



Child & Adolescent Mental Health Division

MEASUREMENT-BASED CARE: VALUES, VISION & PROCEDURES

Purpose

The CAMHD strives to prioritize Measurement-Based Care (MBC) as an essential component of its services. MBC is defined as the use of measurement tools to quantify assessment, treatment and clinical outcomes. It involves both (1) routine monitoring throughout service and (2) using the results of the ongoing monitoring in decision making (e.g., Trivedi et al, 2007; Aboraya et al, 2018). It is a mechanism to enhance quality of services, support and strengthen clinical decision making, improve communication with all team members (including youth and their caregivers), and contribute to program and system quality assurance and improvement (e.g., Gondek et al, 2016; Tam & Ronan, 2017).

Values & Vision

The CAMHD is committed to utilizing data about an individual 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 major forms, listed below in order of their relative strength: general services research, case-specific historical information, local aggregate data, and causal mechanism research (Chorpita & Daleiden, 2018). Information about the evidence base for various practices should be utilized throughout the course of treatment to make clinical decisions. Higher priority should be given to more reliable or stronger forms of evidence in making treatment 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 evidence-based child and adolescent psychosocial intervention matrix from the American Academy of Pediatrics (click on "The Blue Menu" link: <http://helpyourkeiki.com/how-can-i-learn-more-about-mental-health-concerns/>) and Practice Element Profiles in the latest CAMHD Biennial Report (<http://helpyourkeiki.com/wp-content/uploads/2013/08/2009-Biennial-Report.pdf>). Defined this way, evidence-based practice can include large brand-named packaged 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, BASC, 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 youth on a case-by-case basis.

3. **Local Aggregate Evidence:** Local aggregate evidence is case-specific data aggregated across numerous youths into meaningful composite units, such as treatment facilities. Such evidence includes not only positive clinical outcomes (e.g., a specialty facility may have high rates of success with youth with severe substance abuse concerns; a program that uses traditional Hawaiian cultural practices may have a high rate of success with youth who are of native Hawaiian descent), but also critical incidents (e.g., a certain facility may have higher than average elopement rates, and care should be taken before youth at risk for elopement are placed there). These types of data are sometimes referred to as practice-based evidence. Examples of this evidence-base include data found on the provider feedback reports shared at the biannual Decision Support Collaborative 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 associated with a youth can be used to guide treatment. Many times, such expertise is sought to help construct interventions for 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 youth's treatment for her trauma is not progressing adequately because the 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 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-based decision making.

Core Components of Measurement Based Care

MBC is core to CAMHD's commitment to evidence-based practice, because of its demonstrated link to improved youth outcomes and its relationship to two of the aforementioned evidence bases: case specific historical information and local aggregate data.

Within the CAMHD, effective MBC consists of six major components.

1. **Using frequent and outcome measurement throughout services.** 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; Valenstein et al., 2009; Scott & Lewis, 2015). There is growing recognition in mental health treatment that, in order 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 patient 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 as well, 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 youth and family.

2. **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 client receiving treatment. Reports from parents with complex challenges who may have their own mental health challenges are less correlated with youth clinical assessments than are reports from other populations (De Los Reyes & Kazdin, 2005; Garber, Van Slyke, & Walker, 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’s symptoms (Kazdin et al., 1983; Weissman et al., 1980; Kenny & Faust, 1997). Youth tend to underreport externalizing problems but provide valuable information about internalizing problems that parents aren’t aware of (Kazdin & Heidish, 1984; Kenny & Faust, 1997; Loeber et al., 1990; Weissman et al., 1987). There are also 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, Faust, & Meehl, 2002; 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., 2017). Also, parents and children 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, 2011). 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, 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), the treatment target progress rating on the direct service progress note, and the Ohio Scales (OS) – 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.).
3. **Considering benchmarks and trajectories.** When examining data, one of the most helpful questions to ask is “compared to what?” When considering client-specific data, it is useful to consider questions about within and across person comparisons in a time period. As examples for within person comparisons: Has the client’s 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 youth’s score on an assessment measure

higher or lower than the statewide average? If the 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 client's 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 et al., 2001; Lutz, 2003) and child (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 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., 2017; Jackson et al., 2016). The average rate (or speed) of change might differ depending on the youth's 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 youth progress is important for identifying and addressing problems during this critical period of change and improving the chances of success for a youth.* Related research has found that treatment providers who have information about which clients are off-track from "typical" treatment progress are able to improve outcomes for their clients 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. *Also, because of the evidence that treatment progress tracking is associated with better outcomes, it is now considered an evidence-based practice in its own right* (Bickman et al., 2011).

4. **Sharing data consistently with clients and treatment team members.** In addition to providing better information for clinicians, the ongoing sharing of progress information with clients is also a necessary part of treatment. Progress data that is fed back to clients 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).
5. **Using data to inform decision making.** 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 youth are starting new levels of care or treatment types, and when planning for transition).

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 (assessment tools

are located on the CAMHD website under the clinical tools tab: <https://health.hawaii.gov/camhd/clinical-tools/>). 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 youths' 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 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 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 3 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., Daleden 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, go to <http://www2.fasoutcomes.com/Content.aspx?Contentid=1095>.

Ohio Scales (OS)

The OS Problem Severity Scale is completed monthly by youth and caregivers with support from the CC. This frequency provides a good opportunity for detecting critical or sudden changes, of detecting early progress (and lack of progress), and of assessing change from baseline to most recent assessment (or discharge). It is a short, 20-item measure and quick to complete, especially once youth and caregivers are accustomed to completing 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 5-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." Higher scores

indicate greater problem/symptom severity. When reviewing responses to OS measures, individuals should always consider the following critical items:

1. Talking or thinking about death
2. Hurting self, cutting or scratching self
3. How optimistic are you about the future?
4. Getting into fights
5. Using drugs or alcohol
6. How much stress or pressure is in your life right now?

The OS is appropriate for most ages that the CAMHD serves – it has a youth version that should be completed by youth 10 years old and older, but it also has a parent version, which can be completed by parents for all CAMHD youth. The OS Problem Severity Scale measures the areas of externalizing, internalizing, and delinquency, 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 youth, and differences of opinion between parents and youth, or between the family and other treatment team members, 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 youth OS measures are located at the developer's website at: <https://sites.google.com/site/ohioscales/the-scales>.

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. 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 client 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, 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 youth and family clients. Team- and client-identified treatment targets support clinical practice both by identifying concerns that might not arise in standardized measures, and prioritizing client concerns amidst an array of problems. In addition, provider agencies and system evaluators can examine target patterns, with the goal of improving services for clients. The initial list of treatment targets was developed in the early 2000s by the Hawai'i Evidence-Based Services Committee in collaboration with several panels of local practitioners, intervention developers, and other domain experts.

Progress ratings. Progress ratings are defined as the degree of progress achieved between a client's 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%)*, *No Significant changes (0 – 10%)*, *Minimal Improvement (11 – 30%)*, *Some Improvement (31 – 50%)*, *Moderate Improvement (51 – 70%)*, *Significant Improvement (71 – 90%)*, and *Complete Improvement (91 – 100%)*. The use of team- and client-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 clients.

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 initial list of practice elements was developed in the early 2000s by the Hawai'i Evidence-Based Services Committee in collaboration with several panels of local practitioners, intervention developers, and other domain experts. 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 clients.

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 codebook on the CAMHD website: https://health.hawaii.gov/camhd/files/2019/12/TF-TT-PE-and-PR-Codebook-2019_10_24.pdf). The CAMHD is currently conducting tests of the session by session reporting to provide more information about how the new collection process may affect the relationship between these variables and outcomes. A sample of the DSPN is located on the CAMHD website at https://health.hawaii.gov/camhd/files/2018/10/Direct-Service-Prog.-Note_Form.docx. A copy of the codebook and instructions for completion of the treatment target, progress rating and practice element variables on the DSPN is located on the CAMHD website at https://health.hawaii.gov/camhd/files/2019/12/TF-TT-PE-and-PR-Codebook-2019_10_24.pdf.

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
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 client-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		

Measurement-Based Care in Practice: The CAMHD Clinical Decision-Making Model

The following section is meant to provide guidelines on utilizing MBC in clinical decision making practice. The approaches described below are not to be applied mechanically in the absence of clinical judgment; however, these approaches are believed to be the most promising starting points for assessment and intervention with children and adolescents. 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 youth data monthly at a minimum, though more frequent data review (particularly at important time points) is highly encouraged. Finally, the CAMHD values the importance of sharing data with clients, ensuring that they have a strong voice in decision-making and ensuring that their strengths are considered and highlighted throughout the process. A

record of youth progress will be maintained through regular reporting of progress measures on one or more dedicated information management systems (i.e., MAX).

Figure 1

The CAMHD Clinical Decision-Making Model

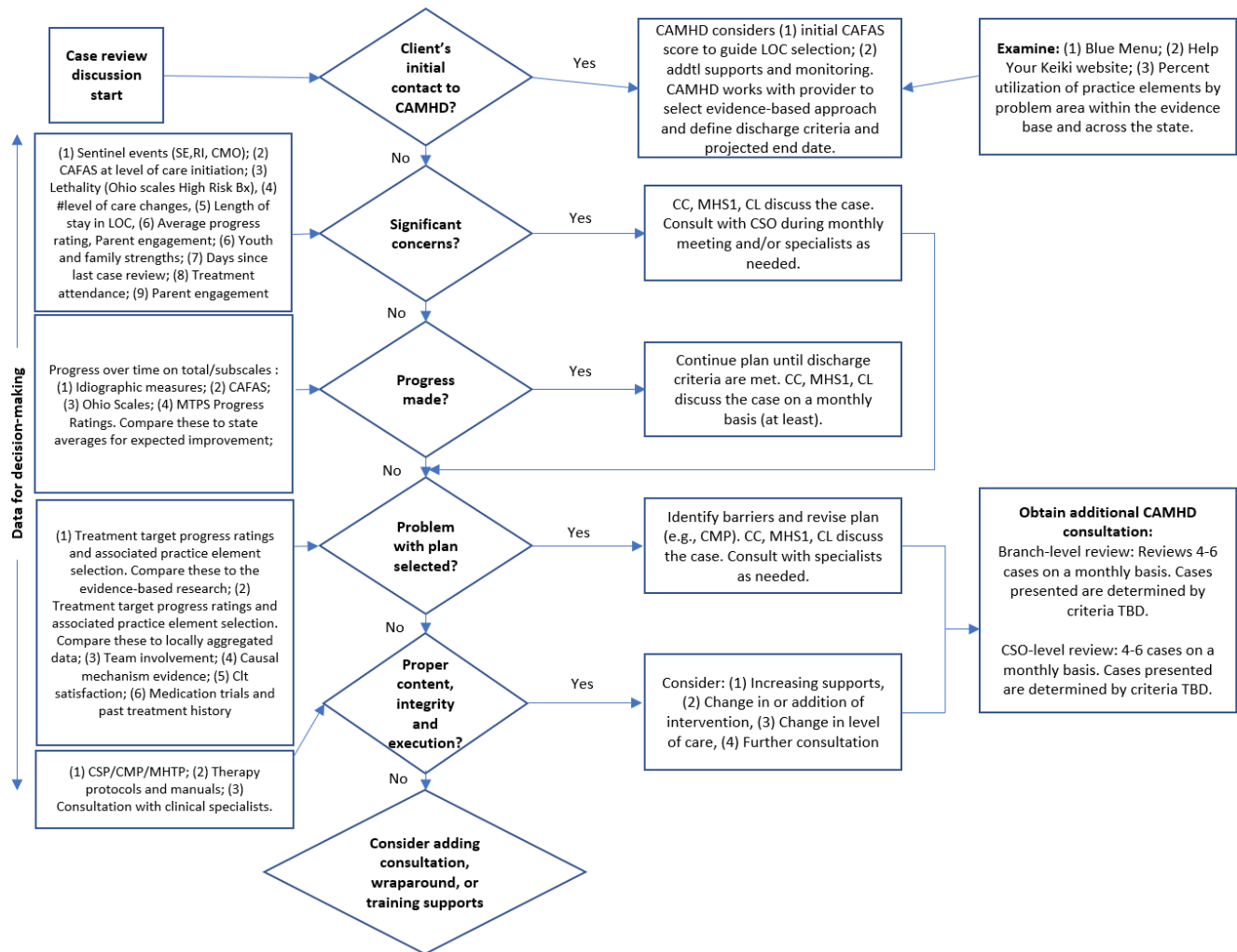


Figure 1 demonstrates that a primary decision faced with a new case is that of intervention selection/plan development. This decision should make use of:

1. **Available evidence-based reports (e.g., EBS Biennial Report; “Blue Menu” Summary of Evidence-Based Psychosocial and Pharmacological Services, Help Your Keiki website, Provider Feedback Report) in conjunction with these practice guidelines to select appropriate strategies.** For newly identified youth, this most likely involves performing an assessment (functional behavioral assessment, emotional behavioral assessment, psychoeducational assessment, initial mental health evaluation, etc. depending on the complexity of the case), followed by service planning that includes matching the newly acquired information to

relevant evidence-based intervention strategies. This process also incorporates consideration of CAMHD's practice values – known as the [CASSP Principles](#) (Stroul & Freidman, 1986). These values include the importance of family and youth voice in determining treatment and the use of the least restrictive environment that will be safe and effective for the youth.

2. **The initial CAFAS score.** Research has shown that a higher CAFAS score at intake is associated with a greater risk of worse outcomes. In general, consider allocating more resources (supports, time, etc.) to youth with higher CAFASs:
 - a. If the first CAFAS score is 120 or higher and the planned level of care is Transitional Family Home (TFH), the probability of successful discharge is less than 50%. Consider a more intensive level of care or increasing supports and tracking for this youth in TFH.
 - b. If the first CAFAS score is 130 or higher and the planned level of care is Intensive In-Home (IIH), the probability of successful discharge is less than 50%. Consider a more intensive level of care or increasing supports and tracking for this youth in IIH.
 - c. If the first CAFAS score is 150 or higher and the planned level of care is Community-Based Residential III (CBR III), the probability of successful discharge is less than 50%. Consider a more intensive level of care or increasing supports and tracking for this youth in CBR III.

As the supports and services are implemented, ongoing measurement review and/or care coordination addresses the **question of whether significant concerns have emerged for the case**. Here, treatment team discussion should prioritize review of student/youth-specific evidence in the context of similar local aggregate evidence (information about programs and services in the Hawaii 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 make use of the following data:

1. **Frequency, intensity and severity of sentinel events, reportable incidents, or crisis service utilization in the period in question.** Treatment teams serving clients who have more frequent, more intense and more severe sentinel events and reportable incidents or who utilize crisis more frequently should absolutely discuss plans to ensure safety of the youth and family.
2. **The initial CAFAS score.** See item 2 above for the detailed discussion.
3. **Endorsement of high-risk items on the OS.** If youth or caregivers endorse a 3 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 youth and family. The high-risk items on the OS are:
 - a. Talking or thinking about death
 - b. Hurting self, cutting or scratching self
 - c. How optimistic are you about the future?
 - d. Getting into fights
 - e. Using drugs or alcohol

f. How much stress or pressure is in your life right now?

4. **Level of care changes over time.** The CAMHD service array offers several out of home and in-home options. Anecdotal reports have suggested that youth who receive services in multiple levels of care across time tend to require more intensive supports overall. This might be due to such youth being more likely to be prematurely discharged from a level of care. Alternatively, these 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 youths' level of care changes as a data point for decision making.

5. **Average length of treatment.** The CAMHD examined the length of treatment episodes that ended between FY 2012 and 2016 (Table 2). Levels of care are listed in the first column and mean length of treatment within each of those levels of care is listed in column three. Individual client lengths of treatment can be compared to the statewide average to determine (a) if client lengths of treatment are above or below the mean 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).

Table 2

Length of Treatment for Levels of Care within the CAMHD Service Array (FY 2012-2016)

Level of Care	Number of Episodes Ended During Period	Mean Length of Treatment (LOT) in Months	Mean +1 SD (~15.9% of cases w/in service would have a greater LOT) in Months	Mean +2 SD (~2.3% of cases w/in service would have a greater LOT) in Months
Adaptive Behavioral Intervention	21	4.33	7.95	11.58
Community Based Residential 1	26	16.77	25.30	33.82
Community Based Residential 2	23	11.36	16.45	21.55
Community Based Residential 3	508	4.28	7.39	10.51
Functional Family Therapy	324	4.17	6.16	8.15
Hospital Based Residential	340	2.08	3.95	5.82
Intensive In-Home	2674	8.50	16.96	25.41
Intensive Outpatient Hospitalization	79	1.85	3.19	4.54
Multisystemic Therapy	709	4.22	5.78	7.33
Respite Home	150	2.22	6.05	9.88
Transitional Family Home	588	8.79	19.31	29.83

6. **Average progress rating across treatment targets.** Research on the Monthly Treatment Progress Summary (MTPS) progress rating has indicated that a lower average treatment target progress rating early in treatment is associated with a greater risk of worse outcomes. 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 youth with lower average treatment target ratings. Please note that the progress ratings are completed by therapists and may reflect the therapist's optimism about being able to help the youth. Low progress ratings may indicate a poor "fit" between the client and the therapist, which should be explored carefully when looking to adjust services.
- a. If the average treatment target rating around the second month of treatment is below 2.8 for a youth in Hospital-Based Residential (HBR), the probability of successful discharge is less than 50%. Consider modifying treatment strategies (practice elements), changing therapists, utilizing a different level of care, or increasing supports and tracking for this youth in HBR.
 - b. If the average treatment target rating around the fourth month of treatment is below 2.9 for a youth in CBR III, the probability of successful discharge is less than 50%. Consider modifying treatment strategies (practice elements), changing therapists, utilizing a different level of care, or increasing supports and tracking for this youth in CBR III.
 - c. If the average treatment target rating around the third month of treatment is below 3.6 for a youth in TFH, the probability of successful discharge is less than 50%. Consider modifying treatment strategies (practice elements), changing therapists, utilizing a different level of care, or increasing supports and tracking for this youth in TFH.
 - d. If the average treatment target rating around the third month of treatment is below 3.3 for a youth in Multisystemic Therapy (MST), the probability of successful discharge is less than 50%. Consider modifying treatment strategies (practice elements), changing therapists, utilizing a different level of care, or increasing supports and tracking for this youth in MST.
 - e. If the average treatment target rating around the third month of treatment is below 3.6 for a youth in Functional Family Therapy (FFT), the probability of successful discharge is less than 50%. Consider modifying treatment strategies (practice elements), changing therapists, utilizing a different level of care, or increasing supports and tracking for this youth in FFT.
 - f. If the average treatment target rating around the second month of treatment is below 2.0 for a youth in IIH, the probability of successful discharge is less than 50%. Consider modifying treatment strategies (practice elements), changing therapists, utilizing a different level of care, or increasing supports and tracking for this youth in IIH.
7. **Days since last case review (or case discussion).** The CAMHD expects staff to be conducting data-informed case reviews on a monthly basis. If a case has not been discussed for more than 30 days, the treatment team should ensure that a very thorough discussion and review of recent data is conducted immediately.

8. **Treatment attendance.** While not currently in the MAX electronic health record system, 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 or increasing intensity of engagement efforts.
9. **Parent engagement.** While not currently in the MAX electronic health record system, parent engagement has been documented as a predictor of treatment success. A proxy for this concept might be treatment attendance.

Decision-making next proceeds to the question of **whether the youth and family are making progress as measured by the goals outlined in the relevant plans.** Here, decision making prioritizes the youth-specific evidence in the clinical reports (e.g., idiographic clinical or functional outcome measures, OS, treatment target progress ratings, CAFAS) to inform this decision. If the youth is making positive progress, continuation of the current plan is recommended. If a youth is not improving, the appropriateness of the plan is best evaluated. It is also important to examine how the trajectories for the standardized outcome measures compare to the state averages (as demonstrated by the treatment outcomes dashboard). Individual outcome information, assessment results, and evidence-based reports (e.g., “Blue Menu” Summary of Evidence-Based Psychosocial Services, Help Your Keiki website, percent utilization of practice elements by problem area within the evidence base and across the state as presented in the provider feedback report) are prioritized for guiding this decision. If it becomes clear that a plan is comprised of elements with minimal scientific support, then the primary assumption is that one should revise the plan to select a more evidence-based approach (assuming such an approach exists).

If the youth is 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 considering revisions to the plan, identifying barriers to the plan, consulting with specialists as needed and reviewing:

1. **The specific practices that are a part of the evidence-based plan that were selected to address targets/problem areas.** 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 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 student receiving intervention for depression who is not improving after several months may require a service plan review. If that review demonstrates the absence of *relaxation* (i.e., training the 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. **The practices that were part of other effective implementations in the local environment.** Treatment teams should review practices that have demonstrated efficacy in local aggregate studies in Hawaii (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 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. **The extent to which the treatment team is working together.** Even the best treatment plans may 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 youth and family. In some situations, the treatment team may be hampered by inter-agency conflict about what the youth and/or family needs, which agency is responsible for paying for a service, what is a safe living situation for the 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 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. **Client satisfaction.** One potential barrier for treatment progress is client satisfaction with services. The treatment team should make every effort to assess for client satisfaction and engagement throughout services, particularly if the 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 youth might be taking and determine whether the trial is a good fit for the youth based on their past history, response to similar medications, medications that have been helpful to family members, side effects, what expectations the 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 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 trial. Expert psychopharmacologist's input can be helpful when using medications that are off-label or less preferred than first line medications.

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. This should be informed by thorough review of all treatment planning documents (Clinical Management Plan, Clinical Services Plan, Mental Health Treatment Plan) and the therapy protocols and manuals that the clinicians have been using. 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, 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

MBC has and will continue to be a core value of CAMHD clinical service for youth and families. If you have questions about this document, please contact the Clinical Services Office or the Program Improvement and Communications Office. This document was prepared by the CAMHD Decision Support Hui.

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