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EVALUATION OF THE RELIABILITY OF AN INSTRUMENT TO ASSESS THE
CONTENT OF TREATMENT PLANNING DOCUMENTS WITHIN THE CHILD
AND ADOLESCENT MENTAL HEALTH DIVISION

A DISSERTATION SUBMITTED TO THE GRADUATE DIVISION OF THE
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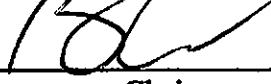
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John Young

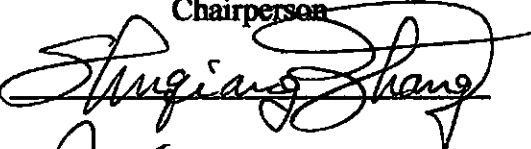
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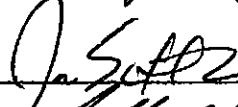
Bruce F. Chorpita, Chairperson
Karl A. Minke
Jason Schiffman
Kelly M. Vitousek
Shuqiang Zhang

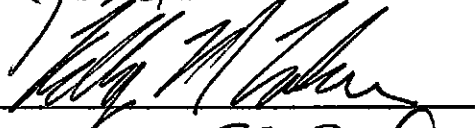
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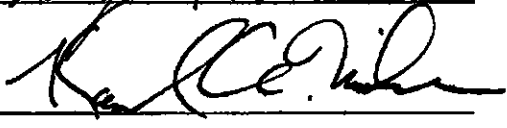
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Chairperson








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It has been said that those who see farther do so only because they stand on the shoulders of giants. Throughout my graduate experience this expression has held truth, but never more than in my interactions with each of you, for which I am forever indebted.

ABSTRACT

This study evaluated the reliability of the Service Guidance Review Form (SGRF). The SGRF was an instrument designed to quantify specific aspects of recommendations for treatment planning documents within the context of the Child and Adolescent Mental Health Division (CAMHD) in Honolulu, Hawaii. Documents utilized in this study included Mental Health Assessments (MHA), Coordinated Service Plans (CSP), and Mental Health Treatment Plans (MHTPs). The SGRF is a method of distilling recommendations from each of these documents into component parts, both in terms of specific treatment practice elements and targets of treatments. Several CAMHD personnel and University graduate students were trained in the use of the measure, and used it to rate documents from a randomly selected set of 200 new cases from CAMHD Fiscal Year 2003 (July 1, 2003 – June 30, 2004). Reliability of the instrument was examined by comparing raters' codes using Intraclass Correlations (ICCs; Shrout and Fleiss, 1979).

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CHAPTER ONE INTRODUCTION

Wraparound Care

Serious emotional disturbance (SED) in children is defined as a child having one or more psychiatric diagnoses and some form of resultant functional impairment (Costello, Angold, Burns, Erkanli, Stangl, & Tweed, 1996). Youth who exhibit emotional and behavioral difficulties severe enough to qualify for this intensive mental health classification and services related to such require significant resources, including expertise, time, and money. In some research settings it has been demonstrated that high-end service recipients in public mental health consume a disproportionate amount of resources, with approximately 33% of resources being dedicated to only 1% of cases (VanDenBerg & Grealish, 1996). To address the needs of these and other children, many mental health care systems advocate a multidisciplinary, comprehensive, and integrated process for treatment planning and intervention known as wraparound care.

Definition and main points. Broadly, wraparound care is an approach to overall service delivery that uses information from multiple domains in a child's life to deliver care. VanDenBerg and Grealish (1996) defined wraparound as "a specific set of policies, practices, and steps which are used to develop individualized services and supports for children and families who are experiencing ongoing problems" (p. 8). Expanding upon this definition, the authors indicated eight conditions that are central to the philosophy of any wraparound process, which are as follows: community-based care, individualized programs for children and families, culturally

sensitive and competent processes, parents included in decision making, flexible funding, involvement of personnel from multiple agencies in decision-making processes, unconditional services (changing with the children/families' needs as appropriate), and proprietary measurement of service outcomes.

Central to this approach is the idea of collaborative planning with treatment team members affiliated with the child in different ways (i.e., parents or caregivers, other relatives, teachers, psychologists, psychiatrists, school counselors, etc.). Within this model of service delivery, emphasis is placed on coordination of services between agencies of all sorts (i.e., school, mental health, juvenile justice, social assistance, informal community supports, etc.). Additionally, parents are seen as the primary influence in terms of decision making, and their opinions related to the course of care for their children are afforded more weight relative to other team members. In this way it is possible for families' interests to consistently be represented in the service planning and acquisition process (VanDenBerg & Grealish, 1996).

According to Rosenblatt (1996), there are five commonly employed practices of the wraparound approach that set it apart from a traditional service delivery system. First, all children engaged in a wraparound system receive an initial strength-based assessment, and subsequent recommendations for care are tailored to individual strengths to allow for a maximum chance at success. Second, planning occurs in the context of the aforementioned multi-disciplinary treatment team. Third, every youth receives case management, which allows for ongoing tracking of the child and family

and updates to services as necessary, as well as a personal, engaging way for the family to provide feedback on services rendered. Fourth, flexible funding is available for the purchase of services such that lengthy bureaucratic processes are not necessary in order to attain additional funding for services. This approach includes making funding available for non-traditional services that are not always recognized within an established service procurement system, but that may nonetheless be valuable to children and families. Finally, research related to the progress and outcome of service implementation is conducted throughout engagement in the wraparound process, such that a given child can be continuously assessed for the purposes of service improvement if it is necessary (Rosenblatt, 1996).

History of approach and seminal research. One of the earliest applications of the principles espoused by this method took place in Chicago with the Kaleidoscope program's establishment of therapeutic foster homes for troubled youths in the early 1980s (Burchard, Burchard, Sewell, & VanDenBerg, 1993; VanDenBerg & Grealish, 1996). The program's development was based on the idea of unconditional provision of services to children in need with the intent of maintaining the least restrictive environment possible to ensure adequate delivery of those services. A strong emphasis of the program from the onset was to obtain any type of services that might be beneficial for a given child, and to tailor the selection of these services on an individual basis. Most of the children initially enrolled in Kaleidoscope had been unsuccessfully treated elsewhere, often to the point of expulsion from other services. There have been limited academic evaluations of this particular program, but

consistent with wraparound principles the program has monitored the outcomes of the patients that it has served and has continually taken steps to improve services delivered. The program was initially successful with efforts at treatment in a therapeutic foster care setting, and so began providing intensive in-home services based upon the same conceptual framework without necessity of out-of-home placement. In addition to therapeutic foster care and intensive in-home services, this program currently offers basic life-skills training through a youth development program targeting disadvantaged youth that have long been involved in the foster care system. This form of service is also guided by wraparound principles, and focuses on finding and maintaining independent living by eliminating basic deficiencies that might hinder a youth's ability to become self-sufficient. Common examples of targeted deficiencies listed on the Kaleidoscope program's website include literacy difficulties, mental or medical health, inability to engage in basic money management, parenting skills, and job training (<http://www.air.org/cecp/resources/success/kaleidoscope.htm>).

Despite the lack of early controlled research geared toward examination of the Kaleidoscope program, its establishment was influential in that researchers and other state governments were able to see that the implementation of wraparound concepts in a practical setting was possible. In 1985 the state of Alaska received one of the first NIMH 5-year grants directed toward improvement of services for children classified as SED, which they used to establish wraparound services for this population. In the ensuing publication (Burchard et al., 1993), the authors indicated that they focused

the primary efforts of this project (termed the Alaska Youth Initiative; AYI) on community-based services for all SED children. This initially involved the return of most of Alaska's SED children to their homes from out of state placements. The authors explained that Alaska's social culture and geographic location contributed to the establishment of a tradition of sending children out of state for mental health treatment. The wraparound model of services was applied and delivered to 82 different children over the course of the NIMH grant (1985-1990), and 10 of the most severe and responsive case studies were selected for publication in 1993 (Burchard et al., 1993). The extensive histories and therapeutic process outlined in these case studies was less important than the overarching message given by the authors: children once thought to be too severely disturbed for continued residence within their community were able to not only be effectively maintained in this setting, but actually made therapeutic progress over time.

Additionally, the authors offered extensive description of the multitude of innovations in service delivery that were necessary to effectively administer true wraparound care, which was informative in terms of shaping subsequent efforts. Specific practices involved cultural sensitivity through consultation with local tribal councils, traveling to remote locations (sometimes to villages as small as 300 people, accessible only by river), fighting social stigma regarding mental illness, and determining relevant members of the community to involve in a child's treatment team meetings. The statements regarding findings must be tempered by the fact that the AYI offered only anecdotal accounts of case studies, but the trend toward

community-based placements of children that were previously sent away from their homes and culture was a good first step toward influencing the adoption of wraparound by other state mental health programs. Also, given the nature of the extreme cultural differences between much of the Alaskan community and the research/service provision staff, this study was in many ways ideal for testing the limits and necessary approaches to applying wraparound principles, particularly as they relate to cultural sensitivity.

Project Wraparound (Clark, Schaefer, Burchard, & Welkowitz, 1992) was another of the early attempts to test the effectiveness of a wraparound approach to servicing SED children. The project was conducted over a two-year period in the Vermont public school systems. Nineteen children classified as SED and their families participated in this longitudinal study. The average age of children in the study was 11.9 years, with 52.6% being Native American (the remaining participants were Caucasian). Mental health workers with specialized wraparound training were involved with families to develop personalized treatment plans that included information on specific intervention strategies and outcome measurements. Intense, direct services were provided both in the home and at school over the first year of the study, and were highly dependent upon family input into the treatment process. Interventions employed were diverse, ranging from cognitive-behavioral treatments to play therapy. Recipients of services were likewise varied and included parents, other relatives, teachers, teaching aides, school administration, and identified children. Primary outcome measurements included the Child Behavior Checklist

(CBCL; Achenbach & Edelbrock, 1983) and the Teacher Report Form (TRF; Achenbach & Edelbrock, 1986). Statistically significant pre- to post-experimental change was reported for CBCL, but not TRF, scores. In addition, the authors pointed out that mean CBCL scores improved from the 90th percentile at baseline on all scales to normal ranges subsequent to treatment, which was cited as being indicative of clinically significant change. Additionally, though the children's scores on measures of school-based functioning did not significantly improve over time, the authors indicated that all children were maintained in their normal academic settings, giving some anecdotal support to the concept of continuing mainstream education for SED children. Subsequent research on the same wraparound system in Vermont indicated similar patterns of benefit for children receiving services through this approach (Bruns, Burchard, & Yoe, 1995; Yoe, Santarcangelo, Atkins, & Burchard, 1996). None of the studies incorporating wraparound care in Vermont, however, utilized a true experimental approach to examining the efficacy of this form of service delivery. As such, the findings must be interpreted with relatively less weight than if the research had been carried out using a randomized-controlled design.

Randomized research. Several other evaluations of the wraparound approach have been conducted, including two randomized-controlled trials (RCTs). Evans, Armstrong, Kuppinger, Huz, and McNulty (1998) evaluated the relative efficacy of wraparound services in comparison to treatment foster care. Children classified as SED ages 5-13 (Mean = 9) who were referred to social services for out-of-home placements were involved in this study, and were randomly assigned to either a

treatment foster care (Family Based Treatment; FBT) or a wraparound (Family Centered Intensive Case Management; FCICM) condition. FBT was an established community-based treatment-as-usual program involving therapeutic foster care placement. The goal of this treatment was to place SED children in a therapeutically trained family's home with the intent of improving the children's behaviors in preparation for transition to a different, more permanent location. The goal of the FCICM wraparound program was to maintain children in their natural family homes while providing intensive services in multiple domains such that parenting skills and family functioning would be sufficiently enhanced to reduce children's difficulties. Forty-two children referred for out-of-home placement in New York City were recruited to be in this study. Of these, 38 were male, and 35 were Caucasian, 2 were Native American, 2 were African American, and 1 was Multi-racial. Fifteen of these children were randomly assigned to receive FBT, and another 27 were randomly assigned to receive FCICM in their family home environment. Primary outcome measures included the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1990) and the CBCL (Achenbach, 1991), which were administered at intake and again 12 months later. Children in both groups exhibited significant improvements on most measures over time. Children in the wraparound treatment condition (FCICM) displayed significantly greater improvements on the Behavior Toward Others and Moods/Emotions Subscales of the CAFAS, as well as on the Social Problems, Thought Problems, and Delinquency Subscales on the CBCL.

A second randomized-controlled trial was published in 1998 by Clark, Prange, Lee, Stewart, McDonald, and Boyd. This study was conducted in Florida, and involved children between the ages of 7 and 15 from foster care placements. Additional inclusion requirements were that the child did not have a primary diagnosis of mental retardation, and was exhibiting externalizing behaviors (i.e., aggression, opposition, willful misconduct, etc.) in the context of their foster placements. From these criteria, a pool of 131 participants was identified, with the following characteristics: 60.3% male, 61.8% Caucasian, 33.6% African American, 2.3% Hispanic, and 2.3% biracial. Seventy-seven of these children randomly received standard practice foster care (SP), and another 54 randomly received SP plus additional wraparound services. The additional services given to the experimental group were termed the Fostering Individualized Assistance Program (FIAP), and included a strength-based assessment, treatment planning team, intensive case management, and flexible funding for informal program engagement. A variety of descriptive measures were collected over a period of 42 months, including examination of the rate of placement changes, arrests, and runaways. Additionally, the YSR and CBCL (Achenbach, 1991) were administered to the children's primary caretakers. Over the course of treatment, children in the FIAP condition exhibited significantly fewer changes in their residential placements, runaways, missed school days, and recorded instances of delinquency among males than did those in the standard foster care condition. The percentage of FIAP subjects having a clinically elevated Externalizing score on the CBCL was also significantly lower than that of

the SP group at post-intervention measurement, though these percentages were similar at intake. Finally, older subjects (ages 11.5 - 15) in the FIAP condition were significantly more likely than their same-aged counterparts in the SP condition to be living in permanent placements (i.e., adoption, with parents or relatives, independently) at the cessation of the study.

Non-randomized research. The popularity of the wraparound approach has manifested itself by way of integration into the infrastructure of most public mental health organizations throughout the country (Faw, 1999). Additionally, several other evaluations (with varying methodologies) of the wraparound approach to service delivery exist. These studies will be reviewed more briefly, as none uses a randomized-controlled design, making possible inferences from these studies weaker than those RCTs previously cited.

Illback, Neill, Call, and Andis (1993) examined the effectiveness of a statewide wraparound service delivery strategy in Kentucky (termed the Bluegrass Interagency Mobilization Project in Adolescent and Children's Treatment, or IMPACT). This study was developed in large part due to Kentucky's experience of a 1200% increase in the amount of resources dedicated toward inpatient care of SED children in a 9-year time period. The results of the project indicated substantial cost savings by integrating wraparound into service delivery. Additionally, the author noted that children treated under this program were generally placed in less restrictive settings, had more stability in terms of their placements, and exhibited behavioral gains by self and parent reports.

Hyde, Burchard, and Woodworth (1996) described the implementation and evolution of wraparound in the Baltimore area. Beginning in 1988, numerous research projects dedicated toward system reform and coordination of services were started under the collective mantle of the Systems Reform Initiative. Similar to the AYI, children serviced in initial efforts to establish wraparound care were returned to their communities from out-of-state placements. Children at imminent risk for out-of-home placement were also targeted by this project. The authors presented information on 25 children returned from out-of-state residential placements (58% male; 67% African American; Mean age = 17.5) and a separate 24 children targeted because of imminent risk of removal from their homes (81% male; 71% African American; Mean age = 15.6). Broadly, the authors asserted that children treated in wraparound exhibited gains over time in terms of community adjustment, activity involvement, and satisfaction of services rendered. Additionally, information was presented on 24 clients serviced by the same mental health agencies who did not receive wraparound services (83% male; 88% African American; Mean age = 18.7). All children improved over the course of their treatment, but the magnitude of improvement was less across categories for children in the control group as compared to children serviced in wraparound. It is important to note, however, that these comparisons were in no way experimental, as each group of children was selected on the basis of his or her perceived need for wraparound services to maintain or ensure community placement. The authors of this study were clear in regard to this limitation, and indicated that data for the non-experimental group were listed for the purpose of

providing some information on the base rates of typical improvements for public mental health care recipients.

Eber, Osuch, and Reddit (1996) studied a sample of 44 students (38 males) in Chicago receiving wraparound care. In comparison to these same students' historical records of restrictive educational placements and out-of-home care, the year in which wraparound services were provided was punctuated by a decline in these measures. Cumblad (1996) initiated a year-long case study of 8 individuals in the Kaleidoscope therapeutic foster care program in Chicago. The author found that subjects all decreased in terms of suicidality, aggression, depression, and recorded acts of delinquency over the course of the study. Additionally, it was noted that all 8 participants successfully returned to their previous homes by the culmination of the study.

Ancillary information. An additional source of non-reviewed information exists in The Resource Center for Family-Focused Practice (a specialty clinic for SED youth affiliated with the University of California at Davis). This organization sponsors the California Wraparound Institute Conference each year, and in 2002 presented information relevant to 11 public mental health program evaluations of wraparound care in community settings. Broadly, this presentation indicated that wraparound had been noted to have positive effects on a variety of assessed domains, including delinquency, hospitalization, other out-of-home placements, and emotional and behavioral functioning (as measured by the CAFAS and CBCL). In addition, this presentation gave information on the cost efficiency of several published studies of

wraparound, including both RCTs cited above. In all recorded instances, wraparound service delivery maintained children's community placements and provided intensive services that cost less than or approximately the same as traditional care for a similar geographical location (Clarke, 2002). Given that this information is not peer-reviewed, relatively little weight will be afforded to it. It is interesting and important to include in this review, however, in that it is illustrative of the implementation of wraparound principles dedicated toward research on client outcomes and program improvement (regardless of publication or dissemination source).

Systems of Care

The wraparound approach to service delivery cannot be separated from its existence within a coordinated system of care (Burchard & Clarke, 1990). This approach, as originally defined by Stroul and Friedman (1986), is generally based upon the same guiding principles as wraparound care outlined above, and has a strong emphasis on multidisciplinary coordination of services. The authors defined a system of care as “a comprehensive spectrum of mental health and other necessary services which are organized into a coordinated network...” (Stroul & Friedman, 1986, page 3). They defined the traditional regime of mental health services as offering a fragmented range of services that varied in intensity and were usually not targeted to any given child's specific difficulties. The problems with this traditional system, as outlined by the authors, were that there was generally no way to easily move between services, and outcome measures were rarely taken. Additionally, the emphasis of such systems was often on restrictive, out-of-home placements that removed children from

their entire support systems, which did not necessarily foster positive outcomes in terms of functionality, productivity, or happiness (though this statement was and is difficult to evaluate due to the lack of outcome research). Thus, Stroul and Friedman's (1986) definition of a system of care emphasized the ease of coordination of services between different aspects of the system, as well as research to continually monitor and improve all parts of the system.

Relationship between systems of care and wraparound. The overarching differences between a system of care and a wraparound system are generally in the level at which they direct effort toward realizing principles of coordinated, individualized services. Overall, the theoretical emphasis of systems of care is on providing an infrastructure through which an array of seamlessly coordinated services can be administered. The guiding principles of the wraparound approach are geared more toward helping a particular individual access services available through this system of care (Katz-Leavy, Lourie, Stroul, & Zeigler-Dendy, 1992). The chief practical difference in terms of specific strategies is the availability of flexible funding for cases, which is a wraparound requirement. Both are similar in their commitment to measurement and outcome research, and both represent a departure from "treatment as usual" within the public mental health care arena.

Conceptually, systems of care exist to propel the efforts of wraparound services. Without a system of care to develop and coordinate appropriate services, wraparound care would not be possible. Likewise, the efforts of systems of care would be lost if wraparound did not exist to engage children and families in services

directed toward a remedy to their particular difficulties. Given this interdependent and overlapping nature of approaches, an examination of some of the major studies concerning systems of care is also useful in providing context for the current study.

History of systems of care. The concept of system of care was an outgrowth of the startling realization of the Joint Commission on Mental Health of Children (1969) that literally millions of children in need of mental health services were not receiving them, and that those children who were receiving services were often accessing inappropriately tailored resources. The services that they received were generally administered in a needlessly restrictive setting, and often included long-term inpatient care for children who may have otherwise been treated in community-based settings. Later official governmental inquiry regarding the child mental health care structure of various states found that an array of services that would be suitable to meet most children's needs, and thus ameliorate the conditions noted above, did not exist (President's Commission on Mental Health, 1978; Knitzer, 1982). The resolve of both commissioned reports was to create programs with an array of services that could be easily accessed by youth in need.

These needs were echoed by public mental health care professionals throughout the country (cf; Saxe, Cross, & Silverman, 1988), and contributed to the development of the Child and Adolescent Service System Program (CASSP) by the National Institute of Mental Health (NIMH) in 1984 (Stroul & Friedman, 1986). This body was a collaborative effort between state and federal governments (coordinated through NIMH) designed to address the shortcomings of the traditional continuum of

care model. The work of CASSP was directed primarily toward the generation of guidelines for public mental health to utilize in the development of systems of care at a local level. This committee put forth a number of specific requirements based upon available research, including that services should be dedicated toward discernable problems in the form of a DSM diagnosis, tailored to the level of the individual, and provided unconditionally with the utmost respect to individuals and their input into the treatment planning process. CASSP principles were widely embraced by public mental health administrations, with all 50 states having adopted them by the early 90s (Day & Roberts, 1991).

This widespread embrace was seemingly on the basis of both the theoretical appeal of the system and the fact that structure and methodology were spelled out from the beginning. Stroul and Friedman (1986) defined a number of different domains of possible service within a system of care (i.e., mental health, social, educational, health, vocational, recreational, operational), with transition between domains set up to be seamless. Additionally, assessment, outcome, and program evaluation research within and between all domains was integrated into the system from the onset.

The Fort Bragg study. One of the pioneering states in terms of establishing an adequate system of care for serviced youth is North Carolina. Early efforts to define and establish a system of care began in 1983 when state legislation enacted mental health agencies to develop comprehensive, coordinated methods of caring for the complex needs of their most seriously mentally ill children in response to class action

lawsuits levied in 1979 (Behar, 1985). At the time of this enactment, there was no existing agency upon which a system of care could be modeled, as reflected by the following quote: “In seeking to carry out this challenge, North Carolina is breaking new ground: there is no previous tradition that can be built upon; no other state has ever made such a substantial commitment of resources and staff to a group of children who typically are failed by not only mental health departments but other service systems as well.” (Knitzer, LaNeve, Pappanikou, Shore, & Steffek, 1983, as quoted in Behar, 1985). In taking steps to build this system of care, extensive planning was done to ensure that it was constructed with the goal of keeping children in their home placements as much as possible. Standard elements of current definitions of a system of care were also part of this initial effort, including ongoing assessment, linkages between services, and emphasis on the least restrictive methods of care possible.

Bickman, Heflinger, Pion, and Behar (1992) later described a plan for an evaluation of the state’s work through a study designed to test the relative utility of a system of care. The most emphasized variables of interest were delineated as the outcomes and costs of services. The authors outlined a plan for a study that was to establish a system of care at Fort Bragg, North Carolina and compare it to existing arrays of services as usual at two other military locations (Fort Stewart, Georgia and Fort Campbell, Tennessee). The detailed methods and findings of this study were produced by Bickman, Guthrie, Foster, Lambert, Summerfelt, Breda, et al. (1995) in a seminal work that has been influential in subsequent efforts to establish systems of care, particularly in terms of the challenges that this undertaking presents (see below).

The specific methods of the study enabled Congress to contract the aforementioned research team to have full authority to restructure the entire array of mental health services at Fort Bragg, North Carolina. The original conceptualization of this process was iterated to Congress in principle as early as 1986, but was not implemented until 1989 due to issues of the source of funding for the project. Ultimately, the Department of the Army was ordered to fund the project in terms of all reorganization of existing services, creation of new services, and costs associated with service utilization. Furthermore, in order to enhance accessibility of services, it was expressly mandated by Congress that no fiduciary limits or constraints were placed upon this funding. That is to say, the research team had absolute authority to obtain as many financial resources as necessary in an effort to offer an exemplary evaluation of the system of care that was to be created at Fort Bragg.

The research design was such that different agencies were responsible for different aspects of the creation of this system of care, with the aforementioned research team as the driving force for administrative and research efforts. Their initial work included the development of services that did not exist in Fort Bragg's previous repertoire, including in-home therapy, after school group treatment, day treatment, therapeutic group homes, and 24-hour crisis management. Many of these services, particularly the therapeutic living environments, were considered to be providing intermediary care between outpatient treatment and inpatient placement. These new services in particular were cited by the authors as essential in establishing a true system of care that allowed for treatment in the least restrictive environment possible.

A separate team was established for service provision to the entire Fort Bragg catchment area, which was described as having around 42,000 children between the ages of 5 and 17 that were eligible for services. This team was a private, non-profit contracted agency (Cardinal Mental Health Group) from Fayetteville, North Carolina.

The two teams began evaluation and startup work in August, 1989 and by June, 1990 began a full-scale implementation of the new system of care at Fort Bragg. This step entailed radical revisions to the method in which services had previously been accessible and provided. Specifically, all families' insurance plans were adjusted such that accessing any service outside of the system of care was not covered at all. As compensation for this inconvenience and relative lack of choice in terms of treatment providers, families accessing services within the system of care were no longer required to make co-payments of any kind, essentially eliminating all direct financial costs of services for these families.

Families accessing services at all sites were given a variety of outcome measures upon intake, which were readministered at 6 and 12 months after the start of treatment. Measures included standard Achenbach measures, the CAFAS, and structured interviews to determine child psychopathology (the Child Assessment Schedule, Child and Parent versions; CAS and P-CAS, respectively). Data was collected on a sample large enough to ensure adequate power of any results before information was released into the public domain. The sample included in the publication by Bickman et al. (1995) included 574 children at Fort Bragg and a combined 410 children at both of the comparison sites. Attrition throughout the

course of data collection was similar for both groups, with 92% of the total sample of participants completing 6-month follow-up measures and 83% completing 12-month measures.

A broad variety of data were collected in terms of treatment outcome and cost effectiveness of services provided. Generally speaking, treatment outcomes did not differ comparing Fort Bragg to the other two locations. Children ages 12 and older at Fort Bragg reported significantly fewer difficulties as measured by the Youth Self Report (Achenbach & Edelbrock, 1987) at both 6- and 12-month measurements. Additionally, all children at Fort Bragg exhibited significantly better functional improvements over the course of treatment than did those at comparison sites, as measured by the Global Level of Functioning (which was created for this study). Comparison sites exhibited significantly better results in terms of both parent and child reports of psychopathology on structured interviews. Across 24 comparisons between groups at 6 and 12 months, these were the only differences in sites, and effect sizes were notably small. The authors' conclusion in regard to treatment outcome was that results were equivalent across sites.

Comparisons made in terms of cost efficiency of services rendered took four main forms: absolute financial expenditures, dollars spent per child serviced, dollars spent per eligible child in catchment area, and cost per daily unit of care rendered per child. Across all comparisons, the Fort Bragg site was notably higher in terms of costs. The most easily interpretable and salient figure from extensive comparisons of cost efficiency was in terms of absolute expenditures: over the course of the study

\$46,918,811 was spent providing coordinated services to 574 children at Fort Bragg and a collective \$13,633,749 was spent providing non-integrated services as usual to a combined 410 children at the comparison sites. This effect was particularly striking due to the fact that estimates of these same measures in the pre-implementation period were substantially lower at Fort Bragg than at the comparison sites.

Bickman et al. (1995) acknowledged many limitations of this study, including difficulty getting funding and agreement from the Army regarding the course and development of the project. Additionally, the fact that this study was carried out in a military environment may substantially limit its generalizability to other public mental health settings outside the armed forces. The authors also reported the initiation of a myriad of services at the beginning of this evaluation that did not exist prior to the beginning of the project, with the period of time for developing the entire system of care (including the *complete* design of all new services) being only 10 months before the system was online.

More insight regarding this issue is possible in subsequent publications regarding the project. Behar (1997), noted that previous program evaluation methods indicated that “system maturation” was necessary if research at any given point in time was to accurately reflect the strengths, weaknesses, and possibilities of a system. According to Behar (1997), the necessary state of maturation did not exist prior to the Army’s “insistence that a final report be issued before the end of the demonstration project, scheduled for May, 1994, with the final report due in September of 1993” (Behar, 1997, p 557). Several services that were part of the implementation project

were severely understaffed and underutilized at the time of the final evaluation, and several services that researchers had intended to offer did not come into existence at all prior to the time of the final report. In the two years subsequent to this final report being issued, costs of the system of care implementation decreased significantly at Fort Bragg, by as much as 59% in some domains (Behar, 1997). According to Behar, these conditions were more reflective of a matured system of care and the costs and capabilities of the system as it was meant to be established, which would have allowed for a fairer test in comparison to services as usual.

Despite the numerous difficulties in terms of startup and agreement between responsible parties, the Fort Bragg study formed a guideline for systems of care research, including additional efforts in the public mental health sector by the Robert Wood Johnson Foundation (i.e., England and Cole, 1992). Bickman et al. (1995) made particular note of the observation that the average child in the Fort Bragg area accessed a greater depth and array of services than the average child at the comparison sites. In line with previous research regarding the lack of mental health service access and utilization for children in need (i.e., Knitzer, 1982), this facet of the study was viewed as being successful in promoting the use of services for children who needed them. The authors did not, however, relate this observation to the data that indicated null results in terms of outcomes between sites or the large differences in costs for services rendered. Likewise, practical limitations for how to develop a similar system of care in a context with financial constraints were also not addressed.

Criticism of the conceptualization and methods of the studies has also been levied. Weisz, Han, and Valeri, (1997) pointed out that the practices implemented in this major undertaking were neither defined nor monitored for the purpose of fidelity. As such, it was impossible to tell if the treatments offered had any empirical support, and the null results noted in terms of outcome could have been due to the provision of treatments that had not been shown to be effective. This approach to the design of the study entangles the findings such that future research could not be informed regarding what to target for improvements: the systemization of care or the specific treatments offered (Weisz et al., 1997).

Other research involving systems of care. Other demonstrations, while more modest in their scope, also examined potential positive impacts of a coordinated system of care. Jordan and Hernandez (1990) outlined a public mental health planning program in Ventura County, California. This county was selected as having one of the highest levels of interagency coordination and comprehensive care in the state of California, and was in many ways a model program for other counties in the state. The state legislators felt that positive improvements in Ventura would lead to an outstanding system of care that could inform the generation of similar systems across the state. The initial grant to fund this project, however, was somewhat small in terms of enabling system-level reform (\$1.54 million). The desired changes and outcomes were also substantially different from that of the Fort Bragg study, in that the emphasis of the project was to control costs while providing the best possible care with the limitations of available resources. The primary difference in this approach

was that treatment planning for each individual matched their access to care on the basis of the severity of their particular problems. Given finite resources and a measurable degree of financial burden associated with the severity of client difficulties, relatively more access to services and money were dedicated toward patients on the higher end the severity spectrum. In theory, this focus on cost management and efficiency of service delivery across agencies would allow for the least burden of cost on the state and the most effective outcomes for clients serviced. Fiduciary outcomes of the project suggested that the costs of the initial grant money were offset more than 66% by cost savings in various service domains of the project. In addition, a variety of clinically meaningful goals set forth by the legislature were also met or exceeded at the culmination of the project. These included reductions in out-of-state placement, delinquency, inpatient hospitalization, school transfer, and removal of children from homes. The project was deemed to be successful, and a subsequent bill funded the implementation of similar systems of care across the state of California (Jordan & Hernandez, 1990).

More recently Bickman, Summerfelt, and Noser (1997) reported an RCT contrasting services provided in a system of system of care with those provided in a system as usual fashion. The authors examined this question within an established system of care in Stark County, Ohio. Three-hundred-fifty families with children between 9 and 20 years old that were referred for public mental health treatment were given a baseline assessment battery that included the P-CAS, CAS, CBCL, TRF, and CAFAS. Demographics of the entire sample indicated that the mean age was 11.1

years, 62% of participants were male, and 75% were Caucasian. Families were randomly assigned to receive treatment through the established system of care in Stark County (n = 171) or to treatment as usual in the community setting (n = 179). Assessment measures were again administered to all participants 6 months subsequent to intake. There was neither a difference in treatment response on any measure given, nor a difference in attrition between groups. Taken together, this suggests that the responses of the different groups to treatment were equivalent. Similar to the Fort Bragg study, the researchers indicated that an increased utilization of services was notable in the group assigned to receive treatment in the system of care. In a separate publication, the participants of this study were followed and readministered the assessment battery at 12, 18, and 24 months following their baseline assessments (Bickman, Noser, & Summerfelt, 1999). The results of this study again indicated equivalent treatment response across measures for both groups.

An additional RCT was conducted by Burns, Farmer, Angold, Costello, and Behar in 1996. One-hundred-sixty-seven children being treated in a system of care established in Western North Carolina were randomly assigned to one of two groups. The first group had their treatment planning teams led by a professional case manager with specific training for the particular system of care. The second group had their treatment planning teams led by their primary mental health care provider. Eighty-two children were randomized to the professional case manager condition. Of these, 67 were Caucasian, 6 were African American, 9 were of other races, and 46 were male. Their ages ranged from 8 to 17, with the mean being 13.0 years old (SD = 2.6).

Eighty-five children were randomized to the mental health provider as case manager condition. Of these, 61 were Caucasian, 16 were African American, 8 were of other races, and 42 were male. Their ages ranged from 8 to 17, with the mean being 13.5 years old ($SD = 2.2$). Consistent with previously reviewed research, examination of these children over a year-long period indicated non-significant differences in terms of treatment outcome, but increased access of services by the case managed group.

Summary of Research

Taken together, the research on wraparound care and systems of care seems to yield disparate results. Wraparound seems to broadly enhance treatment outcomes for clients serviced for the same or less cost as traditional service delivery. Systems of care research seems to indicate that intercoordination of agencies and efforts to apply CASSP principles to the infrastructure of mental health organizations do little to promote treatment outcome, and do so at considerably higher cost. Given the extremely interdependent nature of systems of care and wraparound service delivery, these results are puzzling. It is possible that the differing focus of each approach (i.e., system vs. individual) contributes to differences in the estimation of cost effectiveness. Wraparound studies have not typically examined costs associated with system reorganization or financial burdens incurred by system-level agencies to provide individualized care. The converse has not been true for systems of care research, as these studies have typically accounted for costs at the level of the individual, and thus may over-represent costs in comparison to the wraparound studies. Additionally, those difficulties raised by Weisz et al. (1997) regarding the

definition, standardization, and level of empirical support of services offered are ubiquitous across studies from both areas. Without direct knowledge, monitoring, and adjustment of specific treatment practices implemented in the course of these research areas, it is difficult to tell what is responsible for any positive, negative, or null results in terms of costs or outcomes, thus making replication and continued study problematic.

Current State of the Field

Despite difficulties in research and conclusions from such, the commitment of public mental health agencies to establishing and maintaining systems of care and delivering individualized services consistent with a wraparound approach is evident and unlikely to change. To a degree, this commitment seems positive. When research drew attention to the fact that mental health services were underutilized and a large number of children were in need, the response of the federal and state governments was to adopt a logical epistemological approach to solving the problem. The resultant viewpoint led to the promotion and establishment of many services for children that might have required them. Unfortunately, the rational decision to create more services for children in need did not also include built-in empirical efforts dedicated toward examination of their efficacy or necessity.

These efforts also focused strongly on trying to maintain children in less restrictive placements, but again did not focus on research related to the impact of such. This method is somewhat understandable, in that most who have dedicated their lives to the helping professions would argue that it is ethically and morally defensible

to maintain children in the least restrictive and most nurturing environment possible while providing them with services. The realization of many mental health care systems that this was not occurring, and their subsequent effort to change their systems can be seen as a direct contribution of the research literature reviewed. Difficulty arises in developing methods of determining exactly how to structure systems in such a way as to offer appropriate care in the least restrictive manner possible, and how to enhance more empirical (rather than rational) approaches to evaluate the integration of CASSP principles into real-world systems of care and individualized service delivery.

This speaks to the issues raised by Weisz et al. (1997), which also impact the current conceptualization and necessary direction of future research in these domains. The fact that the extant research regarding systems of care does not delineate specific practices of services creates severe limitations in this area. How are researchers to understand results, develop comprehensive theories, or make systematic improvements if a definition of practices is nonexistent at a specific level? This issue is problematic in much of psychotherapy research, but in fields that utilize data derived from diffuse systems of practitioners from many different theoretical orientations it is critical if research findings are to be worthwhile. In these situations it is impossible to simply ask which practitioners are using which manuals as a proxy for “treatment as usual,” as diversity among providers does not ensure that everyone recognizes or makes use of treatment manuals.

One recently developed method of addressing Weisz et al.'s (1997) issues for systems of care research is the practice elements approach (i.e., Chorpita, Daleiden, & Weisz, 2005; Child and Adolescent Mental Health Division [CAMHD], 2003; Evidence Based Services [EBS] Committee, 2004). This approach, pioneered and implemented in Hawai'i, allows for a specific look at particular elements of practice, and is the theoretical and practical basis for the instrument under examination in the current study. This approach allows CAMHD to record and research specific elements of practice as they are being delivered in the system of care, and thus allows for comparison of techniques across the entire system. For example, if a practitioner was using CBT to treat anxiety, specific elements of that broader practice would include psychoeducation and exposure. Other practitioners may not identify their approaches as CBT per se, but may still incorporate elements of psychoeducation and exposure into their treatment practices.

CAMHD has integrated these principles into system-wide monthly recording measures that are aimed at capturing specific practices across all services offered by all providers (the Monthly Treatment Progress Summary, or MTPS). Given the considerable diversity that exists within the system, this approach aids in the elucidation of what treatments are being offered in the system and speaks to the concerns of Weisz et al. (1997) in examining systems of care.

The following study involves the examination of an instrument to code treatment planning documents within a system of care, relying heavily on ideas from the distillation and matching model (Chorpita, Daleiden, & Weisz, 2005). It

represents an effort to develop an instrument for researching coordination of care across agencies, and adopts an empirical approach to studying these problems at a level that allows for definition of specific practices within a broad system of care.

CAMHD System

CAMHD is a division of the Hawaii Department of Health Behavioral Health Services Administration that is focused on providing empirically-based mental health services to children and their families. This is carried out through a service delivery strategy designed to adhere CASSP Principles (Stroul & Friedman, 1986) as adapted to Hawai'i's unique ethnic, social, and cultural climate (Hawai'i Task Force, 1993). CAMHD can be understood to be a system of care that allows services to be administered to individuals using a wraparound approach.

In CAMHD, there are three guiding documents that establish the planned course of clinical care for each client referred into the system, each of which may also allow a look at individual elements of treatment within the system, thus allowing research that speaks to the concerns of Weisz et al. (1997). Mental Health Assessments (MHA) written by mental health professionals are the initial documents that specify treatment recommendations addressing areas of concern for youth. Assessments provide the foundation upon which treatment teams base the Coordinated Service Plan (CSP), which is a document that provides a central tool for organizing the provision of services across child serving agencies, contracted providers, and families. The CSP is designed to be a central reference point in the development of specific Mental Health Treatment Plans (MHTP) implemented by

each specific provider. Given a single CSP, it is possible to generate multiple MHTPs for diverse services rendered by multiple providers. Together, these tools yield a comprehensive plan for providing services designed to address the unique needs of each youth.

The aim of these documents is to coordinate services across domains for serviced populations. Research exists that indicates coordination of complex goals is best facilitated by giving specific feedback related to those goals at regular intervals (i.e., Saavedra, Earley, & Van Dyne, 1993; Latham & Seijts, 1999), and the structure of treatment planning within CAMHD was designed with a similar principle in mind. A secondary goal of these documents is to facilitate research on the wraparound process such that it might be improved for all of CAMHD's service recipients. Continual assessment of progress for each individual, consistent with the framework of a wraparound system, allows for numerous questions to be generated regarding treatment planning and outcome.

The existing commitment of CAMHD to improving services provided to youth is reflected by recent initiatives aimed at measuring and monitoring the quality of these service planning tools. CAMHD took a significant step towards improving mental health services provided to children and adolescents with the establishment of the Empirical Basis to Services Task Force in 1999 (Chorpita, Yim, Donkervoet, Arensdorf, Amundsen, McGee, et al., 2002). The primary task of this interdisciplinary team was to identify and disseminate evidence-based treatments for children and adolescents through a systematic evaluation of published studies. Over

the past five years, CAMHD has promoted large-scale implementation of these evidence-based services throughout its service network, and has done much to integrate and coordinate services on the basis of empirical support across domains.

In a separate project conducted in 2003, examination of the timeliness and quality of CSPs resulted in the system-wide implementation of quality assurance indicators and methods aimed at maintaining high standards for CSPs in these domains (Daleiden, 2003). This study influenced subsequent treatment planning practice to ensure that CSPs are delivered in a timely fashion for each CAMHD client, and in a manner that is consistent with established quality standards. Monitoring timelines and quality of this document ensures a greater likelihood that it will be useful in terms of coordinating wraparound services for children.

Another relevant CAMHD initiative (based on the practice elements approach) has focused on expanding the measurement of provider practices through the development and use of the MTPS (CAMHD, 2003; Daleiden, Lee, and Tolman, 2004). This instrument asks providers to report on the specific treatment settings, formats, targets, and strategies employed in a youth's treatment during the calendar month. The code set used for this measure was also employed by the CAMHD EBS Committee in adapted form to code empirically supported treatments identified in treatment outcome literature. It was shown to be reliable for use with this task, and the results of the effort to dismantle the child treatment literature into specific practice elements had an impact on public policy concerning service provision within the state of Hawaii (EBS, 2004). Additionally, the examination of the coding system in this

fashion augmented previous research concerning the development and dissemination of this approach to integrating the understanding of diffuse bodies of scientific literature with clinical practice (the distillation and matching approach; Chorpita et al., 2005).

A logical extension of these quality assurance studies is to examine the content of CSPs in relation to the content of MHAs and MHTPs. Such a study entails investigating the extent to which the interventions recommended in assessments (MHA) are reflected in the services outlined in coordinated service plans (CSP) and implemented by individual service providers carrying out treatment plans (MHTP). Such an approach to mapping treatment planning provides the potential for understanding the degree of congruence of treatment information across communication channels between the numerous actors in the child's care. It also allows a better understanding of the specific nature of services offered within the CAMHD's system of care, given that codification of treatments at the level of practice elements will be necessary for this type of research. Studies in this area may also lead to further research that can facilitate improvement of the care provided and offer insight into what facets of CAMHD should be targeted for change: the systemization of care or the specific treatments offered.

Current Study

The current study was made possible by the commitment of the CAMHD to continual service improvement and the positive working relationship of particular key agency personnel with members of the University of Hawai'i (UH) Department of

Psychology. This study is the first step in developing reliable procedures for evaluating the content of these service plans as well as the degree of congruence between the primary documents guiding clinical services (i.e., MHA, CSP, and MHTP). It also represents a subcomponent of a broader program of study within CAMHD to utilize these procedures in ongoing quality improvement efforts. The main aim of this study was to evaluate the reliability of a system for coding the relevant documents that allows for meaningful comparisons. The coding system developed for the MTPS and adapted for use by the EBS Committee was designed to provide standardization and promote measurement of actual care and evidence-based services on a common metric. The system, however, has not yet been applied to evaluation of the aforementioned guiding clinical documents. As such, the reliability of this application in this domain remains unknown.

Therefore, the current study was an examination of a modified format of this measure as applied to the context of clinical service documents. This provided the first step in potentially developing a reliable instrument to undertake future examinations of document congruence and eventual examinations of the relationship of treatment planning to actual care. The current effort included training of specific personnel within CAMHD regarding the usage of the coding instrument and a pilot test using data from a subset of CAMHD clients.

CHAPTER TWO METHOD

Overview

This study incorporated data concerning initial MHAs, CSPs, and MHTPs for all new intakes into the CAMHD system between the dates of July 1, 2003 and June 30, 2004 (inclusive) who were registered for at least 30 days. Documents produced in the first 6 months after each youth's recorded intake were used in the analyses. In the event that a given child's MHA that qualified him/her for services was produced before CAMHD registration (a condition that occurs with some regularity), then that MHA was included as the relevant data point regardless of the date it was produced. The sample produced by these criteria was approximately 500 youths, of which a randomly selected subsample of 200 cases was included in this study.

The initial focus of the study was to train raters on a coding system that identified particular elements of psychological practice in each of these domains, and then to evaluate the reliability of this system as applied to the material yielded from this sample. The full procedure is described in detail below.

Target Data Used

For each new admission into the CAMHD system for the above specified time period, archived information concerning the youth's initial MHA, CSP, and any MHTPs generated from this initial CSP was obtained and coded using the coding system previously mentioned (termed the Service Guidance Review Form; SGRF). All data produced within 6 months of the youth's intake date were examined and coded for practice elements, targets, formats, and settings. Coding was accomplished

by individual CAMHD personnel at participating Family Guidance Centers (FGCs) and the author of this study. Relevant information from the archival file was sent from individual FGCs to a centralized location at the Diamond Head FGC. Documents were also independently coded a second time by one of two graduate assistants working as part of a research and evaluation team at Diamond Head Family Guidance Center.

Measures

Service Guidance Review Form (SGRF). The SGRF is a review checklist constructed for the current study (a copy of the measure and its instruction set is included in Appendix A and B, respectively). The SGRF adopted relevant codes from the MTPS coding system and included additional contextual information appropriate to the current domain of study (i.e., educational background of document author, recommended frequency of contact). The MTPS codes were developed through an iterative process of code definition and review by a broad group of CAMHD stakeholders including parents, treatment providers, and state employees throughout the system. As such, they are representative of a comprehensive set of codes and definitions that incorporates information for an extremely diverse set of practices. The development of this system allowed for representation of most major practices utilized within CAMHD. The EBS Committee coded treatment protocols from psychosocial outcome literature using the practice element codes of the MTPS, and reliability analyses revealed a high degree of consistency across raters (EBS, 2004), thus lending support to the inclusion of these codes in the current instrument.

CAMHD Participant Raters

Volunteers were solicited from those CAMHD employees typically responsible for ongoing quality assurance measures at their respective FGCs. The final sample comprised volunteers from all CAMHD FGCs, including Big Island (HFGC), Kauai (KFGC), Maui (MFGC) and Oahu's Central (COFGC), Honolulu (HOFGC), Leeward (LOFGC), and Windward (WOFGC) districts. Individual raters' educational backgrounds and years experience in their positions at the time of the study are described in Table 1.

Table 1
Educational and Professional Characteristics of Coders

	Highest degree obtained	Field of study	Years in position at time of study
CAMHD Coder 1	M.S.	Social Work	14.42
CAMHD Coder 2	M.S.	Social Work	6.66
CAMHD Coder 3	M.S.	General Administration	6.00
CAMHD Coder 4	M.S.	Psychology	5.42
CAMHD Coder 5	M.S.	Social Work	1.00
GA Coder 6	M.A.	Psychology	0.58
GA Coder 7	M.A.	Psychology	0.58
GA Coder 8	B.A.	Psychology	0.58

Note: One CAMHD coder retired during the course of study and was unavailable for contact before educational and professional information could be obtained.

Procedure

Individual personnel from each participating Family Guidance Center and two CAMHD graduate student research and evaluation personnel (REP) met for a half-day training regarding usage of the SGRF. Training was administered by two members of the collaborative team from UH Manoa: Jason Schiffman, Ph.D. and John Young, M.A. Prior to initial training, CAMHD personnel were provided with copies of the SGRF and related codebook, as well as rationale for their use and the focus of this study. Initial training consisted of a review of the coding system and the goals of the study at large, and focused on the direct and practical application of this coding system to various scenarios depicting practice elements. Every effort was made to ensure that these scenarios closely emulated formats typical of MHAs, CSPs and MHTPs, so as to facilitate generalizability of skills obtained from this training to use of the SGRF. In keeping with this goal, training examples were drawn from randomly selected, redacted files from actual CAMHD cases (from the fiscal year prior to the one examined by this study).

Subsequent to this training, CAMHD employees coded randomly selected MHAs, CSPs, and MHTPs from their respective Family Guidance Centers. Random selection of cases produced a significantly higher document and work load for personnel at Guidance Centers servicing more patients. In order to make time demands placed upon CAMHD professionals approximately equivalent, John Young assisted in coding documents from centers where the volume was relatively high. It is potentially relevant to note that this may lead to conditions where two raters of the

same documents have more similarity in terms of clinical education and familiarity than do others. Another of the graduate student raters was a trained clinician from the same doctoral program, and it is possible that reliability between these raters was affected as a result. Separate statistical procedures were implemented to examine these potential effects and compare them to results from the system as a whole (see Statistical Tests below).

FGC personnel initially copied the materials to be coded and sent them to a centralized location (HOFGC at Diamond Head). Their progress in terms of this sampling and coding effort was recorded to facilitate organization and timely completion of activity. Each source coded by a primary coder (CAMHD FGC employee or John Young) was additionally coded by one of the graduate student REPs. These data were compared for purposes of ascertaining reliability of the SGRF as a coding instrument in this domain. In a randomized subset of 36 documents (12 of each type), a third rater coded all case materials with information concerning diagnosis being redacted. This step was performed in an effort to determine if prior knowledge of diagnosis introduced bias in terms of practice element coding. Statistical analyses (see below) were performed at the culmination of coding efforts.

Statistical Tests

Data analysis regarding reliability was analyzed by using Intraclass Correlations (ICCs; Shrout & Fleiss, 1979). ICCs were calculated for practice element (PE) and target (TAR) data between raters considering each document type (MHA, CSP, MHTP) separately and in aggregation. Reliability of the instrument in

terms of suitability for future usage was defined as an overall ICC value of greater than .70 for each document type (MHA, CSP, MHTP) using a (2, 1) model. This model uses a two-factor coding target by judge Analysis of Variance (ANOVA) framework and takes into account the coding target, judge, and coding target by judge interaction. This model also estimates the reliability of a single judge rather than the mean of a team of judges (Shrout & Fleiss, 1979; McGraw & Wong, 1996). Although more conservative than multiple judge models, this condition is more in line with practical expectations of continued usage of this system in Family Guidance Centers for purposes of quality assurance, where there is typically a single individual responsible for ongoing projects related to these activities.

Several theoretically meaningful sources of variance exist in this ANOVA model of determining reliability that are relevant to the explanation of the technique. First, the type of document being coded may have played a role in shaping raters' impressions. MHAs, for example, tend to be concise and direct in their recommendations and may be more easily understood than other documents on this basis. CSPs, on the other hand, have a more complex format that may have led to greater ambiguity in coding, while MHTPs are often extremely varied and without format. Second, the FGC where the document was produced may have affected coders' opinions. Some FGCs and associated providers may have recurrent, specific differences that are particular to their centers and documents, which was potentially a systematic and important source of variation. In addition, the particular combination of raters associated with any specific document was variable and conceptually

important. The degrees of freedom produced without accounting for unique coding pairs in this manner artificially deflates estimations of reliability. In effect, not accounting for this variance produces a situation in which the statistical test assumes 8 degrees of freedom (number of *overall* coders minus one; $9 - 1 = 8$) where only 1 is technically appropriate (number of coders *per document* minus one; $2 - 1 = 1$). As such, the ANOVA model of analysis used will incorporate these theoretically meaningful constructs by apportioning variance to each one accordingly through the inclusion of relevant interaction terms. This model is more complex than a straightforward ANOVA which accounts for variance due to 'judge' and 'target' only, but is more accurate in assigning variation to specific, theoretically different sources.

Changing the factor matrix in the above analysis allowed for an examination of the reliability of specific practice element codes. These ICCs were calculated using the same model as above (2, 1), but with individual practice elements and targets substituted for document type in the analysis. The reliability of these elements was examined across all document types in aggregate.

Additionally, separate tests were performed incorporating codes from redacted documents where appropriate. Document and overall ICCs were recalculated for 12 documents of each type that were randomly selected for redaction of all diagnostic information. Redacted document codes were added to the data pool as though the document had been coded by a third rater. ICCs generated on the basis of this

additional information were compared to the original ICCs for consistency and the effect of providing diagnostic information to coders.

Finally, to assess whether or not a background in advanced clinical training affected the degree of reliability of the SGRF, a subset of documents for which both coders were clinical graduate students was compared. Specifically, those documents that were coded by both Judy Lee and John Young were separately analyzed (not including redactions). It was hypothesized that this condition would lead to a higher degree of reliability, given the expectation that these particular raters will be more familiar with the empirical and clinically-oriented material that comprises the SGRF coding system.

CHAPTER THREE RESULTS

The ICC (2, 1) analysis regarding PE for all documents considered together yielded a value of 0.90, indicating a high level of reliability for the instrument across all document types. The same analysis applied to TAR yielded a value of 0.95, likewise indicating high reliability across all document types. Subsequent examination of ICC values for PE and TAR by document type yielded consistent results. For PEs, MHAs had a reliability value of 0.96; CSPs 0.81; and MHTPs 0.84. The same analysis of TAR reliability by document type indicated a high and consistent level of reliability, with MHAs having a value of .82 and CSPs and MHTPs a value of 0.91.

The second set of ICC analyses was identical to the first, but included only those cases rated by both Judy Lee and John Young. The ICC (2, 1) for overall PE considering only these two raters was .85, and for TAR was .91. Analyses of PE by document type also indicated high reliability between these similarly-trained raters, with MHAs having a value of .89, CSPs .78, and MHTPs .81. The same analyses examining TAR by document type demonstrated a similar pattern, with MHAs exhibiting a reliability value of .90, CSPs .83, and MHTPs .89. These data, while high, were consistent with the analyses considering the overall pool of raters, and not supportive of the hypothesis that clinically trained raters would demonstrate higher reliability.

Finally, ICCs (2, 1) were calculated for a subset of documents that were redacted for information concerning diagnosis. This effort was undertaken to

determine whether or not knowledge of diagnosis had any effect on the reliability of the SGRF instrument. The overall ICC for PE in this subset of documents was .81 and for TAR was .90. PE ICCs by document were .89 for MHAs, .69 for CSPs, and .70 for MHTPs. The same calculations for TAR were .83 for MHAs, .80 for CSPs, and .85 for MHTPs. At first glance these values seem somewhat lower than those outlined above; however, in order to provide a more appropriate basis for comparison, ICC (2, 1) values were also calculated for these randomly selected documents *without* including information from the redacted versions. The ICC value for overall PE in these documents was .74 and for overall TAR was .89. Values for PE by document type were as follows: MHAs, .87; CSPs, .65; MHTPs, .57. ICCs for TAR by document type were similar, with MHAs having a value of .78, CSPs a value of .74, and MHTPs a value of .86. The impact of redaction on reliability seems to be minimal based on these comparisons. (See Table 2 for a concise presentation of the main ICC analyses.)

Further tests were conducted using individual PE and TAR codes as the target of ICC (2, 1) analyses. The results of those analyses appear in Table 3 for PE and Table 4 for TAR. Additionally, this table contains frequencies for individual code endorsement, as well as percentages of possible endorsement for each. Percentage data was derived by dividing the frequency for a given code by the number of documents in the data set ($n = 746$). These data are important given that the ICC values for any individual code are generally quite low, due at least in part to low base rates and proportion of endorsement. Analysis in this manner may have led to

findings that lack theoretical interest, given that the purpose of the study was to assess the reliability of the measure as a whole rather than the reliability of any individual code (see discussion).

Table 2

Results of Main ICC Analyses

Raters	PE				TAR			
	Overall	MHA	CSP	MHTP	Overall	MHA	CSP	MHTP
All raters	.90	.96	.81	.84	.95	.82	.91	.91
John and Judy	.85	.89	.78	.81	.91	.90	.83	.89
Redacted	.81	.89	.69	.70	.90	.83	.80	.85
Cases selected for redaction (unredacted)	.74	.87	.65	.57	.89	.78	.74	.86

Table 3

Results of ICC Analysis Examining Individual Practice Elements

PE Code	ICC (2, 1)	Frequency	%	PE Code	ICC (2, 1)	Frequency	%
PE1	0.14	197	26.4	PE39	0.04	21	2.8
PE2	0.32	165	22.1	PE40	0.13	67	9
PE3	0.06	9	1.2	PE41	0.62	7	0.9
PE4	N/A	0	0	PE42	0.19	182	24.4
PE5	0.18	8	1.1	PE43	0.25	29	3.9
PE6	0.24	65	8.7	PE44	0.11	34	4.6
PE7	0.15	228	30.6	PE45	0.03	29	3.9
PE8	0.07	113	15.1	PE46	0.39	89	11.9
PE9	0.07	193	25.9	PE47	0.13	9	1.2
PE10	0.14	4	0.5	PE48	0.12	95	12.7
PE11	0	59	7.9	PE49	0.09	34	4.6
PE12	0.03	15	2	PE50	0.13	119	16
PE13	0.19	295	39.5	PE51	0.22	76	10.2
PE14	0.11	127	17	PE52	0.08	76	10.2
PE15	0.15	214	28.7	PE53	0.13	70	9.4
PE16	0.18	349	46.8	PE54	1	22	2.9
PE17	0.15	33	4.4	PE55	0.23	138	18.5
PE18	0.25	6	0.8	PE56	0.1	94	12.6
PE19	0	1	0.1	PE57	0.1	63	8.4
PE20	0.17	291	39	PE58	0.11	24	3.2
PE21	0.08	18	2.4	PE59	0.46	75	10.1
PE22	0.11	10	1.3	PE60	0.57	65	8.7
PE23	N/A	0	0	PE61	0	18	2.4
PE24	0.01	44	5.9	PE62	0.05	70	9.4
PE25	0.24	287	38.5	PE63	0	7	0.9
PE26	0.27	44	5.9	PE64	0.05	44	5.9
PE27	N/A	0	0	PE65	0.24	141	18.9
PE28	0.04	30	4	PE66	0.09	110	14.7
PE29	0.08	49	6.6	PE67	0.09	18	2.4
PE30	0.3	12	1.6	PE68	0.13	144	19.3
PE31	0	2	0.3	PE69	0.09	57	7.6
PE32	N/A	0	0	PE70	N/A	0	0
PE33	0	2	0.3	PE71	0.17	48	6.4
PE34	0.02	55	7.4	PE72	0.14	63	8.4
PE35	0.13	107	14.3	PE97	0	317	42.5
PE36	0	1	0.1	PE98	0.03	241	32.3
PE37	0	1	0.1	PE99	0.03	111	14.9
PE38	0.2	115	15.4				

Note: A value of “N/A” indicates that the code was never endorsed by any rater (thus disabling ICC calculations).

Table 4

Results of ICC Analysis Examining Individual Targets

TAR Code	ICC (2, 1)	Frequency	%	TAR Code	ICC (2, 1)	Frequency	%
TAR1	0.18	422	56.6	TAR34	1	2	0.3
TAR2	0	6	0.8	TAR35	0.17	68	9.1
TAR3	0	7	0.9	TAR36	0.18	33	4.4
TAR4	0.03	62	8.3	TAR37	0.05	101	13.5
TAR5	0.26	250	33.5	TAR38	0.14	51	6.8
TAR6	0.18	8	1.1	TAR39	0.21	246	33
TAR7	0.11	123	16.5	TAR40	0.17	189	25.3
TAR8	0.04	11	1.5	TAR41	0.15	49	6.6
TAR9	0.17	83	11.1	TAR42	0.17	35	4.7
TAR10	0.3	125	16.8	TAR43	0.08	119	16
TAR11	0.23	224	30	TAR44	0.02	14	1.9
TAR12	0.27	105	14.1	TAR45	0.22	13	1.7
TAR13	N/A	0	0	TAR46	N/A	0	0
TAR14	0.13	26	3.5	TAR47	0.04	33	4.4
TAR15	0.17	273	36.6	TAR48	0.08	59	7.9
TAR16	0.33	78	10.5	TAR49	0.05	186	24.9
TAR17	0.73	11	1.5	TAR50	N/A	0	0
TAR18	0.48	279	37.4	TAR51	0.09	34	4.6
TAR19	0.09	95	12.7	TAR52	0.14	295	39.5
TAR20	0.11	165	22.1	TAR53	0.07	48	6.4
TAR21	0.32	74	9.9	TAR54	N/A	0	0
TAR22	0.13	22	2.9	TAR55	0.73	11	1.5
TAR23	0	1	0.1	TAR56	0.13	43	5.8
TAR24	0.26	151	20.2	TAR57	0.4	34	4.6
TAR25	0.22	7	0.9	TAR58	0.08	229	30.7
TAR26	0.44	27	3.6	TAR59	N/A	0	0
TAR27	0.5	141	18.9	TAR60	0.05	9	1.2
TAR28	0.17	8	1.1	TAR61	0.02	71	9.5
TAR29	0	1	0.1	TAR62	0.06	72	9.7
TAR30	0.45	32	4.3	TAR97	-0.01	154	20.6
TAR31	0.17	38	5.1	TAR98	-0.02	77	10.3
TAR32	0.13	27	3.6	TAR99	0.02	15	2
TAR33	0.17	143	19.2				

Note: A value of “N/A” indicates that the code was never endorsed by any rater (thus disabling ICC calculations).

CHAPTER FOUR

DISCUSSION

The main finding of this study is that the SGRF coding system can be reliably applied to these classes of documents using a diversity of raters when considering educational background, familiarity with principles and practices of clinical psychology, and years of experience in CAMHD positions. The level of reliability demonstrated considering all raters was approximately equivalent to highly and similarly trained raters who specialized in clinical psychology, which theoretically represented the best possible reliability in terms of the different examinations undertaken in this study. Additionally, given the choice of statistical test, this high level of reliability was demonstrated at the level of a single judge. Should this system be used in ongoing fashion in this or other contexts, the data from this study would seem to support the utility of utilizing a single rater, without necessity of selecting someone with a strong clinical psychology background or many years of experience working in the system of care. In short, it would seem that training in the use of the system as applies to treatment planning documents was sufficient to produce highly reliable and potentially useful coding on this instrument.

The examination of redacted documents indicated that the removal of diagnostic information had little to no effect on the reliability of the SGRF instrument. This suggests that the application of the coding system was not necessarily constrained by coders' understanding of a detailed framework of diagnosis and case formulation. As such, it seems logical to conclude that the high level of reliability of the system was related more to the extraction of elements and

targets at a specific level of what was written in the documents than an in-depth knowledge of background or diagnostic profile. This is encouraging for future exportations of this system to settings where raters may not have a high degree of clinical training. This finding speaks to issues of efficiency, in that it does not seem to be vital to read and understand all aspects of a document to enable reliable coding.

Limitations

Limitations to the current study included the fact that raters had only one instructional set. Each rater was told during the training that their work was going to be evaluated and compared to another coder who was coding the same document. Variation on this instructional set had the potential to increase the range of responses and resultant estimations of reliability. Previous research in this domain indicates that these reactive effects on the part of coders are often demonstrated in response to instructions. In a review of this topic Kazdin (1982) noted that instructional set manipulations were shown across studies to consistently increase or decrease target behaviors on the basis of social desirability. When subjects thought they were being monitored, data typically represented a very different picture than when they believed they were not being monitored. Additionally, the simple *potential* for observation through the introduction of a coder tended to produce higher rates of socially desirable behavior across studies, even if the subjects of observation were not told what the coder was recording.

Serbin, Citron, and Connor (1972) examined these principles and uncovered interesting within-subject results. The authors first told raters using a particular

behavioral coding paradigm that they were being monitored, and that their data would be compared with other raters for the purposes of reliability analysis. The authors later told coders that the reliability phase of study was complete, and that they should continue coding subjects exactly as they had been doing. Through a sophisticated design, the authors were able to double-code all cases rated under the second instructional set and compare the within-subject reliabilities produced to those from the first instructional set. The results showed a consistent, dramatic decrease in the level of reliability using the same coding system and the same subject with the second instructional set and were supportive of the potential for confounds in the form of reactive effects in coding research.

It could reasonably be expected that a similar variation of instructions in the current study would have had a similar effect on the reliability of the coding system examined. Had coders not been warned ahead of time that their data was going to be monitored and compared to one of their peers, the results of the study could have been different. This is particularly relevant to the ongoing implementation of the SGRF in CAMHD, as reliability from this study indicated that a single judge coding alone is likely to produce data that is acceptable for the purposes of quality assurance (reliable at approximately the .90 level). Given the likelihood of implementing only one judge per document in the future, this raises the question of what to tell this rater ahead of time, particularly as it relates to enhancing their coding accuracy.

Similar limitations existed in regard to the effects of training on the reliability of the system. The training for this complicated system was fairly intense, with a half-

day instructional session, two practice cases outside of this session, and the option to ask trainers as many questions as desired after training. If these avenues were closed and coders were simply handed the coding materials, it seems possible that reliability would have been different. Likewise, if training had occurred in more abbreviated form it could have had potential effects on the reliability of the system. Although these issues may seem moot in the context of a dissertation project conducted with a highly motivated investigator that was dedicated to training and ongoing supervision, they could be important in terms of ongoing effects in a front-line public mental health system such as CAMHD. Resources in this setting are extremely finite, workloads are typically very high (particularly for QA personnel), and time spent training is often considered secondary to the day-to-day demands of keeping the system operational.

Given these concerns, it would have been ideal to offer several variations of each of the above variables to different participants. For example, coders could have received no training and the instructions that their ratings would be compared to another rater, or full training without instructions that their ratings would be compared (and vice versa in each case). Numerous other levels of the training and instructional variables could have been possible, all with the goals of assessing the impact on reliability and informing decisions regarding subsequent implementation. Due to finite resources within CAMHD, however, and the fact that the pool of coders in this study was an exhaustive list of QA professionals in the system, these examinations were not possible. Other options to examine these variables outside of

the CAMHD context were similarly limited, with potential graduate student participants being confounded due to prior knowledge of the study and its aims.

Additionally, it would have been preferable to have only two coders rate all documents. This would have dramatically decreased the need for complicated interactions in the statistical analyses, while also reducing potential confounds related to the use of so many raters. This would have allowed a fairer test of the system, which could have more closely informed revision and subsequent usage. Given the results of the study and the high degree of reliability obtained this is likely a secondary point, but one that bears mention as the setup for the current study was decidedly constrained by virtue of its being performed in a front-line, fast-paced, effective setting.

Future Directions

In addition to addressing the limitations outlined above, the coding system utilized in this study could be useful in examination of congruence rates between documents. Given the high degree of reliability of the SGRF, it is possible to engage a single trained rater to code sets of treatment planning documents, the content of which could then be examined for consistency. For example, do practices recommended in MHAs also appear in CSPs? Are the targets determined as relevant to treatment in CSPs similar to those reported by providers in MHTPs? Does information from assessments inform actual practice as planned and outlined in MHTPs?

An extension of this line of thinking is possible through comparison of treatment planning to evidence-based practices illustrated in psychosocial treatment outcome literature. Composite practice element profiles of this literature exist through the EBS committee's coding efforts (EBS, 2004), which would allow for such comparisons. In this way it would be possible to determine if treatment practices recommended are relevant to what is known given the best available scientific research. Additionally, to the extent that scientific practices are or are not recommended in treatment settings, comparisons at each stage of planning (MHA, CSP, MHTP) would allow for an analysis of the nature of science in practice, and could inform efforts to determine barriers that exist in this implementation. If, for example, it was found that evidence-based practice tends to break down at the MHTP stage, rather than the MHA or CSP stage, of treatment planning, then examination of this document across the system might be warranted.

Additionally, revision of the SGRF instrument to promote efficiency is possible. The frequency rates outlined in Tables 3 and 4 indicated that numerous codes were never endorsed, and many others were endorsed at a very limited rate. The iterative process that shaped the construction of this instrument was meant to be exhaustive and inclusive of nearly every possible treatment practice and target in CAMHD. Given the data, though, it is possible that much consolidation could occur in the reformulation and streamlining of the instrument. It would perhaps be useful to include a core set of targets and elements that are frequently endorsed, along with an appendix of infrequently endorsed items, so as to preserve the variability and richness

from the iterative process, but still promote greater efficiency of the instrument and depth of rater understanding.

Longer-term research is also possible in comparison of treatment planning to actual practice. One source of data for this form of analysis is the previously mentioned MTPS reports, wherein providers indicate monthly what practices they are using and what problems they are targeting for every patient. Another source of data, which may take more time and resources to procure, would be video or audio taping actual therapy sessions and coding for SGRF content. Once reliably codified, this would offer a more direct and substantial basis of comparison for treatment planning, which could then be compared to MHTP data and MTPS data for reliability.

Collectively, any or all of these studies will only serve to enhance care for the children of Hawaii, and may in fact impact settings farther from home through influencing other systems of care to adopt similar research programs and ongoing methods of quality assurance. The demonstration of reliability of this new and unique coding system is but the first step in a host of possible research to improve treatment planning and service delivery. Only time will tell how this system may be most useful to this effort, with more research being necessary and warranted to offer an informed understanding of these issues.

APPENDIX A: SERVICE GUIDANCE REVIEW FORM

Service Guidance Review Form

Instructions: For each case and type of planning document considered, please fill out a separate sheet including the following information. Redacted reports need not include client information beyond CR#.

Coder Information:

Name:	Position: GA CAMHD Employee
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Report Information:

Client Name:	CR #:	Client age at time of report: ____ years ____ months
Reporter's Credentials:	Document Date:	Care Coordinator ID:
Diagnosis Information: Axis I: Axis II: Axis III: Axis IV: Axis V:		

Type of Document Being Coded (circle only one):

Mental Health Assessment (MHA)	Coordinated Service Plan (CSP)	Mental Health Treatment Plan (MHTP)
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Recommended Service Format and Frequency (circle any that apply and, if known, indicate frequency below):

Individual	Group	Parent	Family	Teacher	Other: _____
____ visit(s) per _____	____ visit(s) per _____	____ visit(s) per _____	____ visit(s) per _____	____ visit(s) per _____	____ visit(s) per _____

Recommended Service Setting (circle any that apply):

Home

School

Community

Out of Home

Clinic/Office

Other: _____

Suggested Targets of Services:

Academic/Intellectual		Internalizing	Positive Peer Interaction	Sleep Disturbance
	Academic Achievement	Activity Involvement	Social Skills	Treatment Engagement
	Cognitive-Intellectual Functioning	Anxiety	Other	Treatment Planning/Framing
	Learning Disorder, Underachievement	Avoidance		Unclear
	School Involvement	Compulsive Behavior	Adjustment to Change	Other
	School Refusal/Tuancy	Depressed Mood	Community Involvement	Other
	Speech and Language Problems	Enuresis, Encopresis	Contentment, Enjoyment, Happiness	Other
Adult Targets		Grief	Eating, Feeding Problems	
	Adult Inter-coordination	Low Self-Esteem	Gender Identity Problems	
	Caregiver Self-Management/Coping	Phobia/Fears	Goal Setting	
	Parenting Skills	Shyness	Housing/Living Situation	
Externalizing		Suicidality	Information Gathering	
	Aggression	Traumatic Stress	Mania	
	Anger	Self-Care		Occupational Functioning/Stress
	Attention Problems	Health Management	Positive Family Functioning	
	Fire Setting	Medical Regimen Adherence	Positive Thinking/Attitude	

	Hyperactivity		Personal Hygiene		Pregnancy Education/ Adjustment
	Oppositional/Non-Compliant Behavior		Social		Psychosis
	Runaway		Assertiveness		Safe Environment
	Sexual Misconduct		Empathy		Self-Injurious Behavior
	Substance Use		Peer Involvement		Self- Management/Self- Control
	Willful Misconduct, Delinquency		Peer/Sibling Conflict		Sexual Orientation

Components of Suggested Interventions:

	Activity Scheduling		Counseling		Ho'Oponopono		Modeling		Response Prevention
	Anger Management		Crisis Management		Hypnosis		Motivational Interviewing		Self-Monitoring
	Animal or Plant Assisted Activities		Cultural Training		Ignoring or DRO		Natural and Logical Consequences		Self-Reward/ Self-Praise
	Arousal Reconditioning		Directed Play		Informal Supports		Parent Coping		Skill Building
	Art/Music Therapy		Educational Support		Insight Building		Parent- Monitoring		Social Skills Training
	Assertiveness Training		Emotional Processing		Interpretation		Parent Praise		Stimulus or Antecedent Control
	Assessment		Exposure		Juvenile Sex Offender Treatment		Parenting		Supportive Listening
	Behavioral Contracting		Eye Movement, Tapping		Legal Assistance/ Involvement		Peer Modeling or Pairing		Tangible Rewards
	Behavior Management		Family Engagement		Line of Sight Supervision		Play Therapy		Therapist Praise/Rewards
	Biofeedback, Neurofeedback		Family Therapy		Maintenance or Relapse Prevention		Problem Solving		Thought Field Therapy
	Care Coordination		Family Visit		Marital Therapy		Psychoeducatio n, Child		Time Out
	Catharsis		Free Association		Medication/Phar m-acotherapy		Psychoeducatio n, Parent		Twelve-step Programming
	Cognitive/Copin g		Functional Analysis		Mentoring		Relationship or Rapport Building		Unclear
	Commands/ Limit Setting		Goal Setting		Milieu Therapy		Relaxation		Other:
	Communication Skills		Guided Imagery		Mindfulness		Response Cost		Other:

APPENDIX B: CODEBOOK FOR USE WITH SERVICE GUIDANCE REVIEW FORM

DOH Child and Adolescent Mental Health Division

Instructions and Codebook for Service Guidance Review Forms

The instructions and codebook are to be used in conjunction with the CAMHD Service Guidance Review Forms. The codebooks define the various treatment targets and intervention strategies available on the Service Guidance Review Form checklist. For questions regarding these definitions or the use of the form, please contact the John Young at 779-7523 or johnyoung@hawaii.edu.

Instructions

This coding instrument will be used to examine information contained in CAMHD clients' Mental Health Evaluations (MHAs), Coordinated Service Plans (CSPs) and Mental Health Treatment Plans (MHTPs) as part of a performance improvement project. For each client included in this study, documents of each type will be coded. *A separate sheet* is necessary for each type of document for every case. Instructions that follow should be consistent across domains, but please keep in mind that each report type (MHA, CSP, MHTP) is coded on its own sheet. When you have completed coding for all reports for a given case, please staple all the code sheets for that case together.

At the top section, please indicate your Name and circle your Position (either full-time CAMHD Employee or Graduate Assistant, GA). Under the Report Information section, please write the Client Name, CR Number, Age of Client at Time of Report, Reporter's Credentials, Document Date, the Care Coordinator ID for the Care Coordinator associated with the case, and 5-Axis Diagnosis Information for the case. Reporter's Credentials refers to the academic degree and/or certifications of the preparer of a coded document. For example, if an MHA was completed by a psychiatrist, the information coded would be M.D.

Under Type of Document, please indicate the form of archived report that is being coded.

Mental Health Assessment (MHA) – client's initial mental health assessment that describes the nature of the client's particular strengths and difficulties
Coordinated Service Plan (CSP) – recommendations by service procuring agents that determine the scope of a client's treatment
Mental Health Treatment Plan (MHTP) – service provider's outline of the expected direction of treatment for a specific client

Under Service Format, please note whether services were recommended to be delivered in the following manner (more than one format can be selected):

Individual –Working with youth directly

Group –Working with youth along with other youths receiving services

Parent –Working directly with parents or caretakers, with youth not present

Family – Working with parents or caretakers and youth together. Can include other family members

Teacher – Working with a teacher directly

Other – Another format not specified above; please write description

Please additionally note beneath each circled service format code any information pertaining to the recommended Frequency of service, if known (i.e., 1 visit per week; 2 visits per month).

Under Service Setting, please note the locations in which services were recommended to be administered (more than one setting can be selected):

Home –Working with youth or family members in the youth's home

School –Working with youth or professionals in the youth's educational setting, other than in the context of an IEP/MP meeting

Community – Working with youth or others in the youth's community/neighborhood

Out of Home – Working with the youth or family in a residential facility

Clinic/Office – Working with the youth or family in a clinical office

Other – Another setting not specified above; please write description

Targets

Targets are the strengths and needs being addressed as part of the mental health services for that youth. Please place a mark (X, ✓) to the left of any recommended targets of services. For example, if an MHA indicated that services should focus on the alleviation of depression in the youth, you would mark the box next to "depressed mood" on the code sheet. If a target was recommended for which there is no code, please mark the box next to "other" and describe the target.

A list of treatment targets and definitions follows that is intended to provide a summary of strengths and problem areas that are commonly recommended to be targeted for change during mental health service provision. It is important to note that these problem areas are NOT simply diagnostic descriptions. Please make use of the definitions outlined in this section when considering which targets to code for particular reports.

Definitions of Targets

Academic/Intellectual Domain:

1. **Academic Achievement** – Issues related to general level or quality of achievement in an educational or academic context. This commonly includes performance in coursework, and excludes cognitive-intellectual ability/capacity issues (#2) and specific challenges in learning or achievement (#3).
2. **Cognitive-Intellectual Functioning** – Issues related to cognitive-intellectual ability/capacity and use of those abilities for positive adaptation to the environment. This includes efforts to increase IQ, memory capacity, or abstract problem-solving ability.
3. **Learning Disorder, Underachievement** – Refers to specific challenges with learning or educational performance that are not better accounted for by cognitive-intellectual functioning (#2) or general academic achievement (#1).
4. **School Involvement** – Detailed description of amount of involvement in specific school activities within the child's scheduled school day.
5. **School Refusal/Truancy** – Reluctance or refusal to attend school without adult permission for the absence. May be associated with school phobia or fear manifested by frequent somatic complaints associated with attending school or in anticipation of school attendance, or willful avoidance of school in the interest of pursuing other activities.
6. **Speech and Language Problems** – Expressive and/or receptive language abilities substantially below expected levels as measured by standardized tests.

Adult Targets Domain:

7. **Adult Intercoordination** – Target communication and interaction among relevant adults and/or service system workers involved in a child's life. This includes such things as home-school relationships, communication between service providers, treatment team members, transition and discharge preparedness, guardianship issues, etc.
8. **Caregiver Self-Management/Coping** – Attempting to alter a caregiver's management, regulation, or monitoring of their own behavior and emotions
9. **Parenting Skills** – Attempting to modify a caregiver's strategies for managing child behavior, emotions, or structuring of the caregiving environment.

Externalizing:

10. **Aggression** – Verbal and/or physical aggression, or threat thereof, that results in intimidation, physical harm, or property destruction.
11. **Anger** – Emotional experience or expression of agitation or destructiveness directed at a particular object or individual. Common physical feelings include accelerated heartbeat, muscle tension, quicker breathing, and feeling hot.
12. **Attention Problems** – Described by short attention span, difficulty sustaining attention on a consistent basis, and susceptibility to distraction by extraneous stimuli.

13. **Fire Setting** – Intentionally igniting fires.
14. **Hyperactivity** – Can be described by fidgeting, squirming in seat, inability to remain seated, talking excessively, difficulty engaging in leisure activities quietly, etc.
15. **Oppositional/Non-Compliant Behavior** – Behaviors that can be described as refusal to follow adult requests or demands or established rules and procedures (e.g., classroom rules, school rules, etc.).
16. **Runaway** – Running away from home or current residential placement for a day or more.
17. **Sexual Misconduct** – Issues related with sexual conduct that is defined as inappropriate by the youth's social environment or that includes intrusion upon or violation of the rights of others.
18. **Substance Abuse/Substance Use** – Issues related to the use or misuse of a common, prescribed, or illicit substances for altering mental or emotional experience or functioning.
19. **Willful Misconduct/Delinquency** – Persistent failure to comply with rules or expectations in the home, school, or community. Excessive fighting, intimidation of others, cruelty or violence toward people or animals, and/or destruction of property.

Internalizing:

20. **Activity Involvement** – Issues related to general engagement and participation in activities. Only code here those activities that are not better described by the particular activity classes of school involvement (#4), peer involvement (#37), or community involvement (#43).
21. **Anxiety** – A general uneasiness that can be characterized by irrational fears, panic, tension, physical symptoms, excessive anxiety, worry, or fear.
22. **Avoidance** – Behaviors aimed at escaping or preventing exposure to a particular situation or stimulus.
23. **Compulsive Behavior** – Targeting specific compulsive/excessive responses such as hoarding or trichotillomania
24. **Depressed Mood** – Behaviors that can be described as persistent sadness, anxiety, or "empty" mood, feelings of hopelessness, guilt, worthlessness, helplessness, decreased energy, fatigue, etc.
25. **Enuresis/Encopresis** – Enuresis refers to the repeated pattern of voluntarily or involuntarily passing urine into inappropriate places during the day or at night in bed or clothes. Encopresis refers to a repeated pattern of voluntarily or involuntarily passing feces into inappropriate places.
26. **Grief** – Feelings associated with a loss of contact with a significant person in the youth's environment (e.g., parent, guardian, friend, etc.).
27. **Low Self-Esteem** – An inability to identify or accept his/her positive traits or talents, and accept compliments. Verbalization of self-disparaging remarks and viewing him or herself in a negative manner.

28. **Phobia/Fears** – Irrational dread, fear, and avoidance of an object, situation, or activity.
29. **Shyness** – Social isolation and/or excessive involvement in isolated activities. Extremely limited or no close friendships outside the immediate family members. Excessive shrinking or avoidance of contact with unfamiliar people.
30. **Suicidality** – Issues related to recurrent thoughts, gestures, or attempts to end one's life.
31. **Traumatic Stress** – Issues related to the experience or witnessing of life events involving actual or threatened death or serious injury to which the youth responded with intense fear, helplessness, or horror.

Self-Care:

32. **Health management** – Issues related to the improvement or management of one's health, inclusive of both physical illness and fitness. In addition to dealing with the general development of health oriented behavior and management of health conditions, this target can also focus on exercise or lack of exercise.
33. **Medical Regimen Adherence** – Knowledge, attitudes, and behaviors related to regular implementation procedures prescribed by a health care professional. Commonly include lifestyle behaviors (e.g., exercise, nutrition), taking medication, or self-administration of routine assessments (e.g., taking blood samples in a diabetic regimen).
34. **Personal Hygiene** – Challenges related to self-care and grooming.

Social:

35. **Assertiveness** – The skills or effectiveness of clearly communicating one's wishes. For example, the effectiveness with which a child refuses unreasonable requests from others, expresses his/her rights in a non-aggressive manner, and/or negotiates to get what s/he wants in their relationships with others.
36. **Empathy** – Identifications with and understanding of another person's situation, feelings, and motives.
37. **Peer Involvement** – A greater involvement in activities with peers. Activities could range from academic tasks to recreational activities while involvement could range from working next to a peer to initiating an activity with a peer.
38. **Peer/Sibling Conflict** – Peer and/or sibling relationships that are characterized by fighting, bullying, defiance, revenge, taunting, incessant teasing and other inappropriate behaviors.
39. **Positive Peer Interaction** – Social interaction and communication with peers that are pro-social and appropriate. This differs from peer involvement (#37) in that it focuses on interactional behavior, styles, and intentions, whereas peer involvement targets actual engagement in activities with peers regardless of interactional processes.
40. **Social Skills** – Skills for managing interpersonal interactions successfully. Can include body language, verbal tone, assertiveness, and listening skills, among other areas.

Other:

41. **Adaptive Behavior/Living Skills** – Target development of skills related to independent living, social functioning, financial management, and self-sufficiency that are not better captured under other codes such as personal hygiene (#34), self-management (#58), social skills (#40), housing/living situation (#48), or occupational functioning/stress (#51).
42. **Adjustment to Change** – Refers to targeting a youth's global response to a life transition or specific challenge (e.g., change of school, living situation, treatment transition or discharge, etc.).
43. **Community Involvement** – Detailed description of amount of involvement in specific community activities within the child's day.
44. **Contentment/Enjoyment/Happiness** – Refers to issues involving the experience and expression of satisfaction, joy, pleasure, and optimism for the future.
45. **Eating/Feeding Problems** – Knowledge or behaviors involved with the ingestion or consumption of food. May include nutritional awareness, food choice, feeding mechanics (e.g., swallowing, gagging, etc.), and social factors relating with eating situations.
46. **Gender Identity Problems** – Issues related with a youth's self-concept or self-understanding involving sex roles and social behaviors in relation to their biological sex. This does not address self-concept issues involving sexual orientation, which would be coded as "other."
47. **Goal Setting** – Targeting the clarification and commitment to future goals (e.g., academic, career, etc.) that are not better characterized under other targets such as self-management (#51) or occupational functioning/stress.
48. **Housing/Living Situation** – Refers to finding or stabilizing an appropriate living situation for a youth.
49. **Information Gathering** – Focus on service provider learning more about the child and family through assessment, evaluation, or history taking.
50. **Mania** – An inflated self-perception that can be manifested by loud, overly friendly social style that oversteps social boundaries and high energy and restlessness with a reduced need for sleep.
51. **Occupational Functioning/Stress** – Issues related to career interests, seeking employment, obtaining work permits, job performance, or managing job stress or strain that are not better characterized under other targets (e.g., anxiety).
52. **Positive Family Functioning** – Issues related with healthy communication, problem-solving, shared pleasurable activities, physical and emotional support, etc. in the context of interactions among multiple persons in a family relation, broadly defined.
53. **Positive Thinking/Attitude** – This target involves clear, healthy, or optimistic thinking, and involves the absence of distortions or cognitive bias that might lead to maladaptive behavior.
54. **Pregnancy Education/Adjustment** – Issues related to helping a pregnant youth prepare and adjust to parenthood.

55. **Psychosis** – Issues related to bizarre thought content (delusions of grandeur, persecution, reference, influence, control, somatic sensations), and/or auditory or visual hallucinations.
56. **Safe Environment** – Establishing a safe and secure environment for the youth's development.
57. **Self-Injurious Behavior** – Acts of harm, violence, or aggression directed at oneself.
58. **Self-Management/Self-Control** – Issues related to management, regulation, and monitoring of one's own behavior.
59. **Sexual Orientation** – Issues related to clarification or management of a youth's sexual orientation that are excluded from the gender identity problems code (#46).
60. **Sleep Disturbance** – Difficulty getting to or maintaining sleep.
61. **Treatment Engagement** – The degree to which a family or youth is interested and optimistic about an intervention or plan, such that they act willfully to participate and work toward the success of the plan.
62. **Treatment Planning/Framing** – Setting or revising treatment plan or structure (including IEPs, CSPs, MPs, MHTPs, etc.)
63. **Unclear** – Write-in targets when the intention of the respondent could not be coded into another category (e.g., relationship issues not otherwise specified).
64. **Other** – Write-in targets with a reasonably interpretable intention that could not be categorized into another target area and appear to be of a low enough base rate to not warrant addition of a new category (e.g., enrollment in private high school, gambling, memory)

Intervention Strategies

Please place a mark (X, ✓) to the left of any recommended intervention strategies. There is no limit to how many may be checked. If strategies were recommended that are not in the following list of definitions, please mark the "other" box and write a description of the strategy used. Please note that "homework" and "in-vivo work" are not specific interventions that can be coded. Instead, the specific focus of any recommended "homework" or "in-vivo" exercises should be coded. For example, if an MHA recommended that a client engage in homework exercises of planning pleasant events, you would code this as "activity scheduling."

Definitions of Intervention Strategies

1. **Activity Scheduling** - The assignment or request that a child participate in specific activities outside of therapy time, with the goal of promoting or maintaining involvement in satisfying and enriching experiences.
2. **Anger Management** – Refers to treatment in the family of anger management with no specific practices identified
3. **Animal or Plant Assisted Activities** – Use of activities incorporating animals or plants as a therapeutic modality.

4. **Arousal Reconditioning** – Use of classical or operant conditioning procedures to alter the targets of sexual arousal.
5. **Art/Music Therapy** – Use of expressive activities as a therapeutic modality
6. **Assertiveness Training**-Exercises or techniques designed to promote the child's ability to be assertive with others, usually involving rehearsal of assertive interactions.
7. **Assessment** – Focus on service provider learning more about the child and family through evaluation, testing, or observation (that would not qualify as parent or self-monitoring).
8. **Behavioral Contracting** – Development of a formal agreement specify rules, consequences, and a commitment by the youth and relevant others to honor the content of the agreement
9. **Behavior Management** – Indication of the use of behavioral techniques or plan with no specific practices identified
10. **Biofeedback/ Neurofeedback**-Strategies to provide information about physiological activity that is typically below the threshold of perception, often involving the use of specialized equipment.
11. **Care Coordination** – Coordinating among the service providers to ensure effective communication, receipt of appropriate services, adequate housing, etc.
12. **Catharsis**-Strategies designed to bring about the release of intense emotions, with the intent to develop mastery of affect and conflict.
13. **Cognitive/Coping**-Any techniques designed to alter interpretation of events through examination of the child's reported thoughts, typically through the generation and rehearsal of alternative counter-statements. This can sometimes be accompanied by exercises designed to comparatively test the validity of the original thoughts and the alternative thoughts through the gathering or review of relevant information.
14. **Commands/Limit Setting**-Training for caretakers in how to give directions and commands in such a manner as to increase the likelihood of child compliance.
15. **Communication Skills**-Training for youth or caretakers in how to communicate more effectively with others to increase consistency and minimize stress. Can include a variety of specific communication strategies (e.g., active listening, "I" statements).
16. **Counseling** – Refers to counseling sessions with youth or parent with no specific practices identified
17. **Crisis Management**-Immediate problem solving approaches to handle urgent or dangerous events. This might involve defusing an escalating pattern of behavior and emotions either in person or by telephone, and is typically accompanied by debriefing and follow-up planning.
18. **Cultural Training** – Education or interaction with culturally important values, rituals, or sites with no specific practices identified.

19. **Directed Play**-Exercises involving the youth and caretaker playing together in a specific manner to facilitate their improved verbal communication and nonverbal interaction. Can involve the caretaker's imitation and participation in the youth's activity, as well as parent-directed play.
20. **Educational Support**-Exercises designed to assist the child with specific academic problems, such as homework or study skills. This includes tutoring.
21. **Emotional Processing**-A program based on an information processing model of emotion that requires activation of emotional memories in conjunction with new and incompatible information about those memories.
22. **Exposure**-Techniques or exercises that involve direct or imagined experience with a target stimulus, whether performed gradually or suddenly, and with or without the therapist's elaboration or intensification of the meaning of the stimulus.
23. **Eye Movement/Tapping**-A method in which the youth is guided through a procedure to access and resolve troubling experiences and emotions, while being exposed to a therapeutic visual or tactile stimulus designed to facilitate bilateral brain activity.
24. **Family Engagement**-The use of skills and strategies to facilitate family or child's positive interest in participation in an intervention.
25. **Family Therapy**-A set of approaches designed to shift patterns of relationships and interactions within a family, typically involving interaction and exercises with the youth, the caretakers, and sometimes siblings.
26. **Family Visit** – Structured or unstructured therapeutic visit with one or more family members who is not typically part of the youth's daily ecology during the course of treatment
27. **Free Association**-Technique for probing the unconscious in which a person recites a running commentary of thoughts and feelings as they occur.
28. **Functional Analysis**-Arrangement of antecedents and consequences based on a functional understanding of a youth's behavior. This goes beyond straightforward application of other behavioral techniques.
29. **Goal Setting** – Setting specific goals and developing commitment from youth or family to attempt to achieve those goals (e.g., academic, career, etc.).
30. **Guided Imagery**-Visualization or guided imaginal techniques for the purpose of mental rehearsal of successful performance. Guided imagery for the purpose of physical relaxation (e.g., picturing calm scenery) is not coded here, but rather coded under relaxation (#60).
31. **Ho'Oponopono** – Intervention using the techniques of Ho'Oponopono with no specific practices identified
32. **Hypnosis**-The induction of a trance-like mental state achieved through suggestion.
33. **Ignoring or Differential Reinforcement of Other Behavior**-The training of parents or others involved in the social ecology of the child to selectively ignore mild target behaviors and selectively attend to alternative behaviors.

34. **Informal Supports** – Explicitly identifying and working with youth or families to make use of informal supports in their homes and communities (e.g., cultural or faith based groups, neighbors and friends, etc.)
35. **Insight Building-Activity** designed to help a youth achieve greater self-understanding.
36. **Interpretation**-Reflective discussion or listening exercises with the child designed to yield therapeutic interpretations. This does not involve targeting specific thoughts and their alternatives, which would be coded as cognitive/coping.
37. **Juvenile Sex Offender Treatment** – Indication of sex offender treatment with no specific practices identified
38. **Legal Assistance/Involvement** – Obtaining legal aide for the youth or family or engaging the legal system to provide additional motivation for treatment
39. **Line of Sight Supervision**-Direct observation of a youth for the purpose of assuring safe and appropriate behavior.
40. **Maintenance/Relapse Prevention**-Exercises and training designed to consolidate skills already developed and to anticipate future challenges, with the overall goal to minimize the chance that gains will be lost in the future
41. **Marital Therapy**-Techniques used to improve the quality of the relationship between caregivers.
42. **Medication/Pharmacotherapy**-Any use of psychotropic medication to manage emotional, behavioral, or psychiatric symptoms.
43. **Mentoring**-Pairing with a more senior and experienced individual who serves as a positive role model for the identified youth.
44. **Millieu Therapy**-A therapeutic approach in residential settings that involves making the environment itself part of the therapeutic program. Often involves a system of privileges and restrictions such as a token or point system.
45. **Mindfulness**-Exercises designed to facilitate present-focused, non-evaluative observation of experiences as they occur, with a strong emphasis of being “in the moment.” This can involve the youth’s conscious observation of feelings, thoughts, or situations.
46. **Modeling**-Demonstration of a desired behavior by a therapist, confederates, peers, or other actors to promote the imitation and subsequent performance of that behavior by the identified youth.
47. **Motivational Interviewing**-Exercises designed to increase readiness to participate in additional therapeutic activity or programs. These can involve cost-benefit analysis, persuasion, or a variety of other approaches.
48. **Natural and Logical Consequences**-Training for parents or teachers in (a) allowing youth to experience the negative consequences of poor decisions or unwanted behaviors, or (b) delivering consequences in a manner that is appropriate for the behavior performed by the youth.
49. **Other** – write-in practices with a reasonably interpretable intention that could not be categorized into another target area and appear to be of a low enough base rate to not warrant addition of a new category (e.g., bibliotherapy)

50. **Parent Coping**-Exercises or strategies designed to enhance caretakers' ability to deal with stressful situations, inclusive of formal interventions targeting one or more caretaker.
51. **Parent-Monitoring**-The repeated measurement of some target index by the caretaker.
52. **Parent Praise**-The training of parents or others involved in the social ecology of the child in the administration of social rewards to promote desired behaviors. This can involve praise, encouragement, affection, or physical proximity.
53. **Parenting** – Indication of addressing parenting issues with caregiver(s) but no specific practices identified
54. **Peer Modeling/Pairing**-Pairing with another youth of same or similar age to allow for reciprocal learning or skills practice.
55. **Play Therapy**-The use of play as a primary strategy in therapeutic activities. This may include the use of play as a strategy for clinical interpretation. Different from Directed Play (#19), which involves a specific focus on modifying parent-child communication. This is also different from play designed specifically to build relationship quality (#59).
56. **Problem Solving**-Techniques, discussions, or activities designed to bring about solutions to targeted problems, usually with the intention of imparting a skill for how to approach and solve future problems in a similar manner.
57. **Psychoeducational-Child**-The formal review of information with the child about the development of a problem and its relation to a proposed intervention. (Does not include information about medication, which is coded as "Medical Regimen Adherence," #33 under targets.)
58. **Psychoeducational-Parent**-The formal review of information with the caretaker(s) about the development of the child's problem and its relation to a proposed intervention. This often involves an emphasis on the caretaker's role in either or both. (Does not include information about medication, which is coded as "Medical Regimen Adherence," #33 under targets.)
59. **Relationship/Rapport Building**-Strategies in which the immediate aim is to increase the quality of the relationship between the youth and the therapist. Can include play, talking, games, or other activities.
60. **Relaxation**-Techniques or exercises designed to induce physiological calming, including muscle relaxation, breathing exercises, meditation, and similar activities. Guided imagery exclusively for the purpose of physical relaxation is also coded here.
61. **Response Cost**-Training parents or teachers how to use a point or token system in which negative behaviors result in the loss of points or tokens for the youth.
62. **Response Prevention**-Explicit prevention of a maladaptive behavior that typically occurs habitually or in response to emotional or physical discomfort.
63. **Self-Monitoring**-The repeated measurement of some target index by the child.

64. **Self-Reward/Self-Praise**-Techniques designed to encourage the youth to self-administer positive consequences contingent on performance of target behaviors.
65. **Skill Building**-The practice or assignment to practice or participate in activities with the intention of building and promoting talents and competencies (i.e., piano lessons). This category does not include building specific skills codable elsewhere.
66. **Social Skills Training**-Providing information and feedback to improve interpersonal verbal and non-verbal functioning, which may include direct rehearsal of the skills. If this is paired with peer modeling/pairing (#54), that should be coded as well.
67. **Stimulus/Antecedent Control**-Strategies to identify specific triggers for problem behaviors and to alter or eliminate those triggers in order to reduce or eliminate the behavior.
68. **Supportive Listening**-Reflective discussion with the child designed to demonstrate warmth, empathy, and positive regard, without suggesting solutions or alternative interpretations.
69. **Tangible Rewards**-The training of parents or others involved in the social ecology of the child in the administration of tangible rewards to promote desired behaviors. This can involve tokens, charts, or record keeping, in addition to first-order reinforcers.
70. **Therapist Praise/Rewards**-The administration of tangible (i.e. rewards) or social (e.g., praise) reinforcers by the therapist.
71. **Thought Field Therapy**-Techniques involving the tapping of various parts of the body in particular sequences or "algorithms" in order to correct unbalanced energies, known as thought fields.
72. **Time Out**-The training of or the direct use of a technique involving removing the youth from all reinforcement for a specified period of time following the performance of an identified, unwanted behavior.
73. **Twelve-step Programming**-Any programs that involve the twelve-step model for gaining control over problem behavior, most typically in the context of alcohol and substance use, but can be used to target other behaviors as well.
74. **Unclear** – Write-in practices when the intention of the respondent could not be coded into another category.

Please provide any Comments related to your experience of difficulty or irregularity with coding, both generally in terms of the coding system and specifically in terms of an individual case. All comments placed in this section will be read and may be extremely useful in terms of enhancing this process for continued usage.

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