Child & Adolescent
Mental Health Division

MEASUREMENT-BASED CARE: VALUES, VISION, & PROCEDURES
2023 UPDATE

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Part I: Measurement-Based Care Values, Vision, and Procedures Overview

Definition & Purpose

The Child and Adolescent Mental Health Division (CAMHD) strives to prioritize **Measurement-Based Care (MBC)** as an essential component of its services. MBC is defined as the "the evidence-based practice of using systematic and routine assessment of the patient's perspective through patient-reported progress and outcomes, such as symptoms and functioning, throughout the course of mental and behavioral care, to inform treatment decisions and engage patients in their treatment" (Scott & Lewis, 2015).

MBC consists of three core components:

(1) Routine collection of child/youth outcome data throughout service;
(2) Sharing timely feedback with the child/youth and treatment team about reported progress and trends;
(3) Acting on the results of the ongoing monitoring in decision making, while incorporating both clinical judgment and the child/youth's feedback and experiences (e.g., Aboraya et al., 2018; Lewis et al., 2018; Oslin et al., 2019; Resnick & Hoff, 2020; Trivedi & Dalyet al, 2007).

It is a mechanism to enhance quality of services, support and strengthen clinical decision making, improve communication with all team members (including children/youth and their caregivers), and contribute to program and system quality assurance and improvement (e.g., Gondek et al, 2016; Tam & Ronan, 2017). The figure below provides details of MBC "active ingredients."

Mostly importantly, it is aligned with a core CAMHD Child and Adolescent Service System Principle that promotes child/youth and family centered and culturally sensitive care.

The Four Core Evidence-Bases

The CAMHD is committed to utilizing data about an individual child/youth's progress along with the best available information about "what works" in planning and revising treatment. The data (or evidence-bases) showing the positive effects of mental health treatment practices can take one of four complimentary forms, listed below: general services research, case-specific historical information, local aggregate data, and causal mechanism research (Chorpita & Daleiden, 2018). Higher priority should be given to more reliable or stronger forms of evidence in making treatment decisions (see Figure 1). Information about the evidence base for various practices should be considered within the context of the child/youth and family's lives and utilized throughout the course of treatment to make clinical decisions.

1. **General Services Research:** General service research is data typically found in peer-reviewed scientific journals (e.g., in the form of randomized clinical trial outcomes), and summarized in reports such as the (1) Blue Menu of Evidence-Based Psychosocial Interventions for Youth; (2) Help Your Keiki website; and (3) Percent in research protocols columns (specific to particular problem areas) in the Practice Element Matrix. Defined this way, evidence-based practice can include large proprietary protocols (e.g., Multisystemic Therapy), broad-based therapeutic approaches (e.g., Cognitive-Behavioral Therapy), and discrete clinical techniques or practice elements (e.g., Caregiver Psychoeducation). When there is limited or weak published research evidence about an approach, but it appears promising, the strategy is often referred to as a "best practice."

2. **Case-Specific Historical Information:** Case-specific historical information is case-specific data from repeated clinical interactions in the form of standardized (e.g., Ohio Scales, CAFAS, RCADS, ASEBA) or idiographic (individualized) assessment strategies (e.g., treatment target progress ratings, mood or SUDS ratings, etc.). The usefulness of such

data increases as the number of routine assessment points increases over time, and the data can be displayed graphically to help demonstrate strategies that are helpful to an individual child/youth on a case-by-case basis.

3. **Local Aggregate Evidence:** Local aggregate evidence is case-specific data aggregated across numerous children/youth into meaningful composite units, such as treatment providers. Such evidence includes not only positive clinical outcomes (e.g., a specialty provider may have high rates of success with children/youth with severe substance abuse concerns; a program that uses traditional Hawaiian cultural practices may have a high rate of success with children/youth who are of Native Hawaiian descent), but also critical incidents (e.g., a certain provider may have higher than average elopement rates, and care should be taken before children/youth at risk for elopement are placed there). These types of data are sometimes referred to as practice-based evidence. Within the CAMHD, examples of this evidence-base include (1) findings from the local evidence for particular problem areas and levels of care within the Practice Element Matrix and (2) data found on the Provider Feedback Reports shared at the biannual Decision Support Collaborative (DSCo) party.

4. **Causal Mechanism Evidence:** Memory, judgment, and the professional knowledge of team members regarding the various causal mechanisms associated with the developmental psychopathology and treatment trajectory for a given child/youth can be used to guide treatment. Many times, such expertise is sought to help develop interventions for children/youth who have received empirically supported treatments but have not yet met treatment goals. Say for example, that a team has an agreed-upon case conceptualization that a child/youth's treatment for her trauma is not progressing adequately because the child/youth has an overall poor sense of control over her environment. Therefore, in addition to exposure-based strategies, the team recommends that extra care should be taken for cognitive restructuring and parenting strategies that help the child/youth exert personal control over her environment. Given potential information-processing biases and other concerns associated with human memory and judgment, care should be taken when relying on this evidence-base and the other forms of data above should first be strongly considered.

As outlined above, the term "evidence-based practice" extends well beyond brand-name packaged programs, such as Multisystemic Therapy and Functional Family Therapy. ***The term "evidence" can and should take on many forms and exists within a broader culture of data-informed decision making.***

Components of Measurement-Based Care in the CAMHD

MBC is core to CAMHD's commitment to evidence-based practice, because of its demonstrated link to improved outcomes (Rognstad et al., 2023), increased child/youth satisfaction (DeSaeger et al., 2014; Johnson & Shaha, 1996; Knaup et al., 2009), higher engagement in treatment and respect from treatment providers (Dowrick et al., 2009; Eisen et al., 2000; Moltu et al., 2018), and increases in child/youth-reported working alliance quality (Brattland et al., 2019). It also highlights two of the aforementioned community-oriented evidence bases: case specific historical information and local aggregate data.

MBC consists of three core components:

1. **COLLECT: Routine collection of child/youth outcome data throughout service**. The use of systematic and frequent outcome tracking has been widely encouraged for improving the quality of mental health care (APA Presidential Task Force on Evidence-Based Practice, 2006; Kazdin, 2008; Newnham & Page, 2010; Scott & Lewis, 2015; Valenstein et al., 2009). There is growing recognition in mental health treatment that, to detect and address problems and challenges as early as possible, it is necessary to take frequent and ongoing measurements. Referring again to examples in physical health, a child/youth who is at a higher risk of acquiring a disease (because of family history, for instance) will increase their chances of early detection and successful treatment when frequent tests are done. In mental health settings, doing regular and systematic tracking improves the clinician's ability to detect the worsening of symptoms (Lambert, 2010), and more frequent viewing of progress feedback has been associated with better outcomes (Bickman et al., 2011). The use of ongoing measurement during therapy also enables a clinician to examine how progress may be affected by different treatment practices over time and to better determine which treatment practices work best for a child/youth and family.

2. **SHARE: Sharing timely feedback with the child/youth and treatment team about reported progress and trends.** In addition to providing better information for clinicians, the ongoing sharing of progress information with children/youth is also a necessary part of treatment. Providing feedback to children/youth about their treatment progress can generate discussions that enhance the therapeutic alliance, contribute to more accurate conceptualizations of a case, and enhance treatment plans (Hatfield & Ogles, 2006). Using progress data to structure conversations with parents has the potential to enhance clinician's abilities to make quicker adjustments to the treatment approach when appropriate (Lambert & Brown, 1996).

3. **ACT: Acting on the results of the ongoing monitoring in decision making, while incorporating both clinical judgment and the child/youth's feedback and experiences** (e.g., Aboraya et al., 2018; Lewis et al., 2018; Oslin et al., 2019; Resnick & Hoff, 2020; Trivedi & Daly, 2007). It goes without saying that MBC requires treatment team members to view measurement data regularly and at significant timepoints throughout treatment (particularly when decisions are being made about next steps). The CAMHD expects that CAMHD staff and providers are reviewing measurement data at least monthly and perhaps even more frequently at significant timepoints (e.g., intake, when a child/youth is starting new levels of care or treatment types, and when planning for transition or discharge).

The CAMHD also values the following additional components of MBC within the system of care:

4. **Examining multiple measures and multiple sources of information.** Research suggests that examining structured information from multiple informants and across multiple domains has been shown to improve clinical decision-making (Alexander et al., 2017; Dirks et al., 2012). All people bring their unique perspectives and biases to any situation, and there is no "gold standard" or more valid informant (Des Los Reyes & Kazdin, 2005). Additionally, it is not always possible to obtain the perspective of certain individuals (e.g., in situations where parents cannot be reached), so using multiple sources of information and multiple methods of assessment (e.g., behavioral observation, self-report measures,

etc.) can make up for an absence of information. Research has also found shortcomings in the accuracy of various informants when making judgments about a child/youth receiving treatment. For example, reports from parents of children/youth with complex challenges who may have their own mental health concerns are less correlated with child/youth clinical assessments than are reports from other populations (De Los Reyes & Kazdin, 2005; Garber et al., 1998). Some parents might also be less accurate at distinguishing symptoms associated with externalizing and internalizing disorders (Kazdin & Heidish, 1984) or over-report their child/youth's symptoms (Kazdin et al., 1983; Kenny & Faust, 1997; Weissman et al., 1980). Children/youth tend to underreport externalizing problems but provide valuable information about internalizing problems that parents are not aware of (Kazdin & Heidish, 1984; Kenny & Faust, 1997; Loeber et al., 1990; Weissman et al., 1987). There are many studies that have shown that clinicians' judgments can be inaccurate (e.g., Dawes, 1996; Garb, 1989, 1998; Garb et al., 2008). Everyone involved in making judgments about clinical cases is limited by their own perspectives and tendencies toward overgeneralization, confirmatory biases, and other errors in judgment (Dawes et al., 1989; Grove et al., 2000; Meehl, 1954; Westen & Weinberger, 2004). Understanding discrepancies has also been found to aid in rapport building and improvements in treatment outcomes (Yeh & Weisz, 2001). Notably, parent-child disagreement is very common and is associated with poorer treatment outcomes (Goolsby et al., 2018). Also, parents and children/youth fail to agree on a single problem to target during treatment 63% of the time and fail to agree on a general category of problems to target during treatment 36% of the time (Yeh & Weisz, 2001). Parent-child-therapist triads fail to agree on a single problem to target during treatment over 76% of the time and fail to agree on a general category of problems to target during treatment 44% of the time (Hawley & Weisz, 2003). Thus, when discrepancies are revealed between multiple informants, they can be invaluable in indicating the need to better align families, children/youth, and other treatment team members with a single treatment plan. For this reason, CAMHD has adopted the use of three measures of treatment progress – the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges & Wong, 1996), the treatment target progress rating on the direct service progress note, and the Ohio Scales (OS; Ogles et al., 1999) – which are each completed by different individuals. The CAMHD MBC model also encourages the use of additional individualized measures as indicated (e.g., school attendance, number of days without elopement, etc.).

5. **Considering benchmarks and trajectories.** When examining data, one of the most helpful questions to ask is "compared to what?" When considering child/youth-specific data, it is useful to consider questions about within and across person comparisons in a period. As examples for within person comparisons, has the child/youth score on a measure improved or deteriorated from their previous assessment? Is the trend in the data stabilizing or varying compared to their earlier data? Similarly, for across person comparisons, is a child/youth's score on an assessment measure higher or lower than the statewide average? If the child/youth has been improving over time, is the rate of improvement changing? Answers to questions like these can provide information to aid in decision making. If an individual child/youth improvement trajectory is "off-track" from the average, or expected trajectory, then treatment strategies should be adjusted to enhance positive outcomes.

   Many research studies have shown that improvements from mental health treatment often follow predictable patterns. Both adult (Lambert & Barley, 2001; Lutz, 2003) and child/youth (Cannon et al., 2010; Warren et al., 2010) studies have found that the largest treatment gains are often made early in treatment. More importantly, early treatment progress is a major predictor of eventual success of a treatment episode. These two patterns of "early progress on average" and "early progress predicting a successful treatment episode" are true in CAMHD's population as well. CAMHD children/youth who were reported to have had a successful treatment episode (as defined by "successful discharge" on the Monthly Treatment and Progress Summary) showed more improvement on average in their early months of treatment and demonstrated a leveling off in rate of improvement over the course of an episode (Jackson et al., 2016; Jackson et al., 2017). The average rate (or speed) of change might differ depending on the child/youth level of impairment and the type of service, but in general, this pattern is fairly consistent. *These results suggest that early and frequent tracking of child/youth progress is important for identifying and addressing problems during this critical period of change and improving the chances of success for a child/youth.* Related research has found that treatment providers

who have information about which children/youth are off-track from "typical" treatment progress are able to improve outcomes for their children/youth more than providers who do not have that information (Bickman et al., 2011; Lambert, 2010). Indeed, the biggest advantage of MBC is the early identification of cases at risk for failure so that treatment can be adjusted.

The CAMHD's Three Standardized Assessment Measures

Given CAMHD's commitment to multiple measures and multiple sources of information, the CAMHD has selected three standardized outcome monitoring measures to be completed by at least three separate informants throughout CAMHD service. It is important to mention that these three measures are not the only measures that the CAMHD accepts as outcome monitoring measures. In fact, the CAMHD encourages both staff and providers to utilize additional measures on an ongoing basis as needed. As examples, Assessment Resources are located on the CAMHD website under the Clinical Tools tab. In addition, the following sections will explore other types of data that treatment teams are encouraged to use in decision making.

Child and Adolescent Functional Assessment Scale (CAFAS)

The CAFAS is a 200-item clinician measure that assesses a child/youth's level of functional impairment. CAMHD care coordinators (CCs) assign behavioral descriptions ordered by level of impairment within eight domains of functioning, based on their experiences with children/youth. 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 is appropriate for children/youth ages 5 to 19, who are in grades kindergarten and higher. In addition, a preschool version of the measure is available, called the Preschool and Early Childhood Functional Assessment Scale (PECFAS), which does not include the Substance Use domain, and is appropriate for children/youth ages 3 to 7. In general, the CAFAS can be used for children/youth in full-time kindergarten, however the PECFAS may be used up to age 7, depending on the developmental level (versus chronological age) of the child/youth.

The CAFAS has been found to have acceptable internal consistency (α = 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 it can be validly used to track treatment change (Hodges & Gust, 1995; Mueller et al., 2010; Nakamura et al., 2007). The first CAFAS is used as part of determining eligibility for CAMHD services, so it should be completed before the start of services. After CAMHD enrollment, the CAFAS should be completed every three months, with CAFASs ideally completed as close to the start and end of a treatment episode as possible (for better determining "pre-post" change).

Some strengths of the CAFAS in the CAMHD system are: (1) it is used as part of the eligibility criteria for CAMHD services and (2) has been shown to be a good predictor of treatment outcomes (e.g., Daleiden et al., 2010). The CAFAS is completed by the CC on a quarterly basis, which may be a good timeframe for assessing change in overall functioning, particularly given that some of the behaviors that contribute to an accurate score might only occur occasionally. However, it is not an effective timeframe for detecting emergent issues or problems with treatment progress that need to be addressed immediately. For instructions on how to complete the CAFAS, please review the Training List for FGC Employees located on CAMHD Commons.

Ohio Scales (OS; Ogles et al., 1999)
The OS is completed monthly by children/youth and caregivers with support from the CC. It is comprised of a 20-item Problem Severity Scale and a 4-item Hopefulness (Caregiver)/Wellness (Child/Youth) Scale. This frequency provides a good opportunity for detecting critical or sudden changes, identifying early progress (and lack of progress), and assessing change from baseline to most recent assessment (or discharge). The Problem Severity Scale is a short, 20-item measure and is quick to complete, especially once children/youth and caregivers are accustomed to the measure (after pilot testing the original OS measure, which consisted of around 50 items, was reduced to 20 items to lessen the data collection burden on all involved). The respondent is asked to record how often such behaviors/symptoms have occurred in the past 30 days on a 6-point scale system, with the following options: 0 points: "Not at all", 1 point: "Once or twice", 2 points: "Several times", 3 points: "Often", 4 points: “Most of the time”, 5 points: “All of the time.” Lower scores indicate less problem/symptom severity and total scores higher than 24 suggest clinically meaningful levels of problem behaviors. Research on years of data from the CAMHD also suggest that the 20 items generally organize into four components or subscales: externalizing (#’s: 1, 2, 3, 4, 5, 6, 10, 11), delinquency (#’s: 7, 8, 9), anxiety (#’s: 16, 17, 19), and depression (#’s: 12, 13, 14, 15, 18, 20; Laba et al, 2019). The Hopefulness/Wellness Scale is a brief 4-item measure that asks respondents to check only one response for each question on a 6-point scale system. When reviewing responses to OS measures, individuals should always consider the following critical items:

- From the Problem Scale:
    - #2 Getting into fights
    - #7 Using drugs or alcohol
    - #12 Hurting self (cutting or scratching self, taking pills)
    - #13 Talking or thinking about death
- From the Hopefulness/Wellness Scale:
    - #3 How much stress or pressure is in your life right now?
    - #4 How optimistic are you about the future?

The OS is appropriate for most ages that the CAMHD serves – it has a child/youth version that should be completed by children/youth 10 years old and older, but it also has a parent version, which can be completed by parents for all CAMHD children/youth. The OS Problem Severity Scale measures externalizing, internalizing, and delinquency concerns, which can indicate symptoms that could be more directly addressed than functional impairment as measured by the CAFAS, while possibly also being slightly broader than specific targets as measured by the Progress Note. It is also sensitive to change (preliminary CAMHD data show clear evidence of treatment improvement, in a predictable fashion, on these measures). Overall, this measure has been shown to have strong psychometric properties both on the continental U.S. and in CAMHD (Laba et al., 2019). A final important characteristic is that the OS captures the perspectives of parents and children/youth, and differences of opinion between parents and children/youth, or between the family and other treatment team members. As such, the OS can indicate how well treatment is going as well as identify specific points of disagreement that can be the focus of treatment and care coordination. A current copy of the parent and child/youth OS measures, along with multiple language translations, are located at the developer’s website.

Treatment Targets, Progress Ratings, and Practice Elements Within the Direct Service Progress Note (DSPN)
After each session, providers are asked to complete (among other variables) the treatment targets, progress ratings, and practice element fields on the Direct Service Progress Note (DSPN). Treatment focus areas, treatment targets, and practice elements are three of the common metrics by which CAMHD and CAMHD service providers describe and track treatment services (CAMHD, 2019). Based on the treatment focus area, one or more treatment targets are selected as the focus for treatment. From those targets, providers select (in consultation with the children, youth, and family) and apply practice elements (i.e., specific intervention strategies) within treatment sessions. It should be noted that the same treatment target can (if relevant) be assigned to more than one treatment focus area, just as the same practice element might be applied for more than one treatment target. Generally, no more than three treatment targets are addressed and no more than three practice elements are applied in a single treatment session. Treatment focus areas and treatment targets are defined by the family and the CAMHD treatment team on the Clinical Management Plan. Then, providers update treatment focus areas,

treatment targets and include practice elements within the Mental Health Treatment Plan. Subsequently, providers record the actual treatment targets and practice elements delivered in a session via the Direct Service Progress Note.

Treatment targets. Targets are the strengths and needs being addressed as part of the mental health services for children and youth. Team-, child/youth-, and caregiver-identified treatment targets support clinical practice both by identifying concerns that might not arise in standardized measures, and prioritizing child/youth concerns amidst an array of problems. In addition, provider agencies and system evaluators can examine target patterns, with the goal of improving services for children/youth.

Progress ratings. Progress ratings are defined as the degree of progress achieved between a child/youth baseline level of functioning (i.e., the beginning of service) and the goal specified for the target. These progress ratings are provided on a 7-point scale with the anchors of *Deterioration (< 0%) = 1, No Significant changes (0 – 10%) = 2, Minimal Improvement (11 – 30%) = 3, Some Improvement (31 – 50%) = 4, Moderate Improvement (51 – 70%) = 5, Significant Improvement (71 – 90%) = 6,* and *Complete Improvement (91 – 100%) = 7*. The use of team- and child/youth-identified treatment targets allows the treatment team to track specific progress ratings over time. This approach is more precise and detailed in assessing outcomes of treatment services than standard measures of clinical diagnostic cut-offs or more general measures of functioning or adjustment. In addition, provider agencies and system evaluators can examine progress rating patterns, with the goal of improving services for children/youth.

Practice elements. Practice elements are the discrete clinical intervention strategies (e.g., "time out," "praise") applied by the therapist and/or treating provider within a treatment session. The practice element reporting method offers important clinical information. For example, therapists and families can evaluate the relationship between outcomes and practice elements over time. In addition, provider agencies and system evaluators can examine practice patterns, with the goal of improving services for children/youth.

With the advent of MAX (the new electronic health management system), the CAMHD transitioned from a monthly report on these variables (i.e., the Monthly Treatment and Progress Summary) to a session-by-session report in February 2019. Prior to that transition, the CAMHD conducted extensive research on the psychometric properties of all three measures since the early 2000s (For information on those studies, see Appendix B in the 2019 codebook on the CAMHD website). The CAMHD is currently conducting tests of the session-by-session reporting to provide more information about how the updated collection process may affect the relationship between these variables and outcomes. A sample of the DSPN is located on the CAMHD website. A copy of the codebook and instructions for completion of the treatment target, progress rating and practice element variables on the DSPN is located in the Clinical Tools page of the CAMHD website.

Table 1

Comparison of CAMHD Progress Measures

Selected features of progress measures	CAFAS	Direct Service Progress Note	Ohio Scales Problems - Parent	Ohio Scales Problems - Youth
Child/youth report				
Measures problem severity (emotional and behavioral problems)				X
Ability to detect critical or sudden changes (monthly)				X
Ability to detect early progress				X
Timely data for baseline-to-most-recent change				X
Parent/Caregiver report				
Measures problem severity (emotional and behavioral problems)			X	
Ability to detect critical or sudden changes (monthly)			X	
Ability to detect early progress			X	
Timely data for baseline-to-most-recent change			X	
CAMHD staff report				
Measures broad functioning	X			
Eligibility criteria and indicator of initial severity	X			
Provider report				
Measures broad functioning	X			
Measures progress on child/youth-specific targets		X		
Ability to detect critical or sudden changes (by encounter frequency)		X		
Ability to detect early progress		X		
Timely data for baseline-to-most-recent change		X		

Part II: Measurement-Based Care in Practice

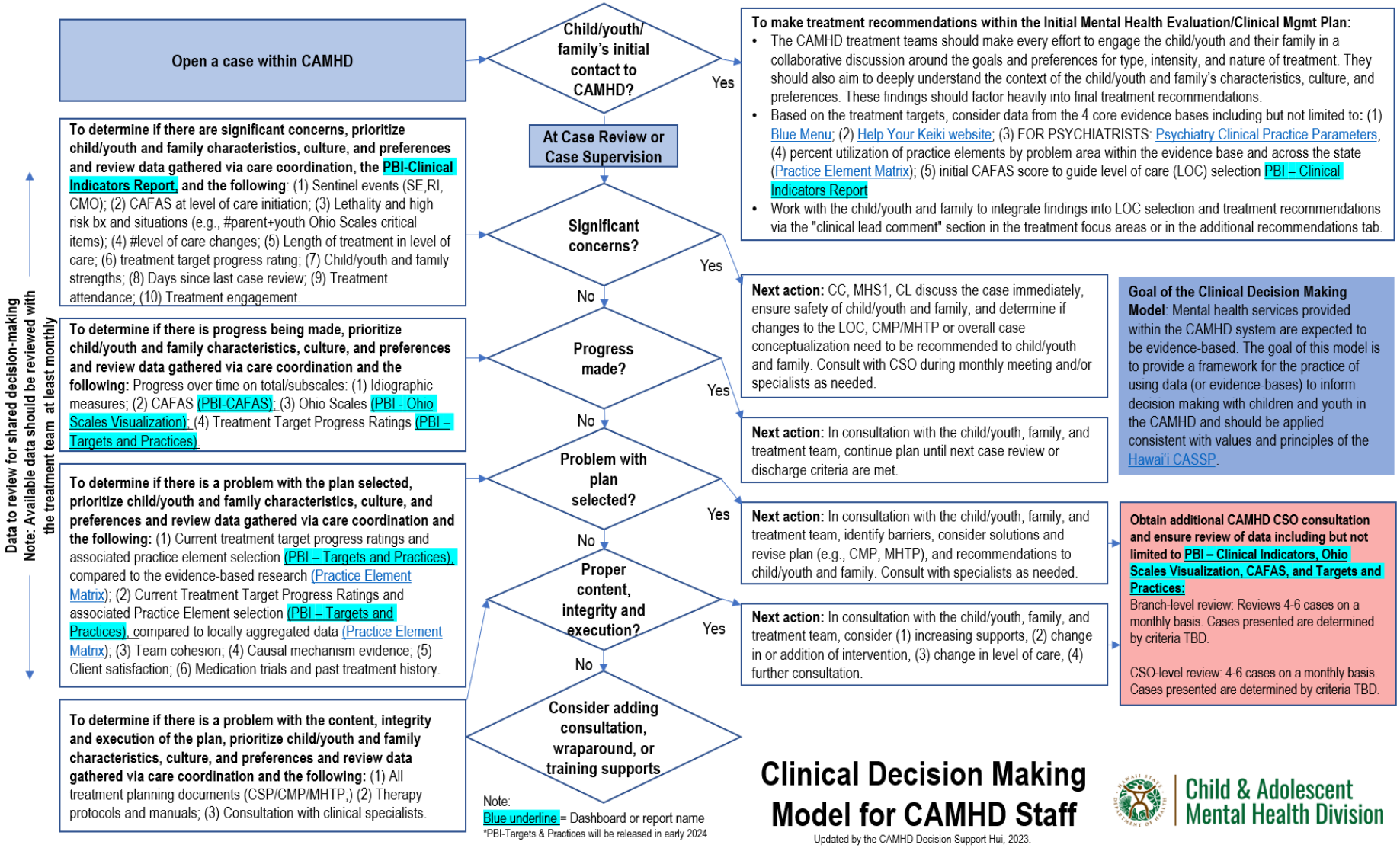
The CAMHD Clinical Decision-Making Model

The goal of this clinical decision-making model is to provide a framework for the practice of MBC to support CAMHD children/youth and families and should be applied consistent with values and principles of the Hawai'i CASSP and the practice of shared decision making that emphasizes child/youth and family voice. These guidelines are intended to discourage the use of interventions or behavior plans with known risks and to encourage the use of alternative approaches only when the most promising interventions and supports have been tried with integrity and have not been successful, or when extremely compelling circumstances preclude the use of the most promising approaches first. CAMHD and provider staff are expected to review child/youth data monthly at a minimum, though more frequent data review (particularly at important time points) is highly encouraged.

Within figure 1, diamonds represent questions or decision points, and white boxes represent actions (e.g., reviewing data, discussing with treatment teams).

Figure 1

Clinical Decision Making Model for CAMHD Staff



Child/youth/family's initial (or returning) contact to CAMHD?

At this point, the Clinical Lead will need to develop treatment recommendations within the Initial Mental Health Evaluation (IMHE) and/or the Clinical Management Plan (CMP).

1. CAMHD treatment teams should make every effort to engage children/youth and their families in a collaborative discussion around the goals and preferences for type, intensity, and nature of treatment. They should also aim to deeply understand the context of the child/youth characteristics, culture, and preferences. These findings should factor heavily into final treatment recommendations.

2. Based on the treatment targets, recommendations might be based off practices recommended in the four-core evidence-bases (see pp. 3-4):
    A. **General Services Research:** Summaries of the research literature including (but not limited to)
        i. *Blue Menu*
        ii. *Help Your Keiki website*
        iii. *Psychiatry Clinical Practice Parameters*
    B. **Case-Specific Historical Information:** Discussions with the child/youth and family about interventions that were effective in the past (including with family members).
    C. **Local Aggregate Evidence:** Findings from local research or reports including (but not limited to):
        i. *Percent utilization of practice elements by problem area within the evidence base and across the state* (Practice Element Matrix)
        ii. *Initial CAFAS score to guide level of care selection* (located on the PBI – Clinical Indicators Report). Research within the CAMHD has shown that a higher CAFAS score at intake is associated with a lower probability of successful discharge (Jackson et al, 2017). In general, consider allocating more resources (supports, time, etc.) and/or more intensive services to child/youth with higher CAFASs (see Table 2).
    D. **Causal Mechanism Research**
        i. Consider the memory, judgement, and professional knowledge of team members about causal mechanisms related to the developmental psychopathology and treatment trajectory for a given child/youth while acknowledging potential information-processing biases.

Table 2

Summary of Risk by Initial CAFAS Scores

Level of Care	CAFAS Cutoff (Scores at This Level or Higher)	Probability of Successful Discharge
Community Based Residential III	150+	47.8%
	170+	20.0%
Transitional Family Home	120+	45.2%
	140+	38.5%
Intensive In-Home	130+	46.7%
	150+	45.5%

3. Work with the family to integrate findings into LOC selection and treatment recommendations via the "clinical lead comment" section in the treatment focus areas or in the additional recommendations tab.

At Case Review or Case Supervision

Significant concerns?

As the supports and services are implemented, ongoing measurement review and care coordination addresses the **question of whether significant concerns have emerged for the case**. Here, treatment team discussion should prioritize the review of child/youth-specific evidence in the context of the child/youth, family, and team's characteristics, culture, and preferences and similar local aggregate evidence (information about programs and services in the Hawai'i system) to determine the typical frequency of such incidents in the practice system. If significant concerns are flagged, it is important for the treatment team to discuss the concerns, consult with CSO or specialists as needed, develop plans (e.g., reconsideration of the treatment intervention), and ensure consistent monitoring. This decision should be informed by the following data (most of which is located on the PBI – Clinical Indicators Report) and other relevant information:

1. **Sentinel events/reportable incidents/crisis mobile outreach incidents:** Treatment teams serving children/youth who have more frequent, more intense, and more severe sentinel events and reportable incidents or who utilize crisis supports more frequently should absolutely discuss plans to ensure safety of the child/youth and family. As an example, the number of documented crisis mobile outreach events is listed within the PBI – Clinical Indicators Report.

2. **CAFAS at level of care initiation**: See item 2.c.ii. *Initial CAFAS score to guide level of care selection* above. Most recent CAFAS score is located within the PBI – Clinical Indicators Report.

3. **Lethality and high-risk behaviors and situations:** Children/youth engaging in high-risk behaviors or at risk of harm due to safety concerns should be monitored closely by the treatment team. While this information might be available through different sources, some clues are also available via the child/youth and caregiver's monthly OS completion (located in the #P+Y OS Critical Items column of the PBI – Clinical Indicators Report). If child/youth or caregivers endorse a 1 or higher (0-5 scale, 3 points: "Often", 4 points: "Most of the time", 5 points: "All of the time) on high-risk items on the OS, treatment teams will want to discuss to ensure safety of the child/youth and family. The high-risk items on the OS are:
   - From the Problem Scale:
     - #2 Getting into fights
     - #7 Using drugs or alcohol
     - #12 Hurting self (cutting or scratching self, taking pills)
     - #13 Talking or thinking about death
   - From the Hopefulness/Wellness Scale:
     - #3 How much stress or pressure is in your life right now?
     - #4 How optimistic are you about the future?

4. **Number of level of care changes:** The CAMHD service array offers several out-of-home and in-home options. Anecdotal reports have suggested that children/youth who receive services in multiple levels of care across time tend to require more intensive supports overall. This might be due to such child/youth being more likely to be prematurely discharged from a level of care. Alternatively, these children/youth may be more difficult to engage, such that their services are not able to begin. While there is no clear statistical causal relationship between level of care changes and outcomes, the CAMHD recommends that treatment teams monitor children/youth's level of care changes as a data point for decision making. A list of the child/youth's current services is viewable within the PBI – Clinical Indicators Report.

5. **Length of treatment in level of care:** The CAMHD examined the length of treatment for episodes that ended between February 2019 and 2022 (Table 3). Levels of care are listed in the first column, number of cases

associated with the data are in column two, mean length of treatment (in months) within each of those levels of care is listed in column three, and median length of treatment (in months) is in column four. Individual child/youth lengths of treatment can be compared to the statewide average to determine (a) if child/youth lengths of treatment are above or below the mean or median, and then subsequently (b) if treatment teams should consider additional steps to maximize the efficiency and effectiveness of services (e.g., consider intensifying treatment, changing level of care). The months of stay for a child/youth within a particular service is provided in the Months in Service column within the PBI – Clinical Indicators Report.

Table 3

Length of Treatment for Levels of Care within the CAMHD Service Array (February 2019-November 2022)

Contracted Provider Services	Count of Cases	Mean length of treatment (months)	Median length of treatment (months)
Adaptive Behavioral Intervention (ABI)	32	7.75	8.02
Community-Based Residential 1 (CBR1)	16	9.94	7.55
Community-Based Residential 2 (CBR2)	<10	13.39	14.67
Community-Based Residential 3 (CBR3)	192	3.42	2.77
Functional Family Therapy (FFT)	274	4.81	5.17
Hospital-Based Residential (HBR)	209	2.10	1.93
Intensive In-Home Therapy (IIH)	1564	7.76	6.37
Multisystemic Therapy (MST)	413	3.75	4.17
Therapeutic Respite Home (TRH) (Compared to RH)	73	2.05	0.37
Transitional Family Home (TFH)	214	6.24	4.78
CSEC CBR3 - Pearl Haven	13	4.57	4.33
Intensive Independent Living Skills (IILS)	75	5.21	4.07
Residential Crisis Stabilization Program (RCSP)	113	0.99	0.97
Therapeutic Crisis Home (TCH)	119	0.19	0.13
Transitional Support Services (TSS)	45	1.90	1.67
Peer Support Services - Parent Partner	132	8.80	6.48
Peer Support Services – Child/Youth Partner	<10	4.19	3.68

Note: Included child/youth in the MAX system whose services lines had ended, regardless of case status; for start of episode, used the earlier of either the service line start date or the first progress note; for the end of episode, used the last progress note within service line; excluded episodes with data errors (start date was after end date); excluded episodes with only one day of services (start and end were the same day), except for respite or crisis services. Does not include treatment episodes that extended beyond November 2022.

6. **Lack of early progress on progress ratings and CAFAS:** Research on the Monthly Treatment Progress Summary (MTPS) progress rating and the CAFAS has indicated that a lower average scores early in treatment are associated with a greater risk for unsuccessful discharge. While the relationship between these findings and the DSPN treatment target progress ratings are an open question, one could naturally consider allocating more resources (supports, time, etc.) to children/youth with lower average treatment target ratings early on within the level of care. Low progress ratings or CAFAS scores may indicate a poor "fit" between the children/youth and the therapist, which should be explored carefully when looking to adjust services. Progress ratings will be reported in the PBI-Targets & Practices and the most recent CAFAS is located on the PBI – Clinical Indicators Report.

Table 4

Summary of Early Progress Risk Indicators

Level of Care	Assessment	Early Progress Risk Indicator
Hospital-Based Residential	2nd Month MTPS	Average MTPS Progress Rating Below 2.8
Community-Based Residential III	4th Month MTPS	Average MTPS Progress Rating Below 2.9
	2nd Quarter CAFAS	CAFAS Score 150 or higher
Transitional Family Home	3rd Month MTPS	Average MTPS Progress Rating Below 3.6
	2nd Quarter CAFAS	CAFAS Score 140 or higher
Multisystemic Therapy	3rd Month MTPS	Average MTPS Progress Rating Below 3.3
Functional Family Therapy	3rd Month MTPS	Average MTPS Progress Rating Below 3.6
Intensive In-Home	2nd Month MTPS	Average MTPS Progress Rating Below 2.0
	2nd Quarter CAFAS	CAFAS Score 120 or higher

7. **Child/youth and family strengths**: The child/youth and family's strengths should be emphasized to maximize treatment engagement and progress. Further, an increased use of strengths-based treatment targets have shown to increase the likelihood of successful discharge.

8. **Days since last case review (or case discussion).** The CAMHD expects FGC team to be conducting data-informed case reviews monthly. If a case has not been discussed for more than 30 days, the FGC clincial team should ensure that a very thorough discussion and review of recent data is conducted immediately. Days since last case review is provided within the PBI – Clinical Indicators Report.

9. **Treatment attendance.** Treatment attendance has been documented as a predictor of treatment success. Review of the progress notes provides information on frequency and duration of meetings. If progress notes indicate that sessions have been infrequent, the treatment team might consider adding supports, evaluating treatment engagement, and/or increasing intensity of engagement efforts.

10. **Treatment engagement.** Child/youth and family engagement has also been documented as a predictor of treatment success. Potential proxies for this concept might be:
    a. *Treatment attendance.*
    b. *Individual and total OS Hopefulness and Wellness subscales* (Available by clicking within a child/youth's "#P+Y OS Critical Items" column in the PBI – Clinical Indicators Report, or by clicking on a data point within the PBI - Ohio Scales Visualization). Higher scores should be discussed in case review, as they might point to the need for family supports, such as parent or youth partner involvement or more supports related to practical/financial needs.
    c. *Similarities and differences between child/youth and caregiver responses on the OS.* (Available by clicking within a child/youth's "#P+Y OS Critical Items" column in the PBI – Clinical Indicators Report, or by clicking on a data point within the PBI - Ohio Scales Visualization). Significant differences between parent and child/youth responses may predict poor treatment outcomes. Is the child/youth reporting a lot of symptoms of depression and the caregiver has no clue? Is the parent reporting a lot of rule-breaking or oppositionality and the child/youth is not? In these cases, special attention needs to be given to building the therapeutic alliance. Treatment teams should discuss such discrepancies to determine if any adjustments need to be made to the treatment plan.

Progress made?

Decision-making next proceeds to the question of **whether the child/youth and family are making progress as measured by the goals outlined in the relevant plans.** Here, decision making prioritizes child/youth and family characteristics, culture, and preferences and the child/youth-specific evidence in the clinical reports (e.g., idiographic clinical or functional outcome measures, OS, treatment target progress ratings, CAFAS). If the child/youth is making positive progress, continuation of the current plan is recommended. If a child/youth is not improving, the appropriateness of the plan is best evaluated, and the treatment team should continue to meet to discuss concerns and ensure consistent monitoring. This decision should be informed by the progress (or lack thereof) over time on the following measures:

1. **Idiographic data:** Individualized data that are specific to the goals and quality of life for the child/youth and their family are vital metrics of treatment progress. Some examples that might be relevant for CAMHD children/youth are frequency of days without family conflict, mood ratings, fear ladder rating, frequency of days without elopement, frequency of days without self-injurious behavior, frequency of days without peer conflict, and school attendance.

2. **CAFAS** (Available by clicking on a particular "Last CAFAS Score (date)" in the PBI – Clinical Indicators Report or by examining the PBI-CAFAS): CAFAS Total and CAFAS subscale (School Role Performance, Home Role Performance, Community Role Performance, Behavior Toward Others, Mood/Emotions, Mood/Self-Harmful Behavior, Substance Use, and Thinking) scores over time provide helpful clues about the CC's perception of child/youth and family progress. Below are some additional local aggregate findings regarding the CAFAS within the CAMHD population:
    a. **Significant point change.** A significant point change (30 or more points) and a reduction below a "non-clinical" threshold on the CAFAS total score highly predicts a successful discharge.
        i. Children/youth who showed a 30+ point change were 2.7 times more likely to be rated as a successful discharge (521 successful versus 191 unsuccessful and other).
        ii. Children/youth whose CAFAS decreased from 80 or higher to less than 80 were 4.0 times more likely to be rated as a successful discharge (392 successful versus 98 unsuccessful and other).
        iii. Children/youth who both showed a 30+ point change and whose CAFAS decreased to less than 80 were 4.6 times more likely to be rated as a successful discharge (328 successful versus 72 unsuccessful and other).
    b. **Point of diminishing improvement.** Research within CAMHD services has found that both CAFAS scores and average treatment target progress ratings (on the MTPS and DSPN) generally make considerable gains early on in a given level of care but tend to plateau after a particular point in time. This point has been identified as the "point of diminishing improvement." At these timepoints within levels of care, treatment teams should be discussing whether progress is being made or is beginning to plateau. The following table summarizes the point of diminishing improvement for selected levels of care:

Table 3

Summary of Times to Point of Diminishing Improvement

Contracted Provider Services	Months
Applied Behavioral Interventions (ABI)	6
Community-Based Residential 1 (CBR1)	11
Community-Based Residential 2 (CBR2)	6
Community-Based Residential 3 (CBR3)	5
Functional Family Therapy (FFT)	4

Hospital-Based Residential (HBR)	2
Intensive Independent Living Skills (IILS)	6
Intensive In-Home Therapy (IIH)	6
Multisystemic Therapy (MST)	5
Transitional Family Home (TFH)	5

3. **Ohio Scales Child/youth and Caregiver Scores** (Available by clicking on a particular "#P+Y OS Critical Items" line in the PBI – Clinical Indicators Report or by viewing the PBI - Ohio Scales Visualization): Child/youth and caregiver OS scores can be examined via the Total Problem Severity Scale, the externalizing, internalizing, anxiety, delinquency, and depression subscales, and the Hopefulness/Wellness Subscales. In addition to overall progress over time on these total and subscale scores, research on the OS with similar community mental health samples recommends examining the following:
    a. **Reliable change.** When a scale score changes by a certain amount, that change is deemed to be a Reliable Change. Changes of 10 or more on the Problem Severity scale, and six or more on the Hopefulness or Wellness scale are considered a Reliable Change. For example, if a child/youth's problem severity score at intake is a 30, and six months later their score is a 20, that would be considered a reliable change. Score decreases with reliable change provide even more data for ongoing discussions about discharge.
    b. **Clinically significant change.** Clinical Significance means that the score has moved from the "clinical" range to the "nonclinical" range. For the Problem Severity scale, the nonclinical range is 20 and below. Specifically, scores ≥ 24 are considered to be clinically significant, scores ≤ 17 are considered to be in the community range. This indicator is relevant when considering ending treatment and should be discussed in case review.

4. **Treatment Target Progress Ratings** (Will be available by viewing particular treatment target progress ratings within the PBI – Targets and Practices). Individual treatment target progress ratings over time are vital metrics for overall progress. Within the CAMHD, local research findings suggest that the following additional patterns might be useful to consider:
    a. **Lack of early progress on progress ratings and CAFAS:** Research on the Monthly Treatment Progress Summary (MTPS) progress rating and the CAFAS has indicated that lower average scores early in treatment are associated with a greater risk for unsuccessful discharge.
    b. **Treatment targets generally attain moderate levels of improvement and reached maximum gains in approximately three months**. Targets associated with disruptive behavior and depressive mood disorders showed significantly greater improvement than those associated with attentional and hyperactivity challenges. Anxiety-related targets improved quickest and significantly faster than disruptive behavior targets. Outcomes for targets within the same diagnostic group also varied substantially (Love et al. 2014).
    c. **In CAMHD services, we tend to prioritize externalizing over internalizing problems during treatment for children/youth, even in the face of such comorbidity (Milette-Winfree & Mueller, 2017).** Thus, it will be important to also monitor progress ratings on internalizing treatment targets, particularly when externalizing targets are being prioritized.
    d. **Point of diminishing improvement.** See 2.b**.** Point of diminishing improvement above.

Problem with Plan Selected?

If children/youth are not improving despite the proper selection of an appropriate, evidence-based approach, then the next decisions concern problems with the selected plan. At this stage, treatment teams should be prioritizing child/youth and family characteristics, culture, and preferences and reviewing data and information gathered via care coordination. Such information shall inform decisions around considering revisions to the plan, identifying barriers to the plan, and consulting with specialists as needed. Data to consider are:

1. **Current treatment target progress ratings and associated practice element selection (will be available in PBI – Targets and Practices), compared to the evidence-based research** (Available by reviewing the "% in research protocols" column for the appropriate level of care and treatment target in the Practice Element Matrix): Treatment teams should review practices recommended for problem areas by the evidence-based literature (e.g., Help Your Keiki website, treatment protocol manuals, proprietary evidence-based intervention adherence measures, or evidence-based expert consultation) and compare those to the practices that were utilized for the child/youth and family (via practice elements indicated on the progress notes and/or mental health treatment plan). If the treatment team is not using practices demonstrating success in the evidence base, the team should discuss increasing utilization of such practices. For example, a child/youth receiving intervention for depression who is not improving after several months may require a treatment plan review. If that review demonstrates the absence of *relaxation* (i.e., training the child/youth in skills to decrease physiological arousal) in the treatment plan, which is shown to be a component of the majority of evidence-based treatment protocols for depression, then the team may consider adding *relaxation* to the existing set of services.

2. **Current treatment target progress ratings and associated practice element selection (will be available in PBI – Targets and Practices), compared to locally aggregated data (Practice Element Matrix):** Treatment teams should review practices that have demonstrated efficacy in local aggregate studies in Hawai'i (e.g., practice elements with higher beta scores by problem area across the state as presented in the provider feedback report), and compare those to the practices that were utilized for the child/youth and family (via practice elements indicated on the progress notes). If the treatment team is not using practices demonstrating success in the local aggregate data, the team should discuss increasing utilization of such practices.

3. **Team cohesion:** Even the best treatment plans might be rendered ineffective if there is a lack of consistency of plan implementation across settings. The treatment team should discuss barriers to team communication to ensure that team cohesion is not a barrier to progress for the child/youth and family. In some situations, the treatment team may be hampered by inter-agency conflict about what the child/youth and/or family needs, which agency is responsible for paying for a service, what is a safe living situation for the child/youth, etc. CAMHD leadership, including the Center Chiefs and Clinical Service Office staff work continually on improving inter-agency communication and collaboration. The FGC team may find it helpful to seek consultation and help from these sources if they reach an impasse with a sister agency.

4. **Causal mechanism evidence.** For children/youth who have received empirically supported treatments but have not yet met treatment goals, it is useful to revisit the team's memory, judgment, and professional knowledge regarding the various causal mechanisms associated with developmental psychopathology and treatment trajectory. This can be useful to reassess the clinical formulation and construct associated interventions.

5. **Child/youth and family satisfaction**. One potential barrier for treatment progress is child/youth and family satisfaction with services. The treatment team should make every effort to assess for child/youth and family satisfaction and engagement throughout services, particularly if the child/youth and family are not seeing progress.

6. **Medication trials and past treatment history.** At this stage, it is also appropriate to reexamine the medications that the child/youth might be taking and determine whether the trial is a good fit for the child/youth based on their past history, response to similar medications, medications that have been helpful to family members, side effects, what expectations the child/youth and family have for the medication, length of time on a medication, etc. Many mental health problems have a robust evidence base supporting the use of certain medications, but others do not. Sometimes medication algorithms can help guide the selection of a medication to try if a first choice is ineffective. The preferences and feedback of the child/youth and family can be combined with data from more objective measures and rating scales to help determine if it is time to switch medications or to end a medication trail. Expert psychopharmacologist's input can be helpful when using medications that are off-label or less preferred than first line medications.

Proper content, integrity, and execution?

If at this final stage, **other problems with intervention content, quality, or integrity are identified (e.g., faulty implementation of *relaxation* procedures)**, then additional consultation or training is recommended to improve service quality and increase integrity. Such problems might be identified by prioritizing child/youth and family characteristics, culture, and preferences and reviewing information gathered via care coordination. Treatment teams might conduct a thorough review of:

1. **All treatment planning documents** (i.e., Clinical Management Plan, Mental Health Treatment Plan, Clinical Services Plan). It is possible that there is a mismatch between the targets identified by the treatment team and the targets addressed by the therapist. Information about such concordance will be available by comparing targets across the CMP, MHTP, and DSPN on the PBI-Targets & Practices.
2. **The therapy protocols and manuals that the clinicians have been using.** It is equally possible that clinicians are struggling to implement certain therapy protocols with fidelity and/or in ways that result in benefits to the child/youth and family. In these situations, review of DSPN and comparison of such notes to the evidence-based protocols might be helpful.

On the other hand, if no integrity problems are identified, then a difficult situation is encountered, in which it is best to focus a system's expert resources, which are often limited. At this point, evidence requirements may need to be relaxed and the "next best" evidence from all sources be applied to find interventions (e.g., increase supports, provider wraparound-type supports, increasing training opportunities for team members, change or add interventions) and/or expert consultants who may wish to apply aspects of behavioral or clinical judgment (e.g., "reinforcement can be used to increase desirable behaviors;" "targeting family enmeshment can reduce clinical symptoms in a problem family member") in the hope of identifying a strategy that would lead to therapeutic change.

Conclusion

This document was prepared by the CAMHD Decision Support Hui. If you have questions about this document, please contact the CAMHD Clinical Services Office or the Program Improvement and Communications Office at DOH.CAMHD.comms@doh.hawaii.gov.

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