Difficulty getting to or maintaining sleep.
47. **Social Skills** – Skills for managing interpersonal interactions successfully. Can include body language, verbal tone, assertiveness, and listening skills, among other areas.
48. **Speech and Language Problems** – Expressive and/or receptive language abilities substantially below expected levels as measured by standardized tests.
49. **Substance Abuse/Substance Use** – Issues related to the use or misuse of a common, prescribed, or illicit substances for altering mental or emotional experience or functioning.
50. **Suicidality** – Issues related to recurrent thoughts, gestures, or attempts to end one’s life.
51. **Traumatic Stress** – Issues related to the experience or witnessing of life events involving actual or threatened death or serious injury to which the youth responded with intense fear, helplessness, or horror.
52. **Treatment Engagement** – The degree to which a family or youth is interested and optimistic about an intervention or plan, such that they act willfully to participate and work toward the success of the plan.
53. **Willful Misconduct/Delinquency** – Persistent failure to comply with rules or expectations in the home, school, or community. Excessive fighting, intimidation of others, cruelty or violence toward people or animals, and/or destruction of property.

### Progress Ratings

Please provide a single progress rating for each target selected above (up to 10). Numbers 1 through 10 in the left column refer to the targets selected in the Targets Addressed This Month section above. For example, had you selected “Academic Achievement” above, there would be a “1” in the box to the left of that target on that section. Then, the first row of the Progress Ratings, labeled “1,” is where you would note the progress ratings associated with academic achievement.

Please place a mark (X, D) in the column corresponding to your subjective rating of progress associated with this target. When possible, your overall subjective ratings should be informed by

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a review of objective measures such as any available and relevant questionnaires or behavioral observation data. For example, if a youth receives a T-score of 70 during an intake assessment and the treatment goal is to reduce this score to 60, then if a youth receives a T-score of 65 during a monthly assessment, then 50% progress may be reported [i.e.,  $70 - 65 / 70 - 60 = 5 / 10 = 50\%$ ]. Or if a youth gets into 10 fights per week initially and the treatment goal is to reduce fighting to 0 fights per week, then during a month in which the youth was fighting only 3 times per week, that would reflect 70% progress [i.e.,  $10 - 3 / 10 - 0 = 7 / 10 = 70\%$ ].

**Anchors refer to changes from baseline or beginning of services for that target.** Thus, a youth who had reached 90% of an initial goal would receive a rating of “significant improvement.” If that progress were to decline to 70% in the following month, the youth would then get a rating of “moderate improvement” for that target for that month (not “deterioration”). “Deterioration” refers to when a target gets worse from the time it was initially addressed. If there is a break in addressing a specific target (e.g., a target is addressed, then not addressed for a month, then addressed again in a later month), use the initial baseline from the first time as the point of comparison. Only when there is a break in the complete episode of care (i.e., discharge followed by later admission), should that reset the baseline for a given target.

If a goal is reached (improvement is complete), the provider may choose to note the date in the rightmost column. This implies that the target is no longer being addressed. Targets that are not complete should be rated again on the following month’s summary form.

### Intervention Strategies

Please place a mark (X, D) to the left of any intervention strategies used during the past month. There is no limit to how many may be checked. If strategies were employed that are not in the following list of definitions, please mark the “other” box and write in the strategy used.

### Definitions of Intervention Strategies

1. **Activity Scheduling** – The assignment or request that a child participate in specific activities outside of therapy time, with the goal of promoting or maintaining involvement in satisfying and enriching experiences.
2. **Assertiveness Training** – Exercises or techniques designed to promote the child’s ability to be assertive with others, usually involving rehearsal of assertive interactions.
3. **Attending** – Exercises involving the youth and caregiver playing together in a specific manner to facilitate their improved verbal communication and nonverbal interaction. Can involve the caregiver’s imitation and participation in the youth’s activity, as well as parent-directed play (previously called “Directed Play”).
4. **Behavioral Contracting** – Development of a formal agreement specifying rules, consequences, and a commitment by the youth and relevant others to honor the content of the agreement.
5. **Biofeedback/ Neurofeedback** – Strategies to provide information about physiological activity that is typically below the threshold of perception, often involving the use of specialized equipment.

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6. **Care Coordination** – Coordinating among the youth’s service providers to ensure effective communication, receipt of appropriate services, adequate housing, etc.
7. **Catharsis** – Strategies designed to bring about the release of intense emotions, with the intent to develop mastery of affect and conflict.
8. **Cognitive** – Any techniques designed to alter interpretation of events through examination of the child’s reported thoughts, typically through the generation and rehearsal of alternative counter-statements. This can sometimes be accompanied by exercises designed to comparatively test the validity of the original thoughts and the alternative thoughts through the gathering or review of relevant information.
9. **Commands** – Training for caregivers in how to give directions and commands in such a manner as to increase the likelihood of child compliance.
10. **Communication Skills** – Training for youth or caregivers in how to communicate more effectively with others to increase consistency and minimize stress. Can include a variety of specific communication strategies (e.g., active listening, “I” statements).
11. **Crisis Management** – Immediate problem solving approaches to handle urgent or dangerous events. This might involve defusing an escalating pattern of behavior and emotions either in person or by telephone, and is typically accompanied by debriefing and follow-up planning.
12. **Cultural Training** – Education or interaction with culturally important values, rituals, or sites with no specific practices identified.
13. **Discrete Trial Training** – A method of teaching involving breaking a task into many small steps and rehearsing these steps repeatedly with prompts and a high rate of reinforcement.
14. **Educational Support** – Exercises designed to assist the child with specific academic problems, such as homework or study skills. This includes tutoring.
15. **Emotional Processing** – A program based on an information processing model of emotion that requires activation of emotional memories in conjunction with new and incompatible information about those memories.
16. **Exposure** – Techniques or exercises that involve direct or imagined experience with a target stimulus, whether performed gradually or suddenly, and with or without the therapist’s elaboration or intensification of the meaning of the stimulus.
17. **Eye Movement/ Tapping** – A method in which the youth is guided through a procedure to access and resolve troubling experiences and emotions, while being exposed to a therapeutic visual or tactile stimulus designed to facilitate bilateral brain activity.
18. **Family Engagement** – The use of skills and strategies to facilitate family or child’s positive interest in participation in an intervention.
19. **Family Therapy** – A set of approaches designed to shift patterns of relationships and interactions within a family, typically involving interaction and exercises with the youth, the caregivers, and sometimes siblings.
20. **Free Association** – Technique for probing the unconscious in which a person recites a running commentary of thoughts and feelings as they occur.
21. **Functional Analysis** – Arrangement of antecedents and consequences based on a functional understanding of a youth’s behavior. This goes beyond straightforward application of other behavioral techniques.
22. **Goal Setting** – Setting specific goals and developing commitment from youth or family to attempt to achieve those goals (e.g., academic, career, etc.).

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23. **Guided Imagery** – Visualization or guided imaginal techniques for the purpose of mental rehearsal of successful performance. Guided imagery for the purpose of physical relaxation (e.g., picturing calm scenery) is not coded here, but rather coded under relaxation (#50).
24. **Hypnosis** – The induction of a trance-like mental state achieved through suggestion.
25. **Ignoring/Differential Reinforcement of Other Behavior** – The training of parents or others involved in the social ecology of the child to selectively ignore mild target behaviors and selectively attend to alternative behaviors.
26. **Individual Therapy for Caregiver** – Any therapy designed directly to target individual (non-dyadic) psychopathology in one or more of the youth’s caregivers. If the therapy for caregivers involves marital therapy (#31) or communication skills (#10) those are not coded here, unless there are additional services for individual caregiver psychopathology, in which case all that apply should be coded.
27. **Insight Building** – Activity designed to help a youth achieve greater self-understanding.
28. **Interpretation** – Reflective discussion or listening exercises with the child designed to yield therapeutic interpretations. This does not involve targeting specific thoughts and their alternatives, which would be coded as cognitive/coping.
29. **Line of Sight Supervision** – Direct observation of a youth for the purpose of assuring safe and appropriate behavior.
30. **Maintenance/Relapse Prevention** – Exercises and training designed to consolidate skills already developed and to anticipate future challenges, with the overall goal to minimize the chance that gains will be lost in the future
31. **Marital Therapy** – Techniques used to improve the quality of the relationship between caregivers.
32. **Medication/ Pharmacotherapy** – Any use of psychotropic medication to manage emotional, behavioral, or psychiatric symptoms.
33. **Mentoring** – Pairing with a more senior and experienced individual who serves as a positive role model for the identified youth.
34. **Milieu Therapy** – A therapeutic approach in residential settings that involves making the environment itself part of the therapeutic program. Often involves a system of privileges and restrictions such as a token or point system.
35. **Mindfulness** – Exercises designed to facilitate present-focused, non-evaluative observation of experiences as they occur, with a strong emphasis of being “in the moment.” This can involve the youth’s conscious observation of feelings, thoughts, or situations.
36. **Modeling** – Demonstration of a desired behavior by a therapist, confederates, peers, or other actors to promote the imitation and subsequent performance of that behavior by the identified youth.
37. **Motivational Interviewing** – Exercises designed to increase readiness to participate in additional therapeutic activity or programs. These can involve cost-benefit analysis, persuasion, or a variety of other approaches.
38. **Natural and Logical Consequences** – Training for parents or teachers in (a) allowing youth to experience the negative consequences of poor decisions or unwanted behaviors, or (b) delivering consequences in a manner that is appropriate for the behavior performed by the youth.

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39. **Parent Coping** – Exercises or strategies designed to enhance caregivers’ ability to deal with stressful situations, inclusive of formal interventions targeting one or more caregiver.
40. **Parent/Teacher Monitoring** – The repeated measurement of some target index by the parent, teacher, or other adult involved in the child’s social ecology.
41. **Parent/Teacher Praise** – The training of parents, teachers, or other adults involved in the social ecology of the child in the administration of social rewards to promote desired behaviors. This can involve praise, encouragement, affection, or physical proximity.
42. **Peer Pairing** – Pairing with another youth of same or similar age to allow for reciprocal learning or skills practice.
43. **Personal Safety Skills** – Training for the youth in how to maintain personal safety of one’s physical self. This can include education about attending to one’s sense of danger, body ownership issues (e.g., “good touch-bad touch”), risks involved with keeping secrets, how to ask for help when feeling unsafe, and identification of other high-risk situations for abuse.
44. **Physical Exercise** – The engagement of the youth in energetic physical movements to promote strength or endurance or both. Examples can include running, swimming, weight-lifting, karate, soccer, etc. Note that when the focus of the physical exercise is also to produce talents or competence and not just physical activity and conditioning, the code for “Skill Building” (#55) can also be applied.
45. **Play Therapy** – The use of play as a primary strategy in therapeutic activities. This may include the use of play as a strategy for clinical interpretation. Different from Attending (#3), which involves a specific focus on modifying parent-child communication. This is also different from play designed specifically to build relationship quality (#49).
46. **Problem Solving** – Techniques, discussions, or activities designed to bring about solutions to targeted problems, usually with the intention of imparting a skill for how to approach and solve future problems in a similar manner.
47. **Psychoeducational-Child** – The formal review of information with the child about the development of a problem and its relation to a proposed intervention.
48. **Psychoeducational-Parent** – The formal review of information with the caregiver(s) about the development of the child’s problem and its relation to a proposed intervention. This often involves an emphasis on the caregiver’s role in either or both.
49. **Relationship/Rapport Building** – Strategies in which the immediate aim is to increase the quality of the relationship between the youth and the therapist. Can include play, talking, games, or other activities.
50. **Relaxation** – Techniques or exercises designed to induce physiological calming, including muscle relaxation, breathing exercises, meditation, and similar activities. Guided imagery exclusively for the purpose of physical relaxation is also coded here.
51. **Response Cost** – Training parents or teachers how to use a point or token system in which negative behaviors result in the loss of points or tokens for the youth.
52. **Response Prevention** – Explicit prevention of a maladaptive behavior that typically occurs habitually or in response to emotional or physical discomfort.
53. **Self-Monitoring** – The repeated measurement of some target index by the child.
54. **Self-Reward/Self-Praise** – Techniques designed to encourage the youth to self-administer positive consequences contingent on performance of target behaviors.



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55. **Skill Building** – The practice or assignment to practice or participate in activities with the intention of building and promoting talents and competencies.
56. **Social Skills Training** – Providing information and feedback to improve interpersonal verbal and non-verbal functioning, which may include direct rehearsal of the skills. If this is paired with peer pairing (#42), that should be coded as well.
57. **Stimulus/Antecedent Control** – Strategies to identify specific triggers for problem behaviors and to alter or eliminate those triggers in order to reduce or eliminate the behavior.
58. **Supportive Listening** – Reflective discussion with the child designed to demonstrate warmth, empathy, and positive regard, without suggesting solutions or alternative interpretations.
59. **Tangible Rewards** – The training of parents or others involved in the social ecology of the child in the administration of tangible rewards to promote desired behaviors. This can involve tokens, charts, or record keeping, in addition to first-order reinforcers.
60. **Therapist Praise/Rewards** – The administration of tangible (i.e., rewards) or social (e.g., praise) reinforcers by the therapist.
61. **Thought Field Therapy** – Techniques involving the tapping of various parts of the body in particular sequences or "algorithms" in order to correct unbalanced energies, known as thought fields.
62. **Time Out** – The training of or the direct use of a technique involving removing the youth from all reinforcement for a specified period of time following the performance of an identified, unwanted behavior.
63. **Twelve-Step Program** – Any programs that involve the twelve-step model for gaining control over problem behavior, most typically in the context of alcohol and substance use, but can be used to target other behaviors as well.

For medication interventions please list each psychiatric medication the youth is taking (e.g., Adderall ER), describe the prescribed total daily dose for each medication (e.g., 30 mg.), identify the prescribed dose schedule (e.g., 2x/week, 3x/day, 15-10-5/day, etc.), place a check mark in the appropriate box if there was a change in the medication or regimen during the reporting month, and provide a description of the change on the line to the right (e.g., new medication, daily dosage change from 10 to 30 mg, change in dose schedule from 5-5/day to 10-10-10/day, etc.).

For Projected End Date, please indicate the expected date for termination of the services for which this form was completed.

For Discharged During Month please indicate if the youth was discharged from your program during the reporting month. If the youth was discharged, please indicate the Living Situation that the youth was entering upon discharge and the Reason for Discharge. For Projected End Date, please indicate the expected date for termination of the services for which this form was completed.

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### Living Situation upon Discharge

Please place a mark (X, D) to the left of statement that best describes the type of living environment in which the youth was expected to reside at the time of discharge. Please select only one option. If the youth's living situation at discharge is not well described by the following list of definitions, please mark the "other" box and write in the youth's living situation.

1. **Home** - Youth to live in a house, apartment, trailer, hotel, dorm, barrack, and/or single room occupancy. This excludes situations better characterized as foster homes.
2. **Foster Home**-Youth to reside in a foster home or therapeutic foster home. A foster home is a home that is licensed to provide foster care to children, adolescents, and/or adults.
3. **Group Care**-Youth to reside in a group care facility. This level of care may include a group home, therapeutic group home, or board and care. This excludes community-based residential and hospital-based residential care
4. **Residential Treatment**- Youth to reside in a community-based residential treatment, rehabilitation center, or other residential treatment that is not better characterized as a group home or institution/hospital facility. An organization, not licensed as a psychiatric hospital, whose primary purpose is the provision of individually planned programs of mental health treatment services in conjunction with residential care for children and youth. The services are provided in facilities that are certified by state or federal agencies or through a national accrediting agency.
5. **Institutional/Hospital**-Youth resides in an institutional care or hospital-based residential care facility with care provided on a 24 hour, 7 day a week basis. This level of care may include a skilled nursing/intermediate care facility, nursing homes, institutes of mental disease, inpatient psychiatric hospital, psychiatric health facility, Veterans Affairs hospital, or state hospital.
6. **Jail/Correctional Facility**-Youth resides in a Jail and/or Correctional facility with care provided on a 24 hour, 7 day a week basis. This level of care may include a jail, correctional facility, detention centers, prison, youth authority facility, juvenile hall, boot camp, or boys ranch.
7. **Homeless/Shelter**- A youth is considered homeless if s/he lacks a fixed, regular, and adequate nighttime residence or his/her primary nighttime residency is a supervised publicly or privately operated shelter designed to provide temporary living accommodations, an institution that provides a temporary residence for individuals intended to be institutionalized, or a public or private place not designed for, or ordinarily used as, a regular sleeping accommodation for human beings (e.g., on the street). Youth who were discharged due to extended runaway or elopement episode should be recorded in this category.

### Reason(s) for Discharge

Please place a mark (X, D) to the left of each statement that describes the reasons for discharging youth from the program during the reporting month. There is no limit to how many may be checked. If the discharge reason is not well characterized by the following list of definitions, please mark the "other" box and write in the reason.

## CAMHD Provider Monthly Summary Instructions and Codebook

1. **Success/Goals Met**-Youth was clinically discharged due to sufficient treatment progress (e.g., symptoms reduced, functioning improved), treatment goals were met, youth was evaluated and services were determined unnecessary, services were completed, or youth was moving to a less restrictive and intensive level of care.
2. **Insufficient Progress**-Youth was discharged from service without showing sufficient treatment progress to be judged as clinically successful (i.e., little symptom reduction, improvement in functioning, or goal attainment was achieved).
3. **Family Relocation**-Youth was discharge because the youth and family moved out of state or out of the service area.
4. **Runaway/Elopement**-Youth was discharged in association with an extended period of unavailability for treatment because the youth had runaway from home or eloped from the program.
5. **Refuse/Withdraw**-Youth was discharged due to parental refusal, non-participation in treatment, lack of consent, or other indication that client withdrew from services against professional advice.
6. **Eligibility Change**-Youth was discharged in association with a change in eligibility for services, such as a termination of a court order or commitment, aging out of child and adolescent services, loss of Medicaid insurance, etc.

Please provide any other Comments or Suggestions for the youth's care coordinator you think would be important.

If scores are available on any of the Outcome Measures recommended in the Interagency Practice Guidelines, please provide them along with dates in the optional section provided. Include whether or not youth was arrested during the past month, and an estimate of the percentage of school days that were attended. If school is attended in a residential setting, this counts toward the percentage of days attended.

For the CAFAS, the numbered spaces refer to the following scales: 1-School, 2-Home, 3-Community, 4-Behavior Towards Others, 5-Moods/Emotions, 6-Self-Harm, 7-Substance, 8-Thinking. "Total" refers to the sum of these 8 scales.

Please write the name of the agency including location (e.g., Maui, Big Island) and name of the clinicians (along with CAMHMIS ID#) and provider, along with appropriate signatures of the clinician completing the form and the qualified supervisor. Note the date that the form was submitted electronically to CAMHD and provide name of Care Coordinator.

## VITA

TRINA E. ORIMOTO  
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trinao@hawaii.edu  
orimotote@upmc.edu

### EDUCATION

Candidate, Doctor of Philosophy in Clinical Psychology  
University of Hawai'i at Mānoa  
Honolulu, HI  
Dissertation defended: January 2014  
Advisor: Charles Mueller, Ph.D  
Dissertation topic: "Predicting Progress for Disruptive Behavior Targets with Practices Derived from the Evidence-Base in Community Mental Health Services"  
Committee: Charles Mueller, Ph.D, Frank Floyd, Ph.D., Kentaro Hayashi, Ph.D., Valli Kalei Kanuha, Ph.D., Brad Nakamura, Ph.D.

Master of Arts in Clinical Psychology  
University of Hawai'i at Mānoa  
Honolulu, HI  
Degree awarded: Fall 2011  
Thesis topic: "Popping the Hood: Disruptive Behavior Disorders, Comorbidity, and Community Mental Health"  
Committee: Charles Mueller, Ph.D., Kentaro Hayashi, Ph.D., Brad Nakamura, Ph.D.

Bachelor of Arts in Psychology with a Minor in Education, Cum Laude  
University of California at Los Angeles  
Los Angeles, CA  
Degree awarded: Spring 2005

### PRE-DOCTORAL INTERNSHIP

Western Psychiatric Institute and Clinic  
University of Pittsburgh Medical Center  
Pittsburgh, PA  
September 2013 - August 2014

### ACADEMIC AWARDS AND HONORS

Hawai'i Psychological Association, Outstanding Student of 2012  
University of Hawai'i at Mānoa, Gartley Award, 2010 (\$200) and 2012 (\$1600 & \$1100)  
University of California at Los Angeles, Dean's & Provost's Honors Lists

University of California at Los Angeles, College Honors

PEER-REVIEWED PUBLICATIONS

Borntrager, C., Chorpita, B., **Orimoto, T. E.**, Love, A.R., & Mueller, C. (In press). Validity of clinician's self-reported practice elements on the Monthly Treatment and Progress Summary. *Journal of Behavioral Health Services & Research*.

Wada, R., Glaser, D., Bantum, E., **Orimoto, T.**, Steffen, A.D., Elia J., Albright, C.L. (2013) Hawaii's multiethnic adolescent and young adult survivors of childhood cancer: Are their health behavior risks similar to state and national samples? *Hawaii Journal of Medicine & Public Health*. In press.

**Orimoto, T.E.**, Mueller, C.W., Hayashi, K. & Nakamura, B.J. Community-based treatment for youth with co- and multimorbid disruptive behavior disorders. (2013). *Administration and Policy in Mental Health Services and Mental Health Services Research, Online First*.

Gotay, C., **Orimoto, T.**, & Kobayashi, K. (2012) Content validity and feasibility of the Care Notebook to assess cancer-related quality of life in Hawai'i. *Annals of Cancer Research and Therapy*, 20, 68-73.

**Orimoto, T.**, Higa McMillan, C. K., Mueller, C. W., & Daleiden, E. (2012). Assessment of therapeutic practice elements in a youth community mental health setting. *Psychiatric Services* 63, 343-350.

Mueller, C., Stalk, H.L., & **Orimoto, T.** (2011) Comorbidity of psychiatric disorders. In *Encyclopedia of Adolescence*. Springer.

RESEARCH IN PROGRESS

Lindhiem, O., Bennett, C. **Orimoto, T.E.**, & Kolko, D.J. Meta-analysis of Individualized Outcome Measures. Data analyses in progress.

**Orimoto, T.E.**, Dampman, R.G., Simon, K.M., & Kolko, D.J. Sustainability of evidence-based practices and integrated mental health care in pediatric primary care settings: A longitudinal focus group study with physicians. Data analyses in progress.

Kolko, D.J., **Orimoto, T.E.** & Simon, K.M. Behavioral Health Specialists' Readiness for Integrated/Collaborative Care in Pennsylvania: A Practitioner Study. Data collection in progress.

Okado, I., Love, A.R., **Orimoto, T.E.**, & Mueller, C.W. (2011). Exploratory and confirmatory factor analyses of the treatment targets component of the Monthly Treatment and Progress Summary. Manuscript in preparation.

Borntrager, C., Chorpita, B., Love, A., Orimoto, T., & Mueller, C. Validity of clinician's self-reported treatment targets on the Monthly Treatment and Progress Summary. Manuscript in preparation.

#### PROFESSIONAL PRESENTATIONS

Kolko, D.J., **Orimoto, T.E.** & Simon, K.M. (2014, June). Physician and patient recommendations for promoting integrated pediatric behavioral health care teams. Paper submitted for presentation at the 7th International Conference on Interprofessional Practice and Education, Pittsburgh, PA.

Okamura, K. H., **Orimoto, T. E.**, Nakamura, B. J., Chorpita, B. F., & Beidas, R. S. (2014, November). Therapist knowledge of evidence-based practices: How does it change as the evidence base changes? In K. Okamura (Chair) and K. Hawley (Discussant), Understanding the importance of provider knowledge and attitudes in the implementation of evidence-based practices. Symposium submitted for presentation at the 48th Annual Convention of the Association of Behavioral and Cognitive Therapies, Philadelphia, PA.

Okamura, K. H., Izmirian, S. C., **Orimoto, T. E.**, Nakamura, B. J., Higa-McMillan, C. K., & Slavin, L. (2014, November). Does the evidence-base matter? Self-reported practice element training across educational degrees. Paper submitted for presentation at the 48th Annual Convention of the Association of Behavioral and Cognitive Therapies, Philadelphia, PA.

**Orimoto, T.E.**, Dampman, R.G., Simon, K.M., & Kolko, D.J. (2014, November). Sustainability of evidence-based practices and integrated mental health care in pediatric primary care settings: A longitudinal focus group study with physicians. Poster submitted for presentation at the 48th Annual Convention of the Association of Behavioral and Cognitive Therapies, Philadelphia, PA.

Kolko, D.J., **Orimoto, T.E.** & Simon, K.M. (2014, June). Physician and patient recommendations for promoting integrated pediatric behavioral health care teams. Paper submitted for presentation at the 7th International Conference on Interprofessional Practice and Education, Pittsburgh, PA.

**Orimoto, T.E.**, Mueller, C.W., & Nakamura, B.J. (2013, November). Fusing science and practice: Predicting progress ratings for disruptive behavior targets with practices derived from the evidence-base in community treatments. In R. Beidas & B. McLeod (Chair) and M. Southam-Gerow (Discussant), *Translating evidence-based assessment and treatments for youth for deployment in community settings*. Symposium presented at the annual convention of the Association for Behavioral and Cognitive Therapies, Nashville, TN.

Stern, K., Church, M., **Orimoto, T.** & Causey, K. (2013, March). *Treating youth trauma in Hawaii's schools & communities*. Panel discussion presented at the 10th annual conference of the Institute on Violence, Abuse, and Trauma, Honolulu,

HI.

**Orimoto, T.E.,** Mueller, C.W., Hayashi, K., & Nakamura, B.J. (2012, November). Popping the hood: Disruptive behavior disorders, comorbidity, and therapeutic practices in community mental health. In B. Nakamura (Chair) and M. Southam-Gerow (Discussant), *Innovative application of common element methodologies for steering youth mental health dissemination and implementation efforts in public sector settings*. Symposium presented at the annual convention of the Association for Behavioral and Cognitive Therapies, National Harbor, MD.

**Orimoto, T.E.,** Jackson, D., Keir, S., Ku, J., & Mueller, C.W. (2012, November). *Is less more? Patterns in client change across levels of care in youth public mental health services*. Poster presented at the 46th annual convention of the Association for Behavioral and Cognitive Therapies, National Harbor, MD.

Love, A.R., **Orimoto, T.E.,** Okado, I., & Mueller, C.W. (2012, November). *What do community therapists target in usual care practice? Examining patterns of therapist-identified treatment targets using confirmatory factor analysis*. Poster presented at the 46th annual convention of the Association for Behavioral and Cognitive Therapies, National Harbor, MD.

Love, A.R., **Orimoto, T.E.,** Powell, A.K., & Mueller, C.W. (2011) *Examining the relationship between therapist-identified treatment targets and youth diagnoses using exploratory factor analysis*. Poster presented at the 45th annual convention of the Association for Behavioral and Cognitive Therapies, Toronto, Canada.

Denenny, D., Love, A., **Orimoto, T.,** Okamura, K., Nakamura, B., & Mueller, C. (2010) *Interdisciplinary evidence-based treatment of a 7-year old with selective mutism using modular cognitive behavior therapy*. Poster presented at the annual conference of the Association of Behavioral and Cognitive Therapies, San Francisco, California.

Higa McMillan, C. **Orimoto, T. E.,** Kimhan, C.K., & Mueller, C.W. (2009) *Feedback and benchmarking to increase use of evidence-based practice elements*. Paper presented as part of a symposium at the annual meeting of the Hawaii Psychological Association, Honolulu, Hawaii.

Higa-McMillan, C., **Orimoto, T.,** Kimhan, C., & Mueller, C. (2009, November). *Feedback and benchmarking to increase use of evidence-based practice elements*. In L. Slavin, (Chair), *The Hawai'i approach to evidence-based children's mental health practice*. Symposium conducted at the meeting of the Hawai'i Psychological Association, Honolulu, Hawaii.

**Orimoto, T.E.,** Higa McMillan, C., Mueller, C.W. & Tolman, R. (2009). *Factor structure of therapeutic practices in Hawai'i's youth system of care*. Paper presented as part of a symposium at the annual meeting of the Hawaii Psychological Association, Honolulu, Hawaii.

**Orimoto, T.E.,** Higa-McMillan, C.K., Daleiden, E.L., Kimhan, C.K., & Mueller, C.W. (2009). *Using feedback to providers to increase EBP adoption.* In A. Ward (Chair). Symposium conducted at the 2009 annual convention of the American Psychological Association, Toronto, Canada.

**Orimoto, T. E.,** Higa-McMillan, C. K., Mueller, C., & Tolman, R. T. (2009). *Organization of therapeutic practices in treatment as usual.* Paper presented at the 2009 annual conference of the Research and Training Center for Children's Mental Health, Tampa, FL.

**Orimoto, T. E. & Dopp, S.** (April 2005). *Social anxiety and goal orientation in urban adolescents.* Poster presented at the Western Psychological Association, Annual Convention, Portland, Oregon.

Conn, N., Dopp, S. & **Orimoto, T. E.** (April 2005). *Generational differences in attitudes towards aggression among Latino adolescents.* Poster presented at the Western Psychological Association, Annual Convention, Portland, Oregon.

**Orimoto, T.E.,** Ibaraki, A., Tran, N., & Cadenasso, N. (April 2004). *Is it OK?: Ethnic and gender group differences in aggressive beliefs.* Poster presented at the Western Psychological Association, Annual Convention, Phoenix, Arizona.

Tran, N., Cadenasso, N., Ibaraki, A., **Orimoto, T. E.** & Nishina, A. (April 2004) *REGARD-ing' Me: Ethnicity, ethnic identity, and psychological adjustment among urban adolescents.* Poster presented at the Western Psychological Association, Annual Convention, Phoenix, Arizona.

#### WORKSHOPS & TRAININGS PROVIDED

**Orimoto, T.,** Kolko, D.J., Ghinassi, F. & Conti, T. (2014, May). *Behavioral health treatment in pediatric primary care settings.* Journal club presented to the faculty and students of the Western Psychiatric Institute and Clinic, University of Pittsburgh Medical Center.

Atta, S., & **Orimoto, T.** (2013, January). *Haupoa child group curriculum, weeks 6-7.* Training workshop presented to the Haupoa staff at the Parents and Children Together, Family Peace Center, Honolulu, HI.

Atta, S., & **Orimoto, T.** (2013, January). *Haupoa child group curriculum, weeks 1-5.* Training workshop presented to the Haupoa staff at the Parents and Children Together, Family Peace Center, Honolulu, HI.

Nakamura, B.J., Okamura, K.O. & **Orimoto, T.E.** (2012, June). *Cognitive Behavior Therapy and evidence-based practices for children's mental health: Innovations and selected techniques for youth.* Training presented to the Department of Education, behavioral health specialists, Maui, HI.



**Orimoto, T.E.** (2011, July). *Participation enhancement intervention*. Training presented to the Department of Education, behavioral health specialists, Aiea, HI.

Atta, S., & **Orimoto, T.** (2012, April). *Haupoa child group curriculum, weeks 6-7*. Training workshop presented to the Haupoa staff at the Parents and Children Together, Family Peace Center, Honolulu, HI.

Atta, S., & **Orimoto, T.** (2012, April). *Haupoa child group curriculum, weeks 4-5*. Training workshop presented to the Haupoa staff at the Parents and Children Together, Family Peace Center, Honolulu, HI.

Atta, S., & **Orimoto, T.** (2012, April). *Haupoa child group curriculum, weeks 1-3*. Training workshop presented to the Haupoa staff at the Parents and Children Together, Family Peace Center, Honolulu, HI.

Atta, S., & **Orimoto, T.** (2012, March). *Basic clinical skills*. Training workshop presented to the Haupoa staff at the Parents and Children Together, Family Peace Center, Honolulu, HI.

Atta, S., **Orimoto, T.**, & Hee, P. (2012, March). *Child problems and their development and the effects of domestic violence on children*. Training workshop presented to the Haupoa staff at the Parents and Children Together, Family Peace Center, Honolulu, HI.

Atta, S., Kanuha, V.K., & **Orimoto, T.** (2012, March). *Haupoa goals, values, and approaches*. Training workshop presented to the Haupoa staff at the Parents and Children Together, Family Peace Center, Honolulu, HI.

**Orimoto, T.** & Essayli, J. (2012, March). *SCID-I/II/D Administration*. Training workshop presented to the students of Psychology 672 (Introduction to Assessment II), University of Hawaii, Honolulu, HI.

Atta, S., & **Orimoto, T.** (2012, February). *Intake and Assessment Training: Day 3*. Training workshop presented to the Haupoa staff at the Parents and Children Together, Family Peace Center, Honolulu, HI.

Atta, S., & **Orimoto, T.** (2012, February). *Intake and Assessment Training: Day 2*. Training workshop presented to the Haupoa staff at the Parents and Children Together, Family Peace Center, Honolulu, HI.

Atta, S., Kanuha, V.K., & **Orimoto, T.** (2012, January). *Intake and Assessment Training: Day 1*. Training workshop presented to the Haupoa staff at the Parents and Children Together, Family Peace Center, Honolulu, HI.

Okamura, K., **Orimoto, T.**, & Stalk, H.L. (2011, August). *Building bulletproof behavioral targets*. Workshop presented to the staff at the Department of Health, Child and Adolescent Mental Health Division, Honolulu Family Guidance Center, Honolulu, HI.

**Orimoto, T.E.** (2011, July). *Effective communication: Praise and commands*. Training presented to the Department of Education, behavioral health specialists, Kona, HI.

**Orimoto, T.E.** (2011, July). *Psychoeducation on AD/HD*. Training presented to the Department of Education, behavioral health specialists, Kona, HI.

#### GRANT WRITING SUPPORT

*Project Kealahou*. State of Hawaii's Department of Health, Child and Adolescent Mental Health Division. Substance Abuse and Mental Health Services Administration (\$8,000,000, dispersed over 6 years). (Student research support)

#### JOURNAL REVIEW

Administration and Policy in Mental Health and Mental Health Services Research  
Journal of Behavioral Health Services Research

#### DIRECT CLINICAL SUPERVISORY EXPERIENCE

##### Clinician

Addiction Medicine Services, Inpatient Unit  
Western Psychiatric Institute and Clinic  
University of Pittsburgh Medical Center, Department of Psychiatry  
June 2014-Present

Supervisor: Antoine Douaihy, M.D.

- Provided live supervision and training in evidence-based treatment to medical students, psychology intern, and psychiatry residents for individual treatment of substance abuse disorders.
- Provided twice daily motivational interviewing sessions with individuals with severe mental illness and dual diagnoses to address intrinsic motivation and values surrounding substance use and expectations for recovery.

##### Peer Supervisor and Counselor Advocate

Haupoa and Puuhonua Components  
Family Peace Center, Parents & Children Together &  
Center for Cognitive Behavior Therapy  
University of Hawai'i at Mānoa, Departments of Psychology and Sociology

Honolulu, HI

May 2011-July 2013

Supervisors: Katayoun Issari, MSW, Valli Kalei Kanuha, Ph.D. & Charles Mueller, Ph.D.

- Assisted in the development of a federally-funded treatment program (group and individual formats) for youth exposed to domestic violence based on a Modular Cognitive Behavioral Therapy (MCBT) and family systems approach to treatment service.
- Co-trained staff members on all aspects of the program including intake assessment procedures, service plan development, treatment recommendation selection, basic individual clinical skills, administration and interpretation of family self-report questionnaires, child psychopathology, and the implementation of group curriculum and individual MCBT for anxiety, mood, and attentional and conduct problems.
- Supervised and provided weekly individual supervision for staff members on issues ranging from personal concerns to crisis management.
- Supervised and provided intake assessments of clients, utilizing non-structured interviews and data from self-/parent-report questionnaires.
- Supervised and provided treatment services in both group and individual formats for children exposed to domestic violence. Additional duties included formulating service plans, coordinating care with youths' school and other community treatment providers, and conducting ongoing treatment progress monitoring using clinical dashboards.
- Co-facilitated victim survivor and parenting group therapy sessions for women exposed to domestic violence.
- Community-based clinical populations referred to the center spanned a variety of ethnic, cultural, and socio-economic backgrounds, and reflected a variety of living situations.

#### Peer Supervisor

Psychology 672 - Introduction to Assessment II

University of Hawai'i at Mānoa, Department of Psychology

Honolulu, HI

January 2012 - May 2012

Supervisor: Elaine Heiby, Ph.D.

- Trained junior clinical psychology graduate students in the administration of the Structured Clinical Interview for DSM Disorders (SCID)-I/II/D.
- Observed and supervised students' administrations of semi-structured interviews (e.g., intake questionnaire, SCID-I) and adult cognitive (Wechsler Adult Intelligence Scale, Mini

Mental State Examination) and neuropsychological (Wechsler Memory Scale, Luria-Nebraska Neuropsychological Battery) tests.

## DIRECT CLINICAL EXPERIENCE

### Clinician

Dialectical Behavior Therapy Team  
Western Psychiatric Institute and Clinic  
University of Pittsburgh Medical Center, Department of Psychiatry  
October 2013-Present

Supervisors: Stephanie Stepp, PhD & Tiffany Painter, LCSW

- Provides evidence-based treatment for an individual with a borderline personality disorder, consisting of weekly therapy and coaching calls.
- Participates in weekly consultation team.
- Receives weekly individual supervision.
- Attended 4-month seminar on Dialectical Behavior Therapy and relevant workshops.

### Clinician

Science and Practice for Effective Children's Services  
Western Psychiatric Institute and Clinic  
University of Pittsburgh Medical Center, Department of Psychiatry  
September 2013-Present

Supervisors: David Kolko, PhD, ABPP & Eunice Torres, MS

- Delivered assessment, education, individual and family treatment to an adolescent who had engaged in act of sexually inappropriate behavior, through the Services for Adolescent and Family Enrichment program
- Provided assessment and treatment for several children with fire-setting behaviors through the Services Aimed at Fire Education and Training of Youth program
- Provided behavioral health consultations and assisted in the implementation of a behavioral and mental service into a local, primary care practice in McKeesport (Latterman Family Health Center).
- Received individual clinical supervision and attended relevant seminars and workshops.

### Clinician

Services for Teens at Risk  
Western Psychiatric Institute and Clinic  
University of Pittsburgh Medical Center, Department of Psychiatry  
September 2013-Present

Supervisors: Kim Poling, LCSW & Tina Goldstein, PhD

- Conducted semi-structured diagnostic assessments (involving

the K-SADS, CDRS, mood and anxiety timelines, and the Assessment of Suicidality) and developed treatment recommendations in collaboration with a multidisciplinary team

- Assisted in the development of a 6-session parent and teen group therapy for teens transitioning to adulthood.
- Co-led intensive outpatient group sessions.
- Received individual clinical supervision and attended relevant seminars and workshops.

#### Clinician

Consultation and Liaison Service

Childrens Hospital of Pittsburgh

University of Pittsburgh Medical Center, Department of Psychiatry

March 2014-May 2014

Supervisors: Sheri Goldstrohm, PhD, Kristen Dalope, MD, Roberto Ortiz-Aguayo, MD

- Conducted semi-structured diagnostic assessments of children and adolescents admitted to the hospital, per consultation requests from various departments within the hospital.
- Partnered with a multidisciplinary team to offer triage and treatment recommendation services.
- Offered routine patient consultation services to individuals staying at the hospital.
- Received individual clinical supervision and attended relevant seminars and workshops.

#### Clinician

Diagnostic and Evaluation Center

Western Psychiatric Institute and Clinic

University of Pittsburgh Medical Center, Department of Psychiatry

March 2014- May 2014

Supervisors: Chris Parada, MA

- Conducted semi-structured diagnostic assessments of children and adults voluntarily and involuntarily presenting to a 24-hour psychiatric emergency room.
- Partnered with a multidisciplinary team to offer triage and treatment recommendation services.
- Received individual clinical supervision and attended relevant seminars and workshops.

#### Assessment Clinician

Merck Child and Adolescent Outpatient Clinic

Western Psychiatric Institute and Clinic

University of Pittsburgh Medical Center, Department of Psychiatry

December 2013-February 2014

Supervisors: Cassandra Wong, PhD & Benjamin Handen, PhD

- Conducted comprehensive Autism Spectrum Disorder assessments, including parent and child interviews, self-report measures, and administration of the ADOS-3 (Modules 2-4).
- Completed thorough assessment reports, consisting of evidence-based treatment recommendations, under the supervision of licensed psychologists.

#### Clinician

Family Therapy

Center for Children and Families

Western Psychiatric Institute and Clinic

University of Pittsburgh Medical Center, Department of Psychiatry

September 2013-February 2014

Supervisors: Leonard Woods, LCSW & Michael McNabb, LCSW

- Conducted family therapy sessions and received live supervision.
- Observed and offered peer supervision for peer family therapy sessions.
- Attended weekly group supervision and case conceptualization meetings.
- Attended relevant seminars and workshops.

#### Advanced Practicum Student

Psycho-educational Testing Program

Center for Cognitive Behavior Therapy

University of Hawai'i at Mānoa, Department of Psychology

Honolulu, HI

November 2011-August 2013

Supervisors: Charles Mueller, Ph.D.

- Conducted and completed comprehensive psycho-educational assessment reports with individualized intervention recommendations. Assessments included the administration of semi-structured background interviews, standardized intelligence and achievement batteries, and parent and youth self-report measures.
- Assisted in the development of a resource library for supplementary child and family measures, to be included in the integrated reports.
- Trained in the administration of the WISC-IV and WIAT-III.
- Received individual clinical supervision and attended relevant seminars and workshops.

#### Advanced Practicum Student

Attention Deficit/Hyperactivity Disorder (ADHD) and Stress and

Anxiety Programs

Center for Cognitive Behavior Therapy

University of Hawai'i at Mānoa, Department of Psychology  
Honolulu, HI

July 2010 – April 2013

Supervisors: Charles Mueller, Ph.D. & Brad J. Nakamura, Ph.D.

- Co-lead professional development workshops and trainings for mental health providers within the Department of Education (DOE) and care coordinators within the Child and Adolescent Mental Health Division (CAMHD) of the Department of Health (DOH).
- Provided junior staff members with support on clinical matters and trained all staff on the utilization of measures of clinical functioning (CAFAS).
- Completed diagnostic assessment reports with evidence-based treatment recommendations for the DOE and CAMHD. Assessments included semi-structured parent, child, and collateral informant (e.g., school staff, mental health treatment provider, parole officer) interviews (ChIPS, ADIS, KSADS, YBOCS), parent and youth self-report measures and classroom observations (if appropriate).
- Provided evidence-based intensive in-home and school-based mental health services (based on a Modular Cognitive-Behavioral Therapy approach) to families in the local system of care. Additional treatment-related tasks included formulating treatment plans, coordinating care with youths' school and other community treatment providers, providing classroom consultation to youths' teachers, attending school and treatment team meetings, and conducting ongoing treatment progress monitoring using clinical dashboards.
- Community-based clinical populations referred to the center spanned a variety of ethnic, cultural, and socio-economic backgrounds, and reflected a variety of living situations (e.g., community-based residential care, detention home). Clients were primarily co-morbid and had primary diagnoses of anxiety, mood and oppositional disorders.
- Conducted clinic-wide quality assurance checks for the purpose of program monitoring and improvement.
- Received and assisted with weekly group and individual clinical supervision, participated in case conferences, attended seminars and workshops.

Clinical Psychology Trainee

Honolulu Family Guidance Center

Child and Adolescent Mental Health Division, Department of Health &  
Center for Cognitive Behavior Therapy

University of Hawai'i at Mānoa, Department of Psychology

July 2010 – June 2011

Supervisor: Brad J. Nakamura, Ph.D.

- Provided case consultation to care coordinators within the CAMHD as a member of a multi-disciplinary mental health case conference team.
- Participated in all clinical and staff meetings, including state clinical psychologist, case review, and utilization management review meetings.
- Assisted in the training and maintenance of the center's treatment progress and monitoring data system.
- Provided feedback for the CAMHD's Interagency Performance Standards and Practice Guidelines.
- Certified in system-wide privacy policies.

#### Clinical Staff Member

ADHD, Stress and Anxiety, and Thought Disorders Programs

Center for Cognitive Behavior Therapy

University of Hawai'i at Mānoa, Department of Psychology

Honolulu, HI

March 2009 – June 2010

Supervisors: Charles Mueller, Ph.D., Brad J. Nakamura, Ph.D., Jason Schiffman, Ph.D. & Christine Kim Walton, Ph.D.

- Completed diagnostic assessment reports with evidence-based treatment recommendations for the DOE, CAMHD, and private families. Assessments included semi-structured parent, child, and collateral informant (e.g., school staff, mental health treatment provider, parole officer) interviews (ChIPS, ADIS, KSADS, YBOCS), parent and youth self-report measures and classroom observations (if appropriate).
- Provided evidence-based intensive in-home and school-based mental health services (based on a Modular Cognitive-Behavioral Therapy approach) to families in the local system of care. Additional treatment-related tasks included formulating treatment plans, coordinating care with youths' school and other community treatment providers, providing classroom consultation to youths' teachers, attending school and treatment team meetings, and conducting ongoing treatment progress monitoring using clinical dashboards.
- Community-based clinical populations referred to the center spanned a variety of ethnic, cultural, and socio-economic backgrounds, and reflected a variety of living situations (e.g., community-based residential care, detention home). Clients were primarily co-morbid and had primary diagnoses of anxiety, mood and oppositional disorders.
- Conducted clinic-wide quality assurance checks for the purpose of program monitoring and improvement.
- Received weekly group and individual clinical supervision, participated in case conferences, attended seminars and workshops.



## RESEARCH POSITIONS

### Research Assistant

Services for Kids in Primary Care  
University of Pittsburgh Medical Center, Department of Psychiatry  
Pittsburgh, PA

September 2013-Present

Supervisors: David J. Kolko

- Developed a practice readiness survey for behavioral health providers considering involvement in collaborative care.
- Spearheaded a qualitative study involving feedback from focus groups.
- Assisted with multiple aspects of the SKIP research projects including IRB completion, recruitment, material development.

### Graduate Assistant

Haupoa Component, Family Peace Center  
Safe Start, Promising Approaches Grant  
University of Hawai'i at Mānoa, Departments of Sociology and  
Psychology

Honolulu, HI

May 2011-July 2013

Supervisors: Valli Kalei Kanuha, Ph.D. & Charles Mueller, Ph.D.

- Assisted with multiple aspects of the project (funded by the Office of Juvenile Justice and Delinquency Prevention) including IRB completion, recruitment, material development, and curriculum development.
- Trained staff in utilizing research data for clinical purposes.

### Graduate Research Assistant

Research, Evaluation and Training Program  
Department of Health, Child and Adolescent Mental Health Division  
University of Hawai'i at Mānoa, Department of Psychology  
Honolulu, HI

July 2008-June 2009

Supervisors: Charmaine Higa-McMillan, Ph.D., C. Ki'i Kimhan, Ph.D., & Charles W. Mueller, Ph.D.

- Conducted quarterly restructuring procedures for all clinical data in the Child and Adolescent Mental Health Information System, the CAMHD's online data server.
- Served as administrator for weekly meetings of the Research, Evaluation and Training office through maintaining meeting minutes and agendas.
- Created reports for Provider Feedback Data Parties.
- Assisted with the planning and execution of all Provider Feedback Data Parties.

- Supervised undergraduate research assistants.
- Spearheaded a research project based on the intervention strategies component of the Monthly Treatment and Progress Summary.
- Assisted with the completion of the annual evaluation.

Project Manager, Physical Activity Counselor

Prevention and Control Program, Cancer Research Center of Hawai'i  
 Research Corporation of the University of Hawai'i at Mānoa  
 Honolulu, HI

December 2007-July 2008

Supervisor: Cheryl L. Albright, Ph.D.

- Managed the development of protocols and curriculum for a federally funded R01 intervention regarding physical activity in new mothers.
- Oversaw research protocols, including institutional review board submissions and regular check-ins with external consultants and evaluators.
- Provided motivational interviewing counseling for new mothers wanting to increase their physical activity.
- Supervised all assessment and intervention staff in the implementation of study protocols.

Research Survey Associate

Prevention and Control Program, Cancer Research Center of Hawai'i  
 Research Corporation of the University of Hawai'i at Mānoa  
 Honolulu, HI

December 2006-December 2007

Supervisors: Cheryl L. Albright, Ph.D. & Carolyn Gotay, Ph.D.

- Managed the recruitment, data collection, and data analyses (qualitative and quantitative) for a study examining quality of life in Japanese cancer survivors and an additional study examining health risk behaviors in adolescent and young adult cancer survivors.

Research Associate

University of California at Los Angeles Peer Project  
 University of California at Los Angeles, Department of Psychology  
 Los Angeles, CA

December 2003-July 2005

Supervisors: Sandra Graham, Ph.D. & Jaana Juvonen, Ph.D.

- Administered electronic and paper surveys to adolescents in all middle and high schools in the Los Angeles Unified School District.
- Conducted data analyses on the project data set for multiple studies presented at national conferences.

## COMMITTEE AFFILIATIONS

Evidence Based Services Committee  
Department of Health, Child and Adolescent Mental Health Division  
July 2008-Present

Junior Colleague  
Seattle Implementation Research Collaborative and Strategic Planning  
Group

April 2013 - Present

Student Representative  
Dissemination and Implementation Science, Special Interest Group  
Association for Behavioral and Cognitive Therapies  
November 2012-November 2013

## PROFESSIONAL AFFILIATIONS

American Psychological Association  
Association of Behavioral and Cognitive Therapies  
Dissemination and Implementation Science, Special Interest Group  
Women's Special Interest Group  
Child and School-Related Issues, Special Interest Group  
Hawaii Psychological Association

## CONTINUING EDUCATION CLINICAL WORKSHOPS, SEMINARS, & TRAININGS ATTENDED

Wildes, J. (2014, June). *Eating disorders*. Presented by the University of Pittsburgh, School of Medicine, Western Psychiatric Institute and Clinic, Clinical Psychology Internship Program.

Tew, J. (2014, June). *Prescribing real life prescription practices of psychiatrists*. Presented by the University of Pittsburgh, School of Medicine, Western Psychiatric Institute and Clinic, Clinical Psychology Internship Program.

Germain, A. (2014, April). *Image rehearsal therapy treatment of nightmares*. Presented by the University of Pittsburgh, School of Medicine, Western Psychiatric Institute and Clinic, Clinical Psychology Internship Program.

Gillman, D. (2014, April). *Psychotherapy supervision*. Presented by the University of Pittsburgh, School of Medicine, Western Psychiatric Institute and Clinic, Clinical Psychology Internship Program.

Frank, E.. (2014, February). *Introduction to interpersonal therapy*. Presented by the University of Pittsburgh, School of Medicine, Western Psychiatric Institute and Clinic, Clinical Psychology Internship Program.

Cyranowski, J. & Swartz, H. (2014, February). *Introduction to interpersonal therapy*. Presented by the University of Pittsburgh, School of Medicine, Western Psychiatric Institute and Clinic, Clinical Psychology Internship Program.

Stepp, S. & Zalewski, M. (2013, December). *Mothers with Borderline Personality Disorder: Opportunities for assessment and intervention*. Presented by the University of Pittsburgh, School of Medicine.

Fier, B. & Koerner, K. (2013, December). *Exploring compassion focused therapy*. Presented as a webinar by Practice Ground, Evidence-Based Learning Community.

Stepp, S. & Painter, T. (2013, October – 2014, January). *Dialectical behavior therapy*. Presented by the University of Pittsburgh, School of Medicine.

Ghinassi, F. (2013, October). *Program evaluation in mental health*. Presented by the University of Pittsburgh, School of Medicine.

Douaihy, A. (2013, October). *Motivational interviewing*. Presented by the University of Pittsburgh, School of Medicine.

Wedes, S. (2013, October). *Medications for psychotic disorders*. Presented by the University of Pittsburgh, School of Medicine.

Gutti, B. (2013, September). *Medications for depression and anxiety*. Presented by the University of Pittsburgh, School of Medicine.

Clark, D. (2013, September). *Introduction to pharmacotherapy*. Presented by the University of Pittsburgh, School of Medicine.

Woods, L. (2013, September). *Orientation to Family Therapy*. Presented by the Center for Children and Families.

Weist, M. (2013, April). *School mental health: A professional consortium with Mark Weist*. Presented by the Department of Education, School-Based Behavioral Health.

Jones, K.D. (2013, April). *Understanding the DSM-5 and the ICD: What psychologists need to know*. Presented as a Continuing Education webinar sponsored by the American Psychological Association.

Maccow, G. (2013, March). *Why students struggle to learn: An overview of cognitive factors*. Presented as a Continuing Education webinar sponsored by Pearson.

Issari, K. (2013, February). *Group clinical skills*. Presented to staff at the Parents and Children Together, Family Peace Center.

Herbert, J. (2012, April). *Acceptance and Commitment Therapy: A radically different yet remarkably familiar approach*. Presented as a Continuing Education webinar sponsored by the Association for Behavioral and Cognitive Therapies.

Issari, K. (2012, April). *Group clinical skills 101*. Presented to staff at the Parents and Children Together, Family Peace Center.

Atta, S. (2012, March). *The effects of domestic violence on children*. Presented to staff at the Parents and Children Together, Family Peace Center.

Issari, K. (2012, March). *Family Peace Center approach to services and domestic violence 101*. Presented to staff at the Parents and Children Together, Family Peace Center.

Briggs-King, E. & Knoverek, A. (2012, March). *Structured therapy for adolescents responding to chronic stress: Core concepts*. Presented by the National Child Traumatic Stress Network at the annual conference of the Institute for Violence and Trauma.

Stover, C., Gerwitz, A. & Thomas, K. (2011, December). *What about the parents? Trauma, parents, kids, and parenting*. Presented online by the National Child Traumatic Stress Network.

Fixsen, D.L. (2011, October). *Establishing a framework for the implementation of evidence-based programs*. Presented online by the National Child Traumatic Stress Network.

Cohen, J., Deblinger, E., & Mannarino, A. (2011, July). *Trauma-Focused Cognitive Behavioral Therapy*. Presented online by National Child Traumatic Stress Network (<http://tfcbt.musc.edu>, copyright 2005).

(2011, July). *Breaking Down Barriers - Addressing Domestic Violence in Diverse Communities*. Presented by the Hawaii State Coalition Against Domestic Violence and the Oahu Domestic Violence Task Force at the Domestic Violence Expo.

(2011, July). *Motivational Interviewing - A Tool for Creating Change in Therapeutic Services*. Presented by the Hawaii State Coalition Against Domestic Violence and the Oahu Domestic Violence Task Force at the Domestic Violence Expo.

Jewish Women International. (2010, May). *Through Children's Eyes: Key Issues and Promising Practices When Working With Children/Youth Exposed to Domestic Violence*. Presented online by the National Alliance to Prevent Domestic Abuse.

Nakamura, B. J. (2009, October). *Cognitive behavior therapy foundational training workshop on selected anxiety, depression, & disruptive therapy techniques*. Workshop presented to Hawai'i school-based behavioral health providers, Haleiwa, HI.

Miller, W.R. (2007, October). *Motivational interviewing: What it is, how it works, and how to learn it*. Presented by the Hawaii Psychological Association.

#### OTHER TEACHING EXPERIENCE

English Language Teacher  
Hanawa, Kosaka, and Towada High Schools  
Japan Exchange and Teaching Programme  
Kazuno City, Akita, Japan  
July 2005-July 2006

Course Instructor  
English Conversation Class  
Hanawa Community Center  
Kazuno City, Akita, Japan  
July 2005-July 2006

Section Instructor  
Social Psychology of Higher Education  
Graduate School of Education and Information Studies  
University of California at Los Angeles, Los Angeles, California  
Spring 2004

#### REFERENCES

Charles Mueller, Ph.D. (Advisor)  
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Center for Cognitive Behavior Therapy  
Director, Research and Evaluation Training Program  
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Center for Cognitive Behavior Therapy  
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