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Department of Health

Child and Adolescent
Mental Health Division

Annual Evaluation Report Fiscal Year 2007

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**Child and Adolescent Mental Health Division
Annual Evaluation Report Fiscal Year 2007
Executive Summary**

This report summarizes the results of the annual evaluation for fiscal year (FY) 2007. The purpose of this report is to provide detailed analysis and critical review of the information gathered during the annual evaluation process. This executive summary focuses on key issues that were identified for monitoring and follow-up in previous annual evaluations or were newly identified in the current year.

Population size and access to services. Recommendations from prior annual evaluation reports targeted the goal of expanding the overall number of youth served by CAMHD to reduce the prevalence of unmet needs in the community.

For the third consecutive year, the total number of youth registered with CAMHD increased. During FY 2007, the CAMHD population grew by +2.6% so that 2,656 unique youth were registered for services with CAMHD. Growth was driven by an increase in initial admissions to CAMHD despite a decrease in readmissions. Regional growth was most prevalent at Leeward Oahu (+13%), Honolulu Oahu (+8%), and the Big Island (+5%), whereas registered populations declined at Maui (-10%) and Central Oahu (-9%). Enrollment in the QUEST behavioral health plan (+9%) continued to grow, while special education involvement through the Individuals with Disabilities in Education (IDEA) or Vocational Rehabilitation Act, Section 504 continued to decline (-22%). However, the number of youth classified with special education as “pending” increased dramatically (+161%).

Conduct Disorder and Its Precursors. Disruptive behavior disorders have repeatedly emerged as a special need due to their prevalence and challenges related to their treatment.

Disruptive behavior disorders remained the most common problem among youth registered with CAMHD. One out of every two youth (50%) had a primary or additional diagnosis in the disruptive behavior category, which continued a five-year growth trend (+1.6% per year). Two new evidence-based service packages for disruptive behavior disorders, Multidimensional Treatment Foster Care and Functional Family Therapy, were introduced as independent levels of care during FY 2007.

Community Residential Services. Reducing utilization of community residential services was another common target of previous recommendations.

For the second consecutive year, a sizable decline in the number (-15%) and proportion (- 3.5%) of youth receiving community residential services was observed. This was part of a broader decline in the total number of youth receiving services in out-of-home settings (-10%). Reductions in community residential service utilization were compensated by increases in the number (+11%) and proportion (+1.4%) of youth receiving therapeutic foster care. Thus, the initiative to promote treatment in the least restrictive environment by targeted reduction in community residential services utilization has continued to meet with success.

Early Detection and Intervention. Identifying youth at a younger age or with less severe functioning was the objective of another host of recommendations from prior evaluations.

The average age of youth registered with CAMHD had declined prior to FY 2004, but the trend stabilized since then ($M_{age} = 14.1$ years). Similarly, the average child status scores for youth newly registered with CAMHD have remained generally stable over the past five years across measurement instruments. Thus, the available evidence indicates that little progress has been made in systematizing earlier detection and intervention.

Personnel. Over the past decade, Hawaii has invested considerable resources in upgrading the quality of its mental health workforce. Unfortunately, many of these gains appear to be at risk.

Through FY 2007, CAMHD continued to experience considerable employee attrition and encountered barriers to efficient replacement. Fortunately, in April 2007, the Director of Health petitioned the Director of Human Resources Development for approval of a Behavioral Health Special Project that granted permission to extend

82 exempt positions through FY 2009. Unfortunately, this personnel action came late in the year and position occupancy rates hit a new low in FY 2007. Formal reorganization and replacement activities have not been completed, resulting in further uncertainties for staff. Attrition and recruitment problems have affected both civil service (e.g., care coordinator) and exempt positions, so reorganization and replacement represent only initial steps in addressing the current staffing challenges.

QUEST and Special Education Populations. Beginning in FY 2007, the services available to youth depend on their program eligibility. Youth eligible for CAMHD services through the Support for Emotional and Behavioral Development (SEBD) program qualify for a broader service package than youth eligible through the Educationally Supportive (ES) service program. The CAMHD medical director determines services available to youth in the Mental Health Only (MHO) population.

The QUEST and special education populations are distinct, but overlapping groups. The QUEST population was less likely to be Asian, have attention disorders or mental retardation and more likely to be female, Hispanic, or multiracial, have primary disruptive behavior disorders, use out-of-home services, and show improvement in child status than the non-QUEST population. The special education population (IDEA, 504, and pending) was more likely to be male, and less likely to have mood or substance-related disorders than the population without special education involvement. The population involved with IDEA or 504 (excluding pending) was more likely to have attention disorders and was most likely to be readmitted to CAMHD. The population with special education pending was less likely to receive out-of-home services and more likely to be young, have initial admissions, and have court hearings.

Youth Without Provider Network Services Procured. The FY 2006 evaluation recommended more in-depth analyses of youth with and without additional services procured through the provider network.

Youth without provider network services may be generally characterized as new to the CAMHD system, pending eligibility determination, served in a CAMHD program that provides direct services (i.e., Family Court Liaison Branch, Mokihana), or receiving monitoring pending discharge. Youth with services procured had more significant and comorbid pathology and greater child status impairments. Unfortunately, significantly more data are missing for youth without network services procured, so these findings are tentative.

Introduction

The Hawaii Department of Health (DOH) is organized into three administrative units, Behavioral Health Services, Health Resources, and Environmental Health. The Child and Adolescent Mental Health Division (CAMHD) is a division of the Department of Health's Behavioral Health Services Administration, which also includes the Adult Mental Health Division and the Alcohol and Drug Abuse Division. The mission of CAMHD is to provide timely and effective mental health services to children and youth with serious emotional and behavioral challenges, and their families. These services are provided within a system of care that integrates Hawaii's Child and Adolescent Service System Program principles, evidence-based services, and continuous monitoring and quality improvement.

CAMHD saw significant changes in fiscal year 2007. CAMHD completed its new four-year Strategic Plan (2007-2010) and began its system-wide implementation. Energy and resources are being devoted to the following seven broad priorities: (1) stigma and access to care; (2) resource management program; (3) performance management program; (4) practice development program; (5) personnel management plan; (6) strategic financial plan; and (7) information technology program. Workgroups for each of the core areas were formed and progress reports are made quarterly to the Executive Management Team through the Performance Improvement Steering Committee.

Following revision of the Interagency Performance Standards and Practice Guidelines (a.k.a., the purple book) and completion of a statewide procurement process to establish a new provider network, the new service array was launched in FY 2007. A variety of new services were implemented, including two new evidence-based service packages for disruptive behavior disorders, Multidimensional Treatment Foster Care and Functional Family Therapy, new independent living programs for older adolescents and young adults, and community mental health shelter. Acute Hospitalization and Detoxification Services were actively being assembled for implementation in early FY 2008. Intensive outpatient services (for co-occurring substance abuse and independent living skills) and a host of outpatient services were planned and some were available in special cases, but these services were not systematically implemented in FY 2007. CAMHD also supported enactment of a new youth suicide prevention program that is being housed in the Injury Prevention and Control Program of the Department of Health.

In the new service array, not all services are available to all youth. Instead, a youth's program eligibility determines their available services. Youth eligible for CAMHD services through the Support for Emotional and Behavioral Development (SEBD) program qualify for a broader service package than youth eligible through the Educationally Supportive (ES) service program, and the CAMHD medical director determines available services for the Mental Health Only (MHO) population. Thus, the design of the system has become exponentially more complex and CAMHD's programs are increasingly diverging in their operations. The FY 2007 annual evaluation addresses this by including more in-depth comparison of these special populations.

Fiscal year 2007 saw the continued progression of two large-federally funded grants. The Cultures of Engagement in Residential Care (CERC), a program funded to reduce the use of seclusions and restraints, completed its third year and was recently granted a no-cost extension for another year (October 2007-September 2008). Project Ho'omohala, a project funded to establish a system of care for youth transitioning to adulthood, completed its second year with a slow but steady enrollment of youth into the program. Additionally, in September 2006, Hawaii was awarded a five-year Mental Health Transformation State Incentive Grant. This first year of the grant emphasized development of transformation workgroups addressing each of the core areas of the President's New Freedom Commission on Mental Health. These workgroups together with the evaluation committee are conducting a Needs Assessment and Resource Inventory that will inform the Comprehensive Mental Health Plan which will serve as the guiding document for the remainder of the grant period.

The formal structural reorganization and systematic replacement of exempt positions with civil service positions continued in FY 2007. The initial concepts for the two large reorganization efforts (i.e., reorganization of the central administration offices and the move of neighbor island Family Guidance Centers to be under CAMHD, similar to the Oahu Family Guidance Centers) were approved by the Budget and Finance Office at the Department of Health, but the functional statements are still being fine-tuned within the division and the final proposal has not yet been approved by the Department of Health. Thus, despite some progress, formal reorganization was not achieved and systematic civil service replacement of exempt positions has not occurred.

As FY 2007 entered its final quarter, many CAMHD employees were facing expiration of their exempt positions at the end of the year. Position occupancy rates were at an all time low (i.e., vacancy rates were at an all-time high) and the employee survey found high levels of worker alienation. Christina Donkervoet, the long-time Division Chief whose vision and leadership were instrumental in bringing Hawaii out from under court oversight and developing the Hawaii system of care, resigned.

Fortunately, in April 2007, the Director of Health petitioned the Director of Human Resources Development for approval of a Behavioral Health Special Project to (a) evaluate management and oversight of the behavioral health systems for effectiveness, efficiency, and revenue capacity; (b) examine AMHD and CAMHD for system similarities in resources, infrastructure, and functions to identify areas for possible consolidation across divisions; and (c) examine specific services or functions for possible privatization including but not limited to assessing and planning for implementation of a privatized Third Party Administrator to address claims processing and credentialing. This petition was approved, which granted permission for annual extensions of 82 exempt positions for a two-year period (July 1, 2007 to June 30, 2009).

The allowances under the special project relieved the immediate pressure on the CAMHD workforce, but the core personnel challenges have yet to be addressed. Both exempt and civil service position occupancy rates continued to be low (i.e., vacancy rates were high) through FY 2007, resulting in chronic understaffing. As described throughout this report, problematic downstream effects are being noted in various evaluations conducted by CAMHD (e.g., provider survey, employee survey, information system survey, etc.). The leadership gap created by the Division Chief's resignation was filled by the appointment of Mary Brogan, the Performance Manager and long-time employee of CAMHD, as Acting Chief while the search for a new Division Chief was initiated. Following the close of the fiscal year, but prior to the writing of this report, a new Division Chief (now called an Administrator), Dr. M. Stanton Michels, was hired and the Acting Chief moved into a reconstructed Assistant Administrator role.

Given all of these changes, the goal of this report was to describe the characteristics of the CAMHD system during FY 2007 and essentially establish a new baseline for future evaluations. As in prior annual evaluations (Daleiden, 2003; 2006; Daleiden, Lee, and Tolman, 2004, Daleiden and Tolman, 2005), another goal was to analyze changes to CAMHD over the past five fiscal years from July 1, 2002 to June 30, 2007, with particular emphasis on changes during the past year. However, due to the changing service array and system redesign, many of the results from the FY 2007 are only of limited comparability to prior years. Findings from the past five years are presented to avoid "throwing the baby out with the bathwater" but cautious and conservative interpretation of historical trends is recommended.

As in earlier annual evaluations, the analytic framework described by Aday, Begley, Lairson, and Slater (1998) and discussed in the context of system of care research by Rosenblatt and Woodbridge (2003), was used to organize this report. This framework identifies the three key components of health services research as equity, efficiency, and effectiveness. In the present application, equity analysis involved examination of congruence and disparity across groups (i.e., age, gender, ethnic, geographic region, and diagnosis) in services and expenditures. Efficiency analysis involved comparing input to output ratios for services (e.g., cost per youth, cost per service hour, service hours per youth). Effectiveness included analysis of the benefits of services in terms of child functioning and service needs.

Findings

Population Characteristics

The final population of youth selected for this evaluation represented all youth registered to CAMHD for one or more days during fiscal year 2007 (i.e., the period from July 1, 2006 to June 30, 2007). This population was compared to the populations of youth registered during fiscal years 2003 to 2006. Data for fiscal year 2003 were adjusted to remove youth whose care was transferred to the Department of Education (DOE) and the Department of Health Developmental Disabilities Division during the transition to school-based behavioral health services (for details see Daleiden, 2003).

During FY 2007, CAMHD provided case management services for 2,656 unique youths during FY 2007, which represented a +2.6% increase (N = 68 youth) over FY 2006. This was the third straight year that the CAMHD

population increased in overall size since the large downsizing associated with the school-based behavioral health services restructuring. The average annual growth from FY 2004 to FY 2007 was +2.8% per year.

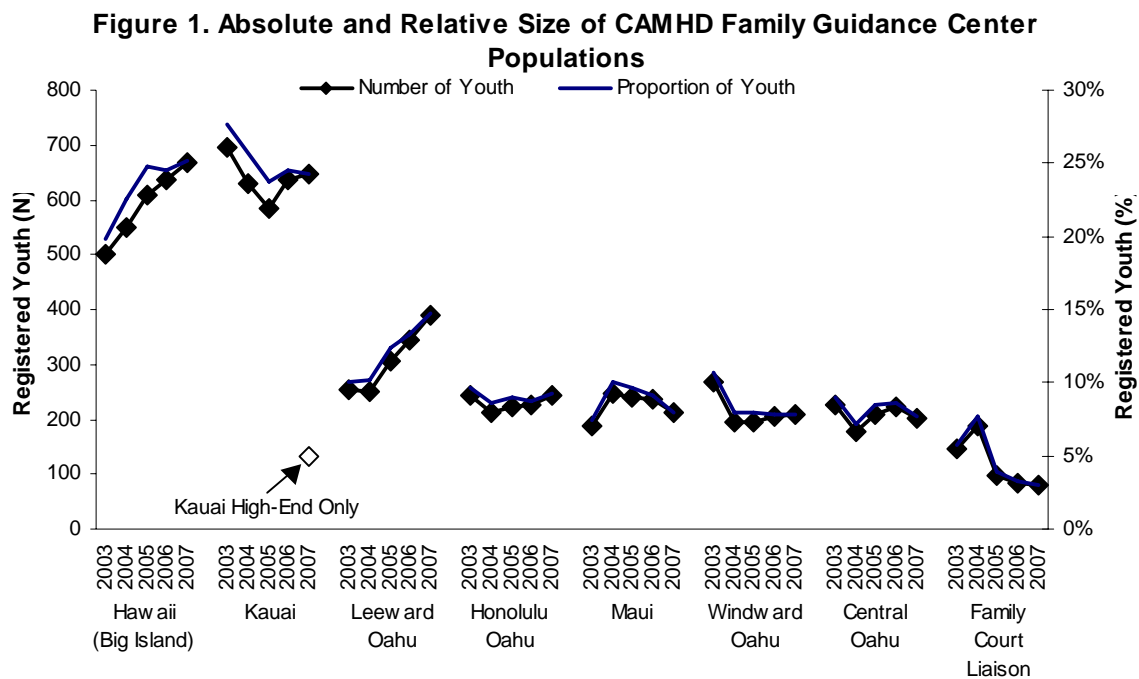
Newly admitted youth represented 41.5% (N = 1,101) of the total registered population. The rate of admissions into the system increased by +10% with a +28% increase in initial admissions (i.e., first time registrations with CAMHD; N = 731) and a -13% decrease in repeated admissions (N = 391; 21 youth had both initial and readmissions during FY 2007). Youth with initial admissions represented 27.5% of the total registered population whereas youth with readmissions represented 14.7% of the total registered population. The readmission rate was at an all time low in FY 2007 and the five-year trend was marginally significant (p = .056). The number of admissions during the FY 2006 annual evaluation was reported as 971 youth, but updated information and analysis yielded a revised estimate of 1,003 admissions during FY 2006 (N = 567 initial admissions, 449 repeat admission; 13 youth with both initial and readmissions).

Youth with a discharge during FY 2007 accounted for 33.8% (N = 897) of the total registered population. This was a - 10% reduction below the FY 2006 rate but was comparable to the FY 2005 rate. No clear trend has emerged for the discharge rate over the past five years.

Regional Variation

As in prior years, changes to the registered population size has varied by geographic region (see Figure 1). Hawaii Family Guidance Center (HFGC) is the largest in the state and serves one-quarter of all youth in the state (N = 669; 25.2%). HFGC has shown consistent growth over the past five years (+5.4% over FY 2006; +7.6% average annual growth since FY 2003) and has accounted for a significantly (p = .035) larger proportion of the total CAMHD population. Leeward Oahu Family Guidance Center (LOFGC) has also grown steadily since FY 2004 (+13.3% over FY 2006; +16.3% average annual growth since FY 2004) and has accounted for a significantly (p = .004) increasing proportion of the CAMHD population.

Honolulu Oahu Family Guidance Center (HOFGC) also grew for the fourth straight year (+8.4% over FY 2006; +5.1% average annual growth since FY 2004) but this trend was not statistically significant. HOFGC served nearly the same number of youth as during FY 2003. Similarly, Windward Oahu Family Guidance Center (WOFGC) has shown small annual growth for the past four years (+1.5% over FY 2006; +2.0% average annual growth since FY 2004) but serves -23.0% fewer youth than in FY 2003.



Central Oahu Family Guidance Center (COFGC; -8.6%), Maui Family Guidance Center (MFGC; -9.8%) and the Family Court Liaison Branch (FCLB; -3.6%) decreased in overall size relative to FY 2006. COFGC reversed its pattern of growth from FY 2004 – FY 2006; whereas MFGC and FCLB continued their four-year declines.

Unlike the other branches, Kauai Family Guidance Center (KFGC) continues to enroll all youth in the integrated DOE-DOH Mokihana project so that the registered population includes the full range of service intensity, not just intensive mental health services. The overall size of KFGC increased slightly during FY 2007 (+1.7% over FY 2006). During FY 2007, new procedures were implemented by KFGC that allows for separate analysis and reporting the KFGC “high-end” population that is more directly comparable to the other regional family guidance centers. During FY 2007, KFGC served 133 youth in this population and as such would be the smallest regional family guidance center, although more youth are served by KFGC than FCLB.

FCLB provides services primarily for incarcerated and detained youth regardless of their home geographic region. The FCLB peaked in size during FY 2004 with 188 registered youth and remains less than one-half of that size (80 youth). FCLB is continuing efforts to improve its workforce and mental health services as specified in the Office of Youth Services-Department Of Justice (OYS-DOJ) settlement agreement of FY 2006. Statewide, the proportion of registered youth recorded with juvenile justice involvement has continued its decline since FY 2004 (-11.7% decrease in the number of youth with a court hearing since FY 2006; -32.9% decrease in the number of youth detained or incarcerated since FY 2006). Such decline may reflect insufficient staffing at FCLB, less comprehensive care coordination and data capture, or less integration of public mental health services in the rehabilitation of youth involved with the justice system.

When geographic distribution was examined as a proportion of the general population of youth between the ages of 3 and 21 years identified by the US census (see Table 1), results were similar to prior years. The county of Kauai had the highest penetration rate followed by Hawaii, then Maui, and then Honolulu (i.e., Central, Leeward, Windward, and Honolulu Oahu Family Guidance Centers). When only Kauai high-end youth were included, Hawaii had the highest penetration rate and Kauai was the second highest.

It is very difficult to define what the “expected value” for this estimate should be if the system were functioning well. The National Association of State Mental Health Program Directors (NASMHPD) Research Institute estimated that rates of serious emotional disturbance (SED) were between 9 and 11% of the general population of 9 – 17 year-olds residing in Hawaii during 2004. Formal systems for serving youth with SED include the private health system, the school-based behavioral health system, and the CAMHD system. In addition some youth with SED may receive adequate support through their informal support systems. Thus, a reliable and valid estimate of the expected penetration rate for CAMHD services is not available until valid data from these other sources becomes available.

Table 1: Percent of youth aged 3 – 21 years by county registered with CAMHD.

County	Percent of U.S. Census 2000				
	2003	2004	2005	2006	2007
Kauai	4.39	3.97	3.69	4.00	4.07
High-End	-	-	-	-	0.84
Hawaii (BI)	1.22	1.35	1.49	1.55	1.63
Maui	0.56	0.74	0.72	0.70	0.64
Honolulu	0.44	0.37	0.41	0.44	0.47
State	0.80	0.78	0.78	0.82	0.84

Source: U.S. Census Bureau Summary File 1 Hawaii (July 25, 2001) compiled by the Hawaii State Department of Business, Economic Development and Tourism, Hawaii State Data Center.

However, the separate tracking of all Mokihana youth and high-end youth on Kauai, provides some information about the penetration rates for two of the three formal behavioral health systems in the state, and provides a novel basis for some very speculative “guestimation” about a range of penetration rates that CAMHD might expected. Specifically, if the NASMHPD rate estimates are reasonable, then the “true” SED rate on Kauai is expected to be roughly 2.2 to 2.7 times the current penetration rate of the Mokihana program. If the current high-end penetration rate approximates the “true” value for the “high-end” population statewide, then one might expect the CAMHD penetration rate to be between 1.8 and 2.3% of the general population were CAMHD to serve all “high-end” SED youth in the state. Such an estimate does not take into account private health services nor address provision of less intensive public health services outside of the school-based behavioral health system. Again, this range is extremely speculative and is not of sufficient quality to support decision-making. It is offered in the spirit of prompting further

discussion of how various service systems in Hawaii could work together to set target penetration rates and assure that youth in need of services are indeed receiving services.

Race, National Origin, and Ethnicity

In fiscal year 2005, CAMHD revised its procedures for gathering race, national origin, and ethnicity data to align with federal data collection standards and Hawaii Department of Health recommendations. Since the implementation of these new procedures, missing data rates have remained high. Unfortunately, some of the improvements made during FY 2006, were lost in FY 2007, with race data missing for 43.7% of youth and national origin data missing for 61% of youth. Missing data rates vary across family guidance branches from a low of 7.5% missing data for Central Oahu to a high of 98.3% missing for Kauai. The average missing data rate for the other regional centers was 27.5% (SD = 5.7%). The largest centers in the state accounted for the majority of the missing data (56.3% Kauai, 16.8% Big Island, and 11.1% Leeward Oahu). A similar distribution was evident for missing national origin data, but Windward Oahu had a much higher missing data rate for national origin than race and accounted for 10.9% of the missing national origin data. Continued training and monitoring regarding collection of race and national origin data was recommended in prior evaluations, and monitoring of missing data rates was implemented in the quarterly Integrated Performance Monitoring report. However, the additional training that was planned to be provided through the Hawaii Data Infrastructure grant was not implemented during FY 2007.

Race, national origin, and ethnicity findings from FY 2007 generally replicated the patterns of prior years. Tables 2 – 4 present the detailed breakdowns of the various racial, national origin, and ethnic groups monitored by CAMHD, but the distribution and recent trends are more readily visible in Figures 2 and 3.

Specifically, the race and national origin responses of CAMHD youth under 18 years of age were compared to the U.S. Census 2000 data in two ways. The first analysis compared the proportion of respondents endorsing more than one race and the proportion endorsing the single race categories to the census (see Figure 2) and the second analysis compared the proportion of respondents that endorsed each category regardless of whether it was a single or multiple response (see Figure 3).

Figure 2 illustrates that nearly two-thirds of youth are multiracial and approximately one-third are Hispanic or Latino. These two groups have increased in size over recent years and are relatively more common in the CAMHD population than the general population of youth in Hawaii. White youth are the most prevalent single race group, followed by Native Hawaiian or Other Pacific Islander, Asian, Black or African American, Other Race, and American Indian or Alaska Native. The relative size of the single race Black or African American is tending to increase ($p = .051$), and the single race White population is decreasing but not significantly so ($p = .170$). As in prior years, single race Asian youth remain relatively less common in the CAMHD population than the general population of youth in Hawaii.

When the multiracial youth are classified into the separate response categories (i.e., duplicated across categories), the relative rank ordering of the racial groups is similar with the exception that the American Indian or Alaska Native population emerges as larger than the Black or African American and Other Race populations (see Figure 3). The Native Hawaiian or Other Pacific Islander, Asian, Hispanic or Latino, and American Indian or Alaska Native populations are all significantly increasing in size ($p < .05$).

Table 2. Percent of CAMHD population by race.

Race	2005 %	2006 %	2007 %
American Indian and Alaska Native	0.1	0.1	0.4
Asian	8.0	8.2	8.7
Black or African American	1.3	1.5	1.9
Native Hawaiian or Pacific Islander	11.3	10.4	10.9
White	18.6	17.4	15.2
Other	0.9	0.8	1.0
Multiracial	59.8	61.6	61.9
Based on Observation	14.4	12.9	10.2
Not Available	47.4	37.9	43.7

Table 3. Percent of CAMHD population by National Origin.

National Origin	2005 %	2006 %	2007 %
Hispanic or Latino	27.4	30.7	32.2
Not Hispanic or Latino	72.6	69.3	67.8
Not Available	66.0	57.6	61.1

White, Native Hawaiian or Other Pacific Islander, Hispanic or Latino, and to a lesser degree American Indian or Alaska Native and Black or African American youth are relatively more common and Asian youth are relatively less common in the CAMHD population than the general population of youth in Hawaii.

Further analysis of the racial distribution of Hispanic youth indicated that 75.8% were multiracial, 18.6% were White, 6.4% were Native Hawaiian or other Pacific Islander, 4.6% were Asian, 2.1% were Black or African American, and 2.4% were of other race. The racial distribution of Hispanic youth that endorsed each category regardless of whether it was a single or multiple response was that 66.7% were White, 66.4% were Native Hawaiian or other Pacific Islander, 65.1% were Asian, 15.6% were American Indian or Alaska Native, 7.3% were Black or African American, and 8.3% were of other race.

As in prior years, these findings indicated that registration for CAMHD services is not equally distributed across race, national origin, and ethnicity. Further, the CAMHD population differs systematically from the general population of Hawaii. The trends toward significant increases in the size of the single race Black or African-American population and the multiracial American Indian or Alaska Native population were new patterns that emerged in this year's evaluation. During the upcoming year, it is recommended that some follow-up analysis and discussion be implemented to increase understanding of what might be driving these trends.

As discussed in the FY 2006 evaluation, the 2007-2010 strategic plan does not explicitly define an initiative to address health service equity but it does place considerable emphasis on stigma reduction. It was recommended that the Anti-Stigma Workgroup (ASW) charged with designing and overseeing stigma reduction initiatives, pay particular attention to understanding the needs of Multiracial, Hispanic, and Asian youth. Although the ASW has met on a regular basis since the strategic plan commenced, it currently does not have plans to specifically address health service inequity and has yet to propose a formal plan with recommendations to EMT. During this evaluation, workgroup members raised the issue of limited involvement and investment by CAMHD employees and lack of association with a core operational section of CAMHD as key barriers to likely success for the initiative.

Table 4. Percent of CAMHD population by ethnic group.

Ethnic Group	2005 %	2006 %	2007 %
American Indian and Alaska Native			
Alaska Native	0.0	0.0	0.2
American Indian	7.1	8.3	9.5
Asian			
Asian Indian	0.0	0.2	0.2
Chinese	22.2	23.7	23.8
Filipino	25.2	26.5	29.0
Japanese	17.0	16.9	17.9
Korean	2.8	2.4	3.1
Vietnamese	0.1	0.4	0.5
Other Asian	1.0	0.9	1.1
Black or African American			
Black or African American	4.4	5.6	6.6
Hispanic or Latino			
Cuban	0.4	0.4	0.7
Mexican	4.1	4.3	4.7
Puerto Rican	15.0	16.8	17.9
Other Hispanic	10.0	12.4	13.2
Native Hawaiian or Pacific Islander			
Guamanian or Chamorro	0.6	0.7	1.2
Micronesian	1.8	1.8	1.7
Native Hawaiian	49.9	52.3	53.1
Samoan	7.3	6.5	6.5
Other Pacific Islander	3.7	3.7	3.3
White			
Portuguese	21.5	23.6	23.1
White or Caucasian	52.7	51.5	51.2
Other			
Other	5.6	5.0	5.2
Multiethnic			
Not Available	66.4	58.2	61.9

Figure 2. CAMHD Racial Groups Compared to U. S. Census 2000 for Hawaii Children Under 18 Years of Age

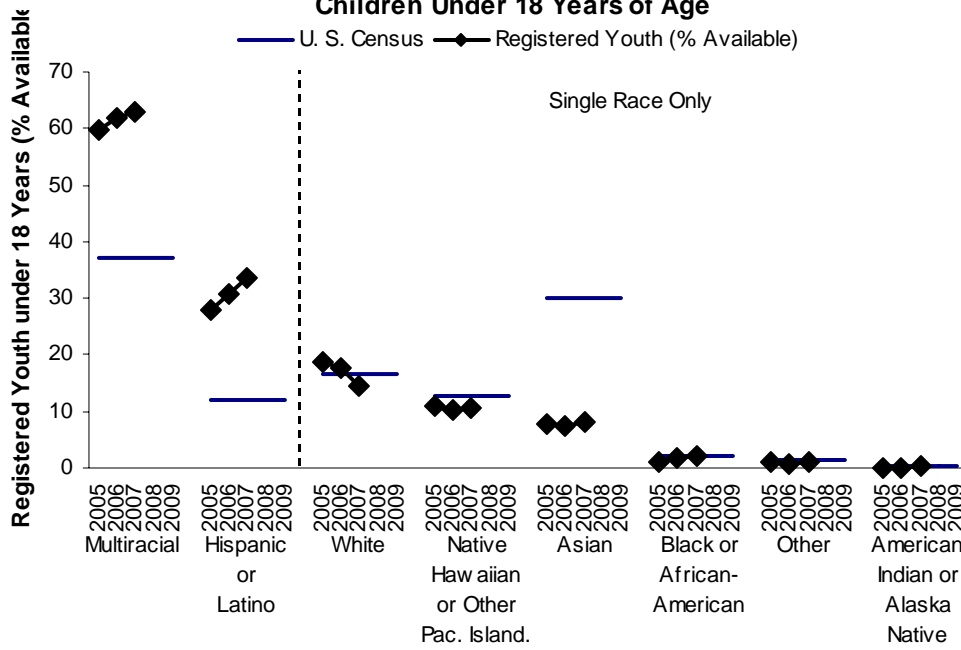
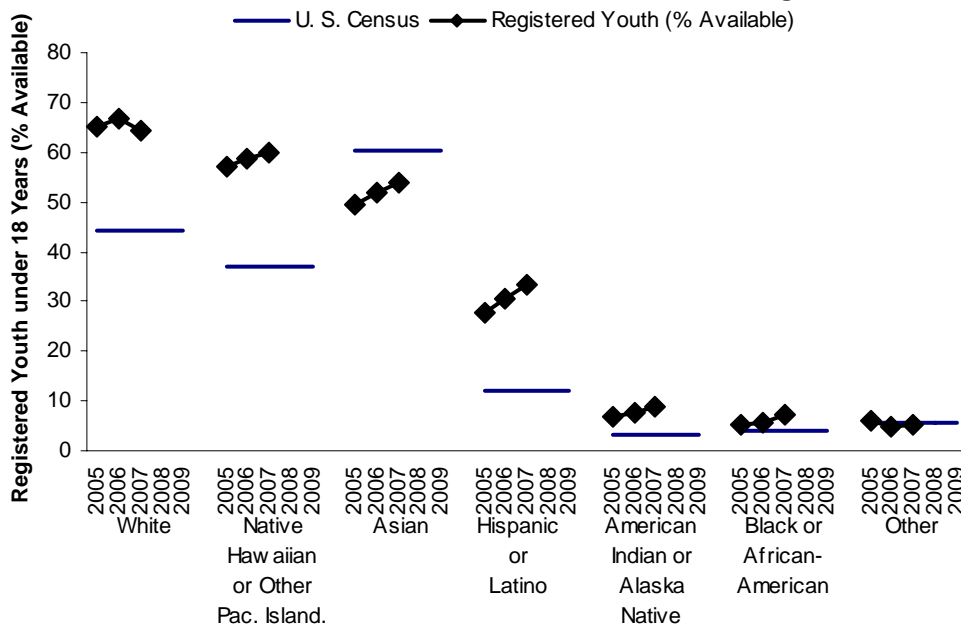


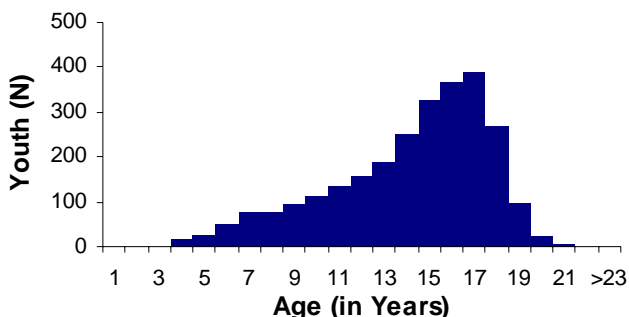
Figure 3. CAMHD Any Racial Group Endorsement Compared to U. S. Census 2000 for Hawaii Children Under 18 Years of Age



Age and Gender

Prior to FY2004, the CAMHD registered population had trended toward becoming younger with a higher proportion of females. The average age of the CAMHD population in FY 2007 was 14.1 (SD = 2.6), which is near the four-year average of 14.2 (SD = 3.5). As in prior years, adolescents account for the bulk of youth registered with CAMHD and younger children account for a smaller proportion of the population. Since FY 2004, there were slight, non-significant increases in the relative size of the 19 – 21 year-old (+0.6% average annual increase), 8 – 12 year-old (+0.4% average annual increase), and 4 – 7 year-old (+0.4% average annual increase) populations that compensated for a decline in the 16 – 18 year-old population (-1.2% average annual decrease). Thus, the age distribution of the CAMHD population is tending to develop slightly “heavier tails”. To date, the expansion of transition to adulthood services, extension of Support for Emotional and Behavioral Development (SEBD) program services to age 21 years, and focus on earlier detection and intervention have not yielded significant population change but may have had some small influence. Overall, 34% of the CAMHD population was female and 66% male, which is at the four-year average rate.

Figure 4. Frequency Distribution of Age in Years for CAMHD Registered Youth



Diagnoses

The three most common primary diagnostic categories served by CAMHD were disruptive behavior disorders (29.1%), attentional disorders (21.0%), and mood disorders (19.9%). These three diagnostic groupings have been the most common disorders since initiation of this measure. However, due to a significant five-year increasing trend for disruptive behavior disorders (+1.3% average annual increase, $p = .032$) and a significant four-year decreasing trend for attentional disorders (-2.6% average annual decrease, $p = .009$), disruptive behavior disorders were more prevalent than attentional disorders within the CAMHD system for the third consecutive year. Pervasive developmental disorders continue to account for a small (1.8%), but significantly increasing proportion of the CAMHD population (+0.4% average annual increase, $p = .049$). The prevalence of primary disorders classified as miscellaneous (e.g., Reactive Attachment Disorder, Cognitive Disorder Not Otherwise Specified, Learning Disorder Not Otherwise Specified, Selective Mutism, etc.) hit a new low (4.3%) that continued a significant five-year trend of minor decreases (-0.3% average annual decrease, $p = .024$).

The proportion of registered youth with one or more comorbid diagnoses (70.5%) dropped a little (-1.4%) from FY 2006 after a five-year increasing trend that peaked in FY 2005 at 73% comorbidity. The average number of diagnoses per youth ($M = 1.8$) remained near its five-year average.

When the prevalence of any disorder (primary or additional) in each diagnostic category was examined, the most common diagnostic categories were disruptive behavior disorders (50.2%), attentional disorders (37.6%), and mood disorders (32.8%). Five-year increasing trends continued in the prevalence of disruptive behavior (+1.6% per year, $p = .004$), substance-related (+1.5% per year $p = .025$), anxiety (+0.8% per year $p = .007$), and pervasive developmental disorders (+0.5% per year $p = .027$). The reduction in any attentional disorder prevalence resulted in a significant four-year decreasing trend (-2.5% average annual decrease, $p = .008$). Mood disorder prevalence decreased for the second consecutive year (-1.7%), so that it approximates its five-year average.

Taken together, these diagnostic analyses highlight that disruptive behavior, attentional, and mood problems continue to predominate among CAMHD youth, and attentional disorders are becoming less prevalent. Pervasive developmental disorders are becoming increasingly common in the CAMHD population, but remain a relatively small subpopulation ($N = 40$ primary diagnosis, $N = 9$ additional diagnosis).

Eligibility for CAMHD Service and Agency Involvement

Since FY 2005, several revisions have been made to service eligibility criteria and procedures for gathering information about eligibility for services. Due to these revisions and inconsistent implementation of eligibility definitions, data from the new eligibility fields were insufficient for analysis. The Interagency Performance Standards and Practice Guidelines identify overlapping but separate service arrays available to registered youth based on their eligibility group (i.e., Educationally Supportive, Support for Emotional and Behavioral Development, and Mental Health Only). Given the increasing divergence between different populations of youth based on eligibility, evaluation and understanding of the service needs, service utilization, and outcomes for these populations is essential. The inability to reliably obtain and validate eligibility data for evaluation purposes remains a critical obstacle to understanding and promoting access to services. At present, reliable evidence is not available to determine one way or another whether eligibility criteria are being applied equally and equitably across youth.

Fortunately, data related to youth's involvement with other agencies has been relatively consistent across years, although some changes were evident in FY 2007. Interagency involvement tends to be related to service eligibility, but not all youth that are involved with another agency are necessarily eligible for CAMHD services due to that involvement. For example, a youth who might be eligible for classroom accommodations due to a hearing impairment may not necessarily be eligible for educationally supportive mental health services. Nevertheless, in the absence of direct eligibility information, agency involvement may serve as a proxy variable for identifying eligibility-related service populations.

For this analysis youth involved with special education were classified as either (a) IDEA involved, (b) 504 involved, or (c) pending, and for the sake of historical consistency, follow-up analyses separately examined a combined IDEA/504 involved group and the pending group. Overall, the proportion of registered youth involved with special education (IDEA, 504, or pending) reversed a multiyear decreasing trend with a +11.8% (N = 2,249) annual increase over FY 2006. This increase was driven by a dramatic increase in the number of youth categorized as "pending" (+161%; N = 962),

whereas the number of youth listed with IDEA involvement (-21.5%; N = 1,097) and Section 504 involvement (-22.4%; N = 190) continued their significantly declining five-year trends. The increase in pending cases may be due either to a change in the data management procedures or to substantive delays in processing special education applications. Figure 5 depicts the five-year trend for the proportion of registered youth involved with special education involvement due to either IDEA or section 504.

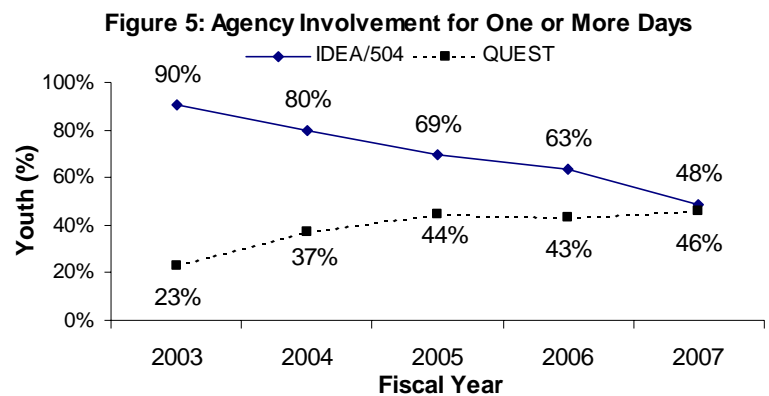


Figure 5 also depicts the proportion of youth involved with CAMHD's QUEST behavioral health plan, regardless of whether they were also involved with special education. The number of youth involved with CAMHD's QUEST behavioral health plan continued a multiyear increasing trend (+9.2%; N = 1,225), and also increased as a proportion of registered youth (+2.8% to 46.1% of registered youth). The five-year trend was marginally significant ($p = .053$) with relative growth stabilizing in recent years. Further information on the nature and overlap between the special education and QUEST populations is presented in the special population analyses section below.

Department of Human Services (DHS) involvement continued a multiyear decreasing trend both in absolute size (-3.8%; N = 230) and as a proportion of total CAMHD population (8.7%). This five-year trend toward decreasing DHS involvement (-0.6% average annual decrease) became statistically significant ($p = .007$) in FY 2007.

Numerous steps have been taken to decrease barriers to SEBD eligibility. For example, in some regions, Branch Chiefs and Quality Assurance Specialists have made formal and informal presentations to family court judges, probation officers, and DHS frontline staff to increase awareness of the SEBD referral process. At the branch level,

work is also being done to reduce “gatekeeping” by creating fact sheets on eligibility, providing booster trainings at all-staff meetings, and having mental health supervisors monitor and provide supervision on peer review summaries to assure that cases brought in for discussion are being directed into the system as appropriate. Although these activities may play a key role in increasing size of the QUEST population, they do not seem to be having a specific impact on increasing the proportion of youth with DHS involvement.

As previously noted, number and proportion of youth recorded with juvenile justice involvement has consistently declined since FY 2004. This was true for both the court hearing (-11.7%; N = 537) and detention or incarceration (-32.9%; N = 106) indicators. The FY 2007 rates were comparable to the FY 2003 rates, so the five-year trends were not statistically significant, but the four-year trends were statistically significant ($p = .002$, -2.2% average annual decrease for court hearings; $p = .000$, -1.6% average annual decrease for detention or incarceration).

In sum, the DHS and juvenile justice populations have continued to decline in size despite efforts to increase services to these populations. Further, as has been true for more than five years, these findings describe the continuing evolution in the CAMHD population toward fewer youth involved with special education (-42% from FY 2003 to FY 2007 excluding pending cases) and more youth enrolled in the QUEST behavioral health plan (+23% from FY 2003 to FY 2007). Due to the increasing divergence and differential service arrays available to these populations, more in-depth analysis of the QUEST and special education populations is described below in the special populations section.

Population Summary

The overall size of the CAMHD population grew at a modest rate (+3%) and was driven by an increase in initial admissions and a decrease in discharges that offset a reduction in readmissions. Population growth was not consistent across geographic regions, with the Big Island and Leeward Oahu leading growth while Maui and Central Oahu led reductions. Honolulu continues to have a lower penetration rate than other counties in the state.

The CAMHD population remains approximately two-thirds male, largely adolescent with an average age of 14.1 years, and multiple problems that are most commonly in the disruptive behavior, attention, or mood disorder categories. Pervasive developmental disorders are present at a low but increasing rate. Relative to the general population of youth in Hawaii, single race Asian youth are under-represented in the CAMHD population whereas Hispanic and Multiracial youth are over-represented. Asian, Native Hawaiian or other Pacific Islander, and American Indian or Alaska Native ancestry is accounting for growth in the multiracial population.

Service Characteristics

In addition to providing intensive case management services through state employees, CAMHD procures mental health services from contracted provider agencies when appropriate. As previously noted, during FY 2007 CAMHD's service array was significantly revised in accordance with the publication of the new Interagency Performance Standards and Practice Guidelines (IPSPG; a.k.a., the purple book) and the statewide service procurement initiative. During FY 2007, the evaluation and performance system was revised to employ a hierarchical model for describing the new service array (see Table 5). To provide some historical continuity with services from the FY 2002 – 2006 array, where possible, data for earlier services were mapped to the new reporting system. However, it is important to keep in mind that the service system is dynamic and a change to one part of the array affects the other parts. Therefore, even though the historical data are presented, the meaning of such data is not necessarily identical across years and interpretation should be tempered accordingly. The FY 2007 data are primarily presented to establish a new baseline for comparison in upcoming years.

Service Population

As in prior years, the number of youth receiving each service during the evaluation period was examined in terms of the proportion of the unduplicated count of all youth receiving service, the total number of youth receiving service during the period, and the monthly average of the number of youth receiving service. The proportion describes the relative pattern of service utilization and adjusts for the changing overall population size over the years, but it is also affected by alternative services offered and therefore was quite sensitive to service array changes as implemented during FY 2007. The total number of youth receiving service during the period provides an absolute indicator of the size of the service, and the monthly average provides a better estimate of the service population size at any given point in time. Historically, the major changes in population have required careful analysis and consideration of both the absolute and relative size of service parameters. Since the overall population size is now growing slowly, the total number of youth receiving services and the relative proportion of youth receiving services have been more closely correlated.

The degree of population flow through the service is indicated by the extent to which the monthly average is lower than the total number of youth receiving service (e.g., if all youth received service for the entire period, the monthly average would be equal to the total number served). Therefore, programs with longer lengths of service will have less discrepancy between the unduplicated total count and the average.

The total number of youth with services procured increased (+2.5%) at approximately the same rate as the total number of registered youth (see Figure 4, Table 5). Thus, the proportion of registered youth who received services procured through the provider network remained stable at 53.9%, which approximates the five-year average rate (54.4%). This proportion is affected by several factors including the length of time between admission and initial service procurement, the proportion of services provided by CAMHD staff, maintenance of case management, the proportion of youth detained or incarcerated, monitoring for a period prior to discharge, and by the proportion of KFGC youth enrolled in the Mokihana project for less intensive services only.

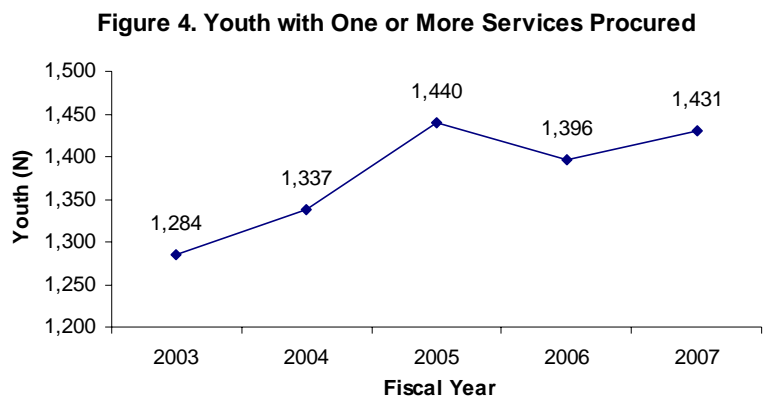


Table 5. Description of youth receiving one or more days of service at each level of care in terms of the percent of population of youth with services procured, total number of youth served at that level of care, and average number of youth served at that level of care each month.

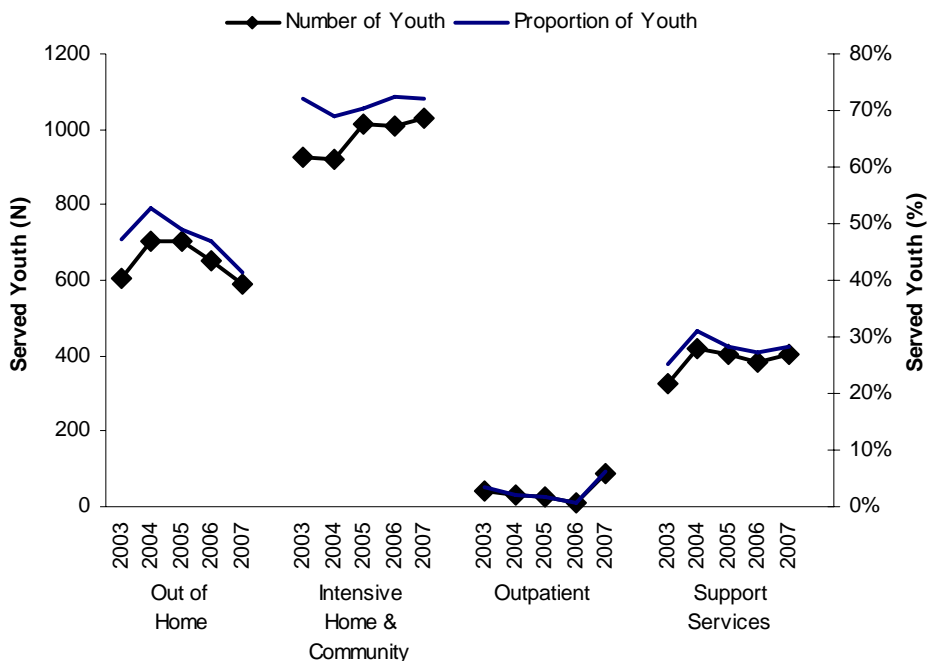
Any Services Procured	Fiscal Year					Fiscal Year					Fiscal Year				
	2003 %	2004 %	2005 %	2006 %	2007 %	2003 Total	2004 Total	2005 Total	2006 Total	2007 Total	2003 Ave.	2004 Ave.	2005 Ave.	2006 Ave.	2007 Ave.
Out-of-Home	47.2%	52.7%	49.0%	46.8%	41.4%	606	705	706	654	592	333	379	394	371	321
Out-of-State	1.2%	0.7%	0.6%	0.6%	0.7%	16	9	8	9	10	8	6	7	7	7
Acute Hospitalization or Detoxification	-	-	-	-	0.0%	-	-	-	-	0	-	-	-	-	0
Hospital Residential	5.4%	5.8%	6.7%	5.0%	5.9%	69	78	96	70	84	17	18	23	19	22
Community High Risk	2.1%	1.0%	1.2%	1.1%	1.0%	27	13	17	15	14	17	10	10	9	10
Community Residential	19.9%	24.3%	22.4%	20.2%	16.7%	256	325	323	282	239	99	131	129	105	94
Therapeutic Group Home	-	-	-	-	10.2%	-	-	-	-	146	-	-	-	-	56
<i>Therapeutic Group Home</i>	<i>13.2%</i>	<i>13.0%</i>	<i>13.2%</i>	<i>12.9%</i>	<i>8.2%</i>	<i>170</i>	<i>174</i>	<i>190</i>	<i>180</i>	<i>118</i>	<i>62</i>	<i>74</i>	<i>77</i>	<i>69</i>	<i>49</i>
<i>Community Mental Health Shelter</i>	-	-	-	-	2.8%	-	-	-	-	40	-	-	-	-	7
Therapeutic Foster Home	-	-	-	-	19.1%	-	-	-	-	274	-	-	-	-	144
<i>Multidimensional Treatment Foster Care</i>	-	-	-	-	1.0%	-	-	-	-	15	-	-	-	-	6
<i>Therapeutic Foster Home</i>	<i>15.3%</i>	<i>14.9%</i>	<i>15.6%</i>	<i>16.9%</i>	<i>18.3%</i>	<i>197</i>	<i>199</i>	<i>225</i>	<i>236</i>	<i>262</i>	<i>107</i>	<i>108</i>	<i>126</i>	<i>131</i>	<i>138</i>
Intensive Home & Community	72.0%	69.0%	70.5%	72.4%	71.9%	925	922	1,015	1,011	1,029	378	392	460	474	470
Partial Hospitalization	0.1%	0.1%	0.1%	0.0%	0.1%	1	1	1	0	1	0	0	0	0	0
Multisystemic Therapy	25.2%	21.6%	22.8%	22.6%	23.3%	323	289	328	315	334	107	88	105	103	110
Intensive In-Home	52.8%	52.1%	52.1%	55.8%	53.5%	678	697	750	779	765	273	306	357	374	361
Intensive Outpatient	-	-	-	-	0.1%	-	-	-	-	2	-	-	-	-	0

Any Services Procured	Fiscal Year					Fiscal Year					Fiscal Year				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	%	%	%	%	%	Total	Total	Total	Total	Total	Ave.	Ave.	Ave.	Ave.	Ave.
Outpatient	3.3%	2.2%	1.7%	0.7%	6.1%	42	29	24	10	88	7	7	5	3	10
Treatment	-	-	-	-	0.9%	-	-	-	-	13	-	-	-	-	3
<i>Medication Management</i>	-	-	-	-	0.1%	-	-	-	-	2	-	-	-	-	0
<i>Functional Family Therapy</i>	-	-	-	-	0.0%	-	-	-	-	0	-	-	-	-	0
<i>Outpatient Therapy</i>	-	-	-	-	0.8%	-	-	-	-	11	-	-	-	-	3
<i>Parent Skills Training</i>	-	-	-	-	0.0%	-	-	-	-	0	-	-	-	-	0
Consultation	-	-	-	-	0.1%	-	-	-	-	1	-	-	-	-	1
Assessment	-	-	-	-	5.2%	-	-	-	-	74	-	-	-	-	6
Supportive Services	25.2%	31.2%	28.1%	27.3%	28.4%	324	417	405	381	406	102	137	145	129	145
Respite Home	0.3%	0.6%	0.6%	0.4%	0.0%	4	8	8	6	0	0	1	1	1	0
Respite Support	3.8%	4.6%	4.0%	5.2%	7.0%	49	61	58	72	100	20	28	33	31	46
Peer Support	-	-	-	-	0.0%	-	-	-	-	0	-	-	-	-	0
Ancillary Service	21.9%	27.1%	24.8%	22.7%	22.9%	281	362	357	317	328	82	110	113	98	100
Crisis Stabilization	-	-	-	-	0.6%	-	-	-	-	8	-	-	-	-	1
Unduplicated Total (% of Registered)	50.9%	54.6%	58.5%	53.9%	53.9%	1,284	1,337	1,440	1,396	1,431	-	-	-	-	801

Note: Change to the service array in FY 2007 severely limit the comparability of data to prior years; Services are now presented using an hierarchical framework with bold face services describing an unduplicated aggregate of services in normal typeface, which in turn represent an unduplicated aggregate of services in italic typeface; Because youth may receive services at multiple levels of care, total numbers and percentages for the subcategories will sum to an amount greater than or equal to total and percentages of their unduplicated aggregates (e.g., boldface will sum to greater than or equal to the unduplicated total, normal typeface will sum to greater than or equal to boldface, and italics will sum to greater than or equal to normal typeface); Acute hospitalization or detoxification was not a standard CAMHD service through FY 2007, but was being developed for implementation in FY 2008; Although providers were contracted, intensive outpatient, parent skills training, and peer support were not provided during FY 2007 because they were either not a part of the CAMHD Memorandum of Agreement with Med-QUEST Division, or not yet part of the Medicaid State Plan; Services provided prior to FY 2007 that were discontinued, incorporated as ancillary services, or otherwise restructured are excluded from presentation as a separate level of care (e.g., intensive day stabilization, day treatment).

The utilization of out-of-home services decreased again during FY 2007 (see Figure 5). The total number of youth receiving services in an out-of-home setting declined (-9.5%), as did the average number of youth per month (-13.4%) and the proportion of youth served out-of-home (-5.5% decrease). Although the five-year trends were not significant due to increased use of out-of-home services from FY 2003 – 2004, the four-year trends for both absolute ($p = .029$) and relative ($p = .002$) size of out-of-home services

Figure 5. Absolute and Relative Size of Youth Receiving Services

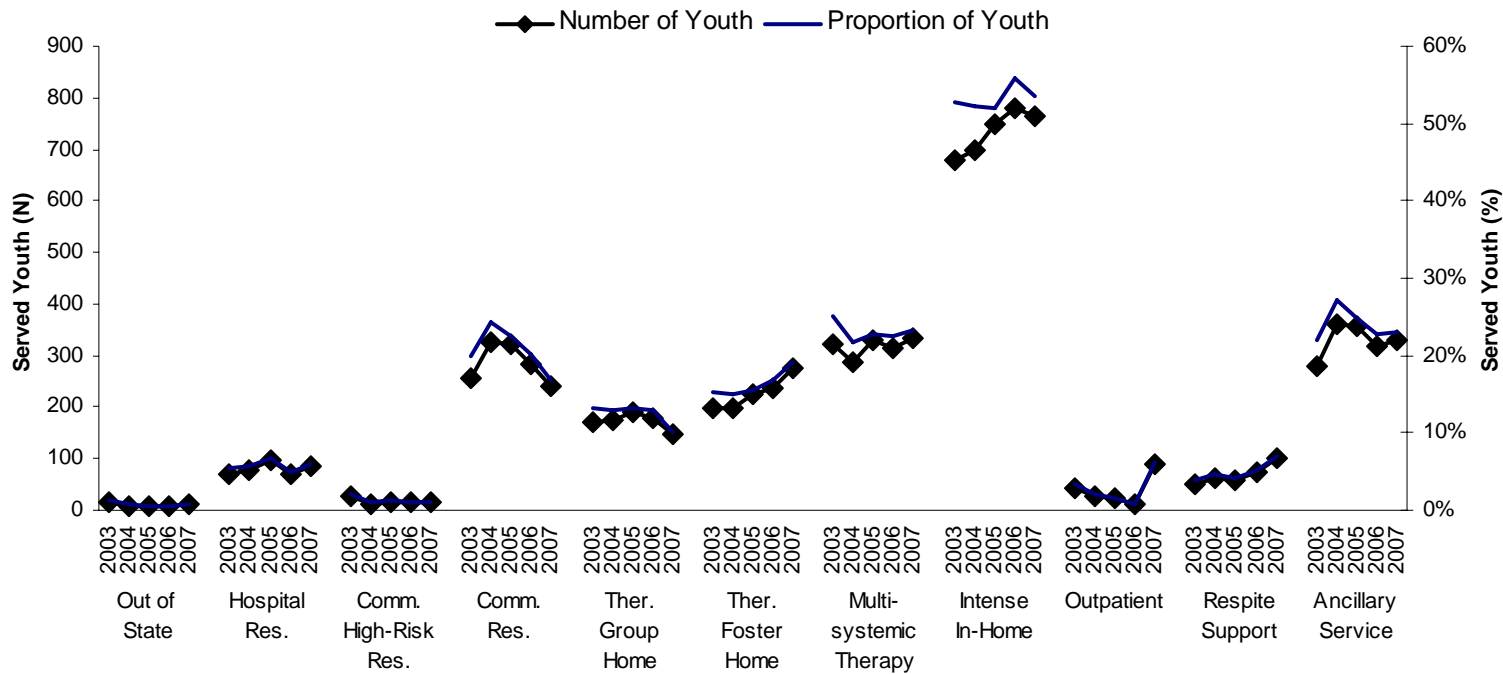


were significant. The out-of-home service reduction was driven largely by decreases in the size of community residential (-15.2% total served) and therapeutic group home (-34.4%) services (see Figure 6). Community residential had a significant four-year pattern of decline in both absolute ($p = .014$) and relative ($p = .001$), whereas therapeutic group home had a significant three-year pattern of decline in absolute ($p = .025$) and relative ($p = .042$) size. The relative use of community residential and therapeutic group home services is now below FY 2003 levels. The total number of youth served in hospital residential (+20.0%) and therapeutic foster home (+11.0%) services increased. Therapeutic Foster Home continued five-year trends of significant increases in absolute ($p = .005$) relative size ($p = .035$) and was further expanded in FY 2007 by the introduction of Multidimensional Treatment Foster Care. For several years now, the overall pattern within the out-of-home service array is for fewer youth to receive more restrictive levels of care.

In accord with the decreasing out-of-home services, intensive home and community services have significantly increased in absolute size over the past five years ($p = .039$) but the relative size of these services has fluctuated around its five-year average (71.2%). Although the absolute size of intensive in-home services decreased slightly in FY 2007 (-1.8%), the five-year trend toward absolute growth in intensive home and community services was driven largely by the five-year growth trend of intensive in-home services ($p = .027$), whereas the size of multisystemic therapy services has fluctuated around its five-year average.

Expansion of outpatient services in the revised service array for FY 2007 was associated with both absolute (+780.0%) and relative (+5.4 % percent of youth) increases in the size of the outpatient population. Respite support services continued its five-year trend of absolute growth ($p = .033$) and a marginal trend toward growth in relative ($p = .06$) size. Ancillary services remained stable and continued to fluctuate around its five-year average.

Figure 6: Absolute and Relative Size of Selected Services



Service Intensity

The intensity of services was examined through analysis of the numbers of hours of service procured. To provide a single indicator across in-home (i.e., home and community) and out-of-home services, one out-of-home service day was assumed to reflect 6.5 service hours. It is important to note that small changes to this conversion value would be expected to have a material effect on the estimated proportion of services that were provided in-home versus out-of-home. Therefore, it is recommended that the actual percent of in-home and out-of-home services should not serve as a basis for decision-making. Nevertheless, the use of a standard conversion value across fiscal years supports interpretation of changes in the relative pattern of services over the course of the study period.

The revisions to the service array make comparisons from FY 2007 to prior years nearly meaningless for the total service hours and proportion of service hours. However, historical comparison within specific levels of care that were not

Table 6. Service hours provided per youth per year at each level of care.

Any Services Procured	Fiscal Year				
	2003 Hours	2004 Hours	2005 Hours	2006 Hours	2007 Hours
Out-of-Home	1,158	1,157	1,148	1,152	1,151
Out-of-State	1,133	1,522	1,921	1,780	1,697
Acute Hospitalization or Detoxification	-	-	-	-	0
Hospital Residential	393	390	397	459	438
Community High Risk	1,344	1,793	1,272	1,315	1,563
Community Residential	794	826	812	739	780
Therapeutic Group Home	-	-	-	-	753
<i>Therapeutic Group Home</i>	727	877	815	763	859
<i>Community Mental Health Shelter</i>	-	-	-	-	215
Therapeutic Foster Home	-	-	-	-	1,128
<i>Multidimensional Treatment Foster Care</i>	-	-	-	-	692
<i>Therapeutic Foster Home</i>	1,182	1,204	1,224	1,206	1,140
Intensive Home & Community	-	-	-	-	110
Partial Hospitalization	0	0	0	0	3
Multisystemic Therapy	141	134	136	131	158
Intensive In-Home	77	83	81	79	79
Intensive Outpatient	-	-	-	-	46
Outpatient	10	10	10	0	6
Treatment	-	-	-	-	10
<i>Medication Management</i>	-	-	-	-	3
<i>Functional Family Therapy</i>	-	-	-	-	0
<i>Outpatient Therapy</i>	-	-	-	-	12
<i>Parent Skills Training</i>	-	-	-	-	0
Consultation	-	-	-	-	0
Assessment	-	-	-	-	5
Supportive Services	-	-	-	-	0
Respite Home	42	34	27	42	0
Respite Support	-	-	-	-	-
Peer Support	-	-	-	-	0
Ancillary Service	-	-	-	-	-
Crisis Stabilization	-	-	-	-	74
Unduplicated Total (% of Registered)	601	664	645	610	573

substantially modified remains reasonable. The only significant five-year trend in total hours of service procured was for Therapeutic Foster Home services, which have consistently increased (298,636 hours during FY 2007; average annual increase of +17,868 hours; $p = .004$). Intensive in-home services have tended to increase in total hours (60,312 hours during FY 2007; average annual increase of +2,085 total hours), but the five-year trend was marginally significant ($p = .073$).

In prior evaluations, system efficiency was evaluated by examining the ratio of outputs (e.g., number of youth served, service hours provided) to inputs (i.e., dollars expended). The definition of which variables constitute inputs and outputs implicitly depends on one's perspective, but annual evaluation analyses consistently viewed the number of youth accessing services as the primary output, the number of hours provided as a mediating factor, and expenditures as the primary input. Accordingly, the efficiency analysis focused on whether the intensity of services (i.e., hours per youth), expenditures per youth, and expenditures per unit of service intensity changed during the study years. Changes to the service array during FY 2007 significantly altered meaning of the basic components used for these analyses, and essentially rendered them meaningless for this year.

Therefore, during FY 2007, service intensity efficiency analyses were restricted to examination of the hours of service per youth for those specific levels of care that were not substantially modified (see Table 6). No significant five-year trends were evident in service intensity for any of the specific levels of care, but the trend toward increasing hours of service for hospital residential service was marginal ($p = .099$). The total hours of hospital residential service per youth during FY 2007 decreased by -5% and thus offset the larger increase (+16%) in FY 2006 over FY 2005. The FY 2007 service intensity represented an average service length of 67 days per year per youth receiving hospital residential services.

Over the years, service intensity has remained a relatively volatile indicator and little systematic change has been observed within levels of care.

Service Expenditures

In the annual evaluation process, service expenditures have historically been used as a proxy variable for service utilization based on the rationale that total costs are affected by the number of youth served, the intensity and duration of services provided, and the restrictiveness of the service setting. Of course, this proxy becomes less effective to the extent that unit costs change across time and service. The statewide procurement process implemented to establish the new service array for FY 2007 opened all services for new bidding and negotiations. Therefore, data for FY 2007 were expected to have limited comparability to prior years.

The annual evaluation has emphasized examination of client-specific service costs to evaluate service utilization and efficiencies related to such costs. The annual evaluation has not attempted to provide a comprehensive analysis of the fiscal position of CAMHD. Comprehensive fiscal analysis is performed by CAMHD's fiscal office and incorporates other costs and revenues that are not client-specific or processed through CAMHD's electronic billing system. The annual evaluation analysis is based on bills submitted by providers that are adjudicated and approved for payment (a.k.a., accepted records).

Actual payments to providers along with other CAMHD fiscal transactions are processed through the Department of Accounting and General Services (DAGS) Financial Accounting and Management Information System (FAMIS). The expansion of Datamart, a reporting system for FAMIS, has increased the availability and timeliness of fiscal information from FAMIS. Accordingly, CAMHD's financial analysis and reporting have expanded considerably in terms of both volume and sophistication over recent years. Analysis of FAMIS data more accurately describes the "true" cost of CAMHD operations, but does not directly associate costs with client encounters. Analysis of the Child and Adolescent Mental Health Management Information System (CAMHMIS) billing data significantly underestimates the "true" costs of services, but associates costs directly with client encounters. Theoretically, the specific costs recorded in the CAMHMIS system are a subset of total costs recorded in the FAMIS system, but these two systems differ in a number of ways that makes their direct reconciliation cost prohibitive. For example, these systems differ in the time periods covered (e.g., the lag between date of services and date of payments is quite variable). Therefore, the direct linking and reconciliation of these systems has not been attempted.

For FY 2007, rather than exclusively analyzing CAMHMIS billing data for the annual evaluation, information from the CAMHD fiscal office was used as a basis for identifying expenditures for specific services (generally cost reimbursement contracts) that would tend to be underestimated by CAMHMIS data (i.e., community high-risk residential, multidimensional treatment foster care, multisystemic therapy, functional family therapy, and crisis stabilization). These fiscal office costs were then allocated on a client-specific basis based on the encounter data available through CAMHMIS. This approach has the strength of more accurately describing the total costs of services for these levels of care, but risks inflating the cost per youth to the extent that exceptional payments may have been made for specific youth that were not captured in the CAMHMIS encounter data. These data still do not reflect the total cost of CAMHD services for youth because they exclude state personnel expenses, family guidance branch and central office overhead, and the cost of special programs or universal services (e.g., crisis hotline). This change in procedure makes the data systematically different (higher) than in prior years.

Using this new procedure, the total service expenditures for FY 2007 were \$44.2 million (see Table 7). The FY 2007 service expenditures reported by the CAMHD fiscal office were \$44.6 million, which included approximately \$0.5 million for crisis outreach services and \$0.9 million for other clinical service contracts. In addition, the fiscal office reported \$11.2 million for payroll and other current expenses and \$2.9 million for special project payrolls and other current expenses, yielding total CAMHD expenditures of \$58.7 million. On a per youth basis, the new procedure yielded a cost per registered youth of \$16,638 and a cost per youth with services procured of \$30,881 (see Table 8). If the total expenditures from the fiscal office are used, these estimates are \$22,091 per registered youth and \$41,001 per youth with services procured. If fiscal office data are used for only clinical services, general fund payroll and other current expense then the total cost per registered youth is estimated at \$20,271 and a cost per youth with services procured of \$37,625.

As previously mentioned, the new procedure is expected to be more inclusive than the CAMHMIS only method used for prior annual evaluations and is therefore not directly comparable. Nevertheless, the FY 2006 evaluation noted a decrease in the total cost of services over FY 2005 due largely to a reduction in out-of-home service utilization. With the new procedure and the new service array, total expenditures for FY 2007 were slightly above the FY 2005 level (+1%; +\$0.5 million), but out-of-home expenditures for FY 2007 were below the FY 2005 level (-5%; -\$1.7 million).

Expenditures within specific levels of care are illustrated in Figure 7. Levels of care affected by either the addition of new services or use of fiscal office information to estimate total costs are denoted by the presence of a dashed line from FY 2006 – FY 2007. Hospital residential and community residential services were calculated using the same methods as prior years and no additional discrete services were added in these categories. The expenditure trends for hospital residential and community residential services tracked the changes in the number of youth with hospital residential expenditures increasing and community residential services decreasing. The therapeutic group home level of care was affected by the addition of new services but FY 2007 expenditures for therapeutic group home were still lower than during FY2006. The therapeutic foster home level of care was affected by both the addition of new services and the use of fiscal office information to estimate total costs, so the observed increase may be due to any of these factors. Multisystemic therapy was affected by the use of fiscal office information and the observed increase may be largely attributed to this new procedure.

The efficiency of expenditures was examined in terms of the cost per hour of service procured and the total cost per youth for those specific levels of care that were relatively consistent across years. The total cost per youth is affected by the service intensity whereas the cost per hour is an intensity adjustment. Because total cost per youth is affected by expenditure rate and service volume, it is a more volatile indicator, and only one marginally significant five-year trend emerged. Specifically, expenditures per youth for respite support services tended to increase by an average of \$558 dollars per year from FY 2003 – 2007 ($p = .085$). Respite support is not necessarily provided on a per hour basis, so the cost per hour could not be calculated. Significant or marginally significant five-year increasing trends in the cost per service hour were evident for all other levels of care that were comparable across years. The average annual increases were 12% per year for hospital residential, 3% per year for community residential, 4% per year for therapeutic group home (excluding community mental health shelter), 2% for therapeutic foster home (excluding multidimensional treatment foster care), and 6% for intensive in-home services. As these indices are not adjusted for inflation, these increases should be interpreted in the context of inflation. The average annual increase for the western region Consumer Price Index for this period was approximately 2.7% for all items and 4.7% for medical care services. In this context, increased rates for hospital residential services far exceeded the rate of inflation and

Table 7. Expenditures (US\$) per level of care and percent of total expenditures.

Any Services Procured	Fiscal Year					Fiscal Year				
	2003 per LOC	2004 per LOC	2005 per LOC	2006 per LOC	2007 per LOC	2003 %	2004 %	2005 %	2006 %	2007 %
Out-of-Home	27,768,953	34,695,112	36,823,062	33,350,329	35,158,058					79.6%
Out-of-State	639,585	545,151	561,051	561,346	756,373	1.9%	1.3%	1.3%	1.4%	1.7%
Acute Hospitalization or Detoxification	-	-	-	-	0	-	-	-	-	0.0%
Hospital Residential	2,335,000	2,976,741	3,229,949	3,596,361	4,655,584	7.0%	7.3%	7.4%	9.0%	10.5%
Community High Risk	1,577,565	1,774,575	898,425	1,425,105	1,978,476	4.8%	4.4%	2.1%	3.6%	4.5%
Community Residential	11,643,307	15,857,252	16,742,074	13,010,005	12,178,545	35.1%	39.0%	38.4%	32.4%	27.6%
Therapeutic Group Home	-	-	-	-	5,604,964	-	-	-	-	12.7%
<i>Therapeutic Group Home</i>	5,445,838	7,150,126	7,715,964	6,817,124	5,171,102	16.4%	17.6%	17.7%	17.0%	11.7%
<i>Community Mental Health Shelter</i>	-	-	-	-	433,863	-	-	-	-	1.0%
Therapeutic Foster Home	-	-	-	-	9,984,115	-	-	-	-	22.6%
<i>Multidimensional Treatment Foster Care</i>	-	-	-	-	1,420,855	-	-	-	-	3.2%
<i>Therapeutic Foster Home</i>	6,127,659	6,391,266	7,675,600	7,940,388	8,563,260	18.5%	15.7%	17.6%	19.8%	19.4%
Intensive Home & Community	-	-	-	-	7,778,754	-	-	-	-	17.6%
Partial Hospitalization	5,026	2,046	6,750	0	2,500	0.02%	0.01%	0.02%	0.0%	0.01%
Multisystemic Therapy	1,832,154	1,571,847	1,820,638	1,711,836	3,743,316	5.5%	3.9%	4.2%	4.3%	8.5%
Intensive In-Home	2,787,366	3,533,494	3,895,394	3,954,872	4,024,421	8.4%	8.7%	8.9%	9.9%	9.1%
Intensive Outpatient	-	-	-	-	8,518	-	-	-	-	0.02%

Any Services Procured	Fiscal Year					Fiscal Year				
	2003 per LOC	2004 per LOC	2005 per LOC	2006 per LOC	2007 per LOC	2003 %	2004 %	2005 %	2006 %	2007 %
Outpatient	68,959	66,148	57,114	73,629	115,670	0.2%	0.2%	0.1%	0.2%	0.3%
Treatment	-	-	-	-	63,729	-	-	-	-	0.1%
<i>Medication Management</i>	-	-	-	-	796	-	-	-	-	0.0%
<i>Functional Family Therapy</i>	-	-	-	-	44,791	-	-	-	-	0.1%
<i>Outpatient Therapy</i>	-	-	-	-	18,142	-	-	-	-	0.0%
<i>Parent Skills Training</i>	-	-	-	-	0	-	-	-	-	0.0%
Consultation	-	-	-	-	4,262	-	-	-	-	0.0%
Assessment	-	-	-	-	47,679	-	-	-	-	0.1%
Supportive Services	-	-	-	-	1,029,525	-	-	-	-	2.3%
Respite Home	2,080	3,382	3,300	3,900	0	0.0%	0.0%	0.0%	0.0%	0.0%
Respite Support	60,478	118,420	175,978	181,521	373,506	0.2%	0.3%	0.4%	0.5%	0.8%
Peer Support	-	-	-	-	0	-	-	-	-	0.0%
Ancillary Service	603,220	624,511	864,291	850,407	656,019	1.8%	1.5%	2.0%	2.1%	1.5%
Crisis Stabilization	-	-	-	-	108,388	-	-	-	-	0.2%
Unduplicated Total	33,151,235	40,614,960	43,646,527	40,126,494	44,190,395					

Note: Change to the service array in FY 2007 severely limit the comparability of data to prior years; Services are now presented using an hierarchical framework with bold face services describing an unduplicated aggregate of services in normal typeface, which in turn represent an unduplicated aggregate of services in italic typeface; Because expenditures are unduplicated within levels of the hierarchy, expenditures and percentages for the subcategories will sum to the expenditures and percentages of their unduplicated aggregates (e.g., boldface will sum to the unduplicated total, normal typeface will sum to boldface, and italics will sum to normal typeface); Acute hospitalization or detoxification was not a standard CAMHD service through FY 2007, but was being developed for implementation in FY 2008; Although providers were contracted, intensive outpatient, parent skills training, and peer support were not provided during FY 2007 because they were either not a part of the CAMHD Memorandum of Agreement with Med-QUEST Division, or not yet part of the Medicaid State Plan; Services provided prior to FY 2007 that were discontinued, incorporated as ancillary services, or otherwise restructured are excluded from presentation as a separate level of care (e.g., intensive day stabilization, day treatment); total service expenditures for Community High Risk Residential, Multidimensional Treatment Foster Care, Multisystemic Therapy, Functional Family Therapy, and Crisis Stabilization (crisis group and foster homes) were based on the FY 2007 Operational Expenditure Report from the CAMHD fiscal office.

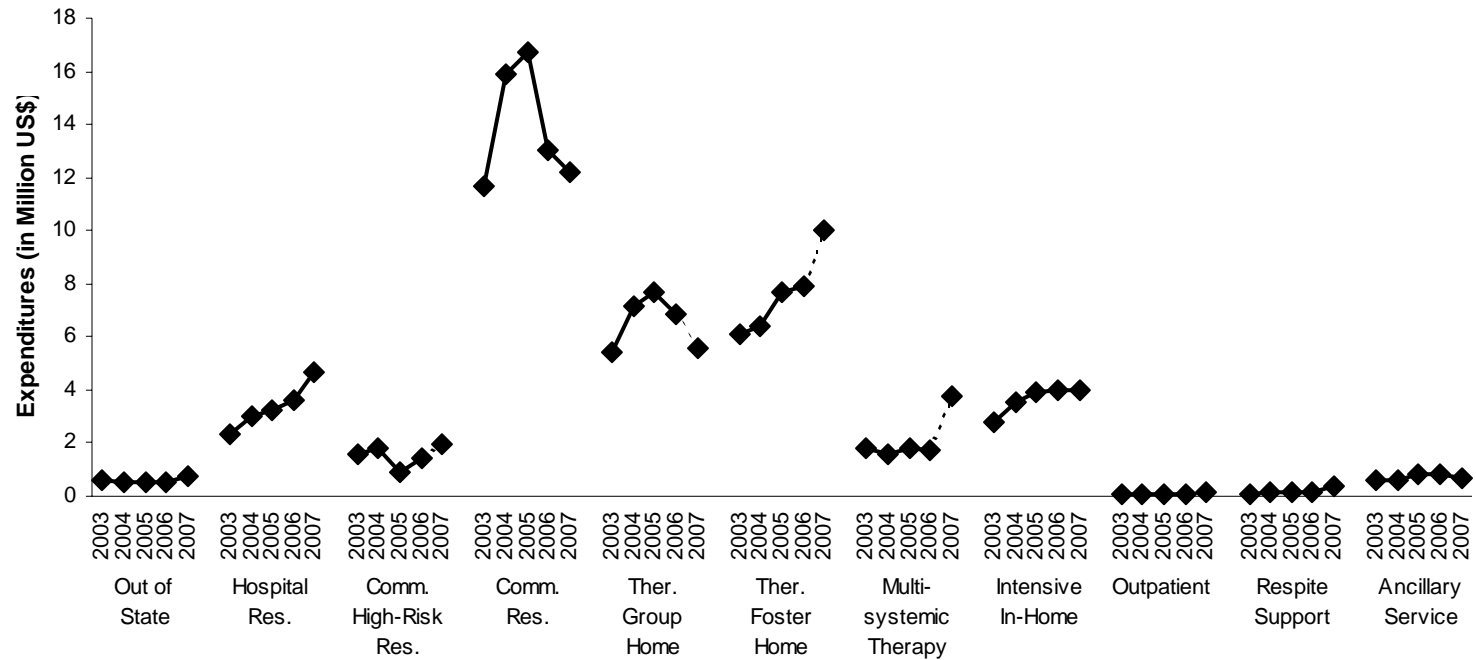
Table 8. Average expenditures (US\$) per youth receiving service and per service hours by level of care.

Any Services Procured	Fiscal Year					Fiscal Year				
	2003 \$/Youth	2004 \$/Youth	2005 \$/Youth	2006 \$/Youth	2007 \$/Youth	2003 \$/Hour	2004 \$/Hour	2005 \$/Hour	2006 \$/Hour	2007 \$/Hour
Out-of-Home	-	-	-	-	59,389	43	48	48	48	52
Out-of-State	53,299	60,572	93,508	80,192	75,637	35	40	37	35	45
Acute Hospitalization or Detoxification	-	-	-	-	-	-	-	-	-	-
Hospital Residential	37,661	38,163	36,704	55,329	55,424	86	98	85	112	127
Community High Risk	98,598	136,506	99,825	101,793	141,320	43	76	42	72	90
Community Residential	45,482	49,094	51,833	46,135	50,956	57	59	65	64	65
Therapeutic Group Home	-	-	-	-	38,390	-	-	-	-	51
<i>Therapeutic Group Home</i>	32,034	41,093	40,610	37,873	43,823	44	47	50	50	51
<i>Community Mental Health Shelter</i>	-	-	-	-	10,847	-	-	-	-	50
Therapeutic Foster Home	-	-	-	-	36,438	-	-	-	-	32
<i>Multidimensional Treatment Foster Care</i>	-	-	-	-	94,724	-	-	-	-	137
<i>Therapeutic Foster Home</i>	31,105	32,279	34,114	33,646	32,684	26	27	28	28	29
Intensive Home & Community	-	-	-	-	7,560	-	-	-	-	69
Partial Hospitalization	5,026	2,046	6,750	-	2,500	-	-	-	-	1,000
Multisystemic Therapy	5,725	5,439	5,551	5,434	11,208	46	75	73	69	71
Intensive In-Home	4,111	5,070	5,194	5,077	5,261	54	61	64	64	67
Intensive Outpatient	-	-	-	-	4,259	-	-	-	-	94

Any Services Procured	Fiscal Year					Fiscal Year				
	2003 \$/Youth	2004 \$/Youth	2005 \$/Youth	2006 \$/Youth	2007 \$/Youth	2003 \$/Hour	2004 \$/Hour	2005 \$/Hour	2006 \$/Hour	2007 \$/Hour
Outpatient	1,642	2,281	2,380	7,363	1,168	302	490	130	130	249
Treatment	-	-	-	-	2,549	-	-	-	-	527
<i>Medication Management</i>	-	-	-	-	398	-	-	-	-	159
<i>Functional Family Therapy</i>	-	-	-	-	3,733	-	-	-	-	-
<i>Outpatient Therapy</i>	-	-	-	-	1,649	-	-	-	-	156
<i>Parent Skills Training</i>	-	-	-	-	-	-	-	-	-	-
Consultation	-	-	-	-	4,262	-	-	-	-	-
Assessment	-	-	-	-	644	-	-	-	-	139
Supportive Services	-	-	-	-	2,536	-	-	-	-	-
Respite Home	520	423	413	650	-	12	12	15	15	-
Respite Support	1,234	1,941	3,034	2,521	3,735	-	-	-	-	-
Peer Support	-	-	-	-	-	-	-	-	-	-
Ancillary Service	2,147	1,725	2,421	2,683	2,000	-	-	-	-	-
Crisis Stabilization	-	-	-	-	13,549	-	-	-	-	183
Total per Registered Youth	13,129	16,598	17,728	15,505	16,638	45	50	51	51	56
Total per Youth with Service Procured	25,819	30,378	30,310	28,744	30,881					

Note: Changes to the service array in FY 2007 severely limit the comparability of data to prior years; Services are now presented using an hierarchical framework with bold face services describing independent calculations of efficiency ratios based on unduplicated aggregates of services in normal typeface, which in turn represent an unduplicated aggregate of services in italic typeface; Acute hospitalization or detoxification was not a standard CAMHD service through FY 2007, but was being developed for implementation in FY 2008; Although providers were contracted, intensive outpatient, parent skills training, and peer support were not provided during FY 2007 because they were either not a part of the CAMHD Memorandum of Agreement with Med-QUEST Division, or not yet part of the Medicaid State Plan; Services provided prior to FY 2007 that were discontinued, incorporated as ancillary services, or otherwise restructured are excluded from presentation as a separate level of care (e.g., intensive day stabilization, day treatment); total service expenditures for Community High Risk Residential, Multidimensional Treatment Foster Care, Multisystemic Therapy, Functional Family Therapy, and Crisis Stabilization (crisis group and foster homes) were based on the FY 2007 Operational Expenditure Report from the CAMHD fiscal office.

Figure 7. Service Expenditures By Level of Care for Selected Services



Note: Changes to the service array in FY 2007 severely limit the comparability of data to prior years; Levels of care affected by either the addition of new services or a change in methodology related to use of fiscal office information to estimate total costs are denoted by the presence of a dashed line from FY 2006 – FY 2007 (i.e., Community High-Risk Residential, Therapeutic Group Home, Therapeutic Foster Home, Multisystemic Therapy, Outpatient)

the increased rates for intensive in-home services also exceed inflation to a smaller degree. Thus, the efficiency of hospital residential services appears to have declined fairly dramatically over the past few years. During the service procurement for FY 2007, multiple hospital residential service providers were awarded contracts as opposed to only the single provider for FY 2003 – 2006.

When interpreting the cost per service unit, it is important to keep in mind that the scaling of these estimates is arbitrary (i.e., they do not represent contracted costs per billable hour) so the actual values should not be interpreted as such. Instead, these estimates were constructed to compare relative efficiencies across study years.

Service Stability

Stability of services was investigated by examining the number of provider agency changes and the number of care coordinator changes that youth experienced per year. During fiscal year 2007, the population of CAMHD youth experienced provider changes on 781 occasions (an average of 65 per month), which was comparable to (+0.6%) to FY 2006. Youth in CAMHD experienced care coordinator changes on 896 occasions (an average of 75 per month), which comparable to slightly below (-1.3%) the FY 2006 level. Consistent with prior years, approximately three out of every ten registered youth experienced a new provider agency during the year and approximately three out of every ten registered youth received a new care coordinator during the year. When only youth with procured services were examined, approximately eleven out of every twenty served youth experienced a new provider during the year and four out of every ten served youth received a new care coordinator during the year.

These findings suggest that the progress that had been made during recent years in providing consistent care coordinators for CAMHD youth was maintained in FY 2007, despite the fact that care coordinator position occupancy rates also hit an all time low during FY 2007. According to the Integrated Performance Monitoring report, the annual average for FY was that only three-quarters of positions were filled (76% average occupancy) and care coordinator caseloads hit a new five-year high (average of 21.4 youth per care coordinator exceeded the target size range of 15 – 20).

The relatively minimal increase in the number of provider changes during FY 2007 suggests that the transition to the new service array proceeded relatively smoothly. A period of relative instability in provider services might have been expected, but did not materialize.

Nevertheless, receipt of services from a consistent set of mental health professionals still appears to be the exception, rather than the norm for CAMHD youth and families. Promotion of a stable workforce and establishment of consistent relationships for youth remain ongoing tasks for CAMHD to pursue.

Service Summary

CAMHD successfully implemented a new service array during FY 2007. Two new evidence-based service packages, Multidimensional Treatment Foster Care and Functional Family Therapy, were introduced as unique levels of care in the new service array. Out-of-home service utilization decreased while intensive home and community based, outpatient, and respite support utilization increased, yielding a slight overall growth in the population of youth with services procured. Hospital residential services continued to increase in size and cost with decreased efficiency. Therapeutic foster homes have also grown in size but the rate of cost increases remains less than the rate of inflation. As noted in last year's annual evaluation high care coordinator vacancy rates remain a concern and changes to the service team remain a common experience for consumers within the CAMHD system.

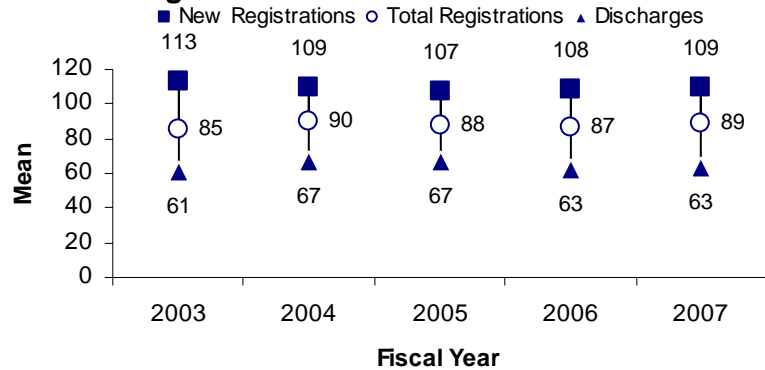
Child Status Characteristics

To examine child functioning and level of service needs, the eight-scale total score from the Child and Adolescent Functional Assessment Scale (CAFAS) and the level of care score from the Child and Adolescent Level of Care Utilization System (CALOCUS) were used as primary outcome measurements. CAMHD has also developed procedures for collecting the Achenbach System of Empirically Based Assessment (ASEBA) parent (CBCL), teacher (TRF), and youth (YSR) report forms, but statewide completion rates remain poor for these measures, so results from the ASEBA are not reported here.

The first analysis examined the child status scores for the annual population. For FY 2007, three scores were calculated (a) the average score within three-months of admission for the group of youth admitted during the year, (b) the average score across all assessments conducted during the year for all youth with one or more assessments, and (c) the average score within three-months prior of discharge for the group of youth discharged during the year. These scores describe the average status for youth entering, active, and leaving the CAMHD system during the year, but they do not describe changes within an individual over time.

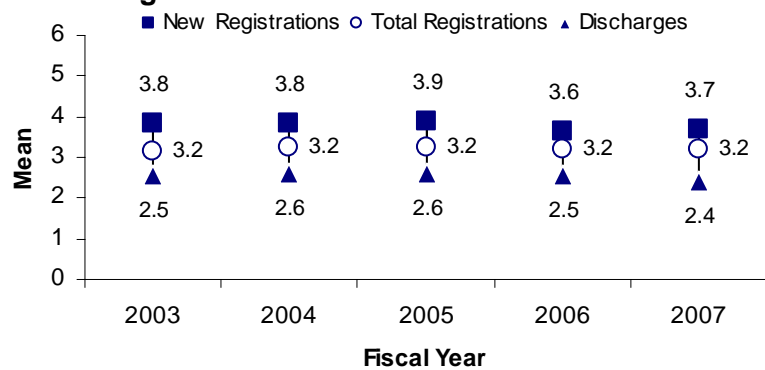
As a guideline for interpreting the CAFAS, scores of 50 – 90 indicate a need for services beyond outpatient care and scores of 100 – 130 indicate the need for intensive services with multiple supports. Further, a score of 80 on the CAFAS represents the point of functional impairment that qualifies a youth as severely emotionally or behaviorally disturbed (SEBD). Across the past few years, the new registration and total registration scores have fluctuated but generally vary around their grand means of approximately 109 and 88, respectively (see Figure 8). This pattern generally continued during FY 2007 and these averages were within the 95% confidence intervals. Specifically, the 95% confidence range of average CAFAS scores for youth newly admitted to the system was 106 – 113 in FY 2007 (N = 449), whereas the 95% confidence range for average functioning of all youth was 88 – 91 in FY 2007 (N = 1,682). During FY 2004 and 2005, an increased level of impairment was observed in the average scores for discharged youth, but during FY 2006 and 2007, the average discharge scores rebounded near the five-year grand mean (64) with a 95% confidence of 59 – 67 (N = 385) for FY 2007.

Figure 8. CAFAS 8-Scale Total Scores



The CALOCUS analyses describe a pattern of relative stability across the past five-year period (see Figure 9). Specifically, the 95% confidence range of average CALOCUS scores for youth newly admitted to the system was 3.5 – 3.8 in FY 2007 (N = 339). The 95% confidence range for the average functioning of all youth was 3.1 – 3.3 (N = 1,591). For discharged youth the confidence intervals was 2.2 – 2.6 (N = 324). As a guideline for interpreting the CALOCUS, a score of 2 indicates a need for outpatient services, a score of 3 indicates a need for intensive services, and a score of 4 indicates a need for multiple intensive integrated services.

Figure 9. CALOCUS Level of Care Scores



Taken together, the CAFAS and CALOCUS results consistently show that the average youth entering the CAMHD system was in need of multiple integrated intensive services and supports. On average, all youth in the system were in need of intensive services and case management beyond basic outpatient care. Finally, youth discharged from the

system remained in need of outpatient services and some of these youth may remain appropriate for more intensive programming.

To the extent that population-based estimates of intake, average, and discharged scores describe a decreasing pattern that remains stable over time, it is likely that the functioning of individual youth was improving as services progressed from intake to discharge. Nevertheless, population-based analyses do not directly describe changes within individuals across time. To examine intra-individual change, baseline and follow-up scores were identified for individual youth, and an indicator of reliable change using a 95% confidence level was calculated (Jacobson and Truax, 1991). For each youth, the registration episode of interest was defined as the most recent period of registration with a six month or

longer length of service. The baseline assessment was defined as the highest score received within three months of admission. The follow-up measure was defined as the most recent assessment that was completed three or more months after the baseline assessment (or six or more months after baseline).

The reliable change analysis lead to similar conclusions in FY 2007 as in prior years (see Figures 10 & 11). Approximately, 60% of youth demonstrate reliable improvement with service and approximately 10 – 15% show reliable deterioration. Specific estimates vary around these generalizations depending on the measure examined, the required length of the follow-up period, and the reporting period. Similarly, when the effect sizes were examined, the average change on both the CAFAS and the CALOCUS ranged across follow-up period lengths from approximately +0.9 SD to +1.1 SD over the baseline measure (N = 1,230 and 1,053 for CAFAS; N = 973 and 827 for the CALOCUS).

As in recent years, the next analysis described the average monthly rate of change observed on the CAFAS. Specifically, the slope of the best line for each youth with at least two valid assessments between their current episode admission and the end of each fiscal quarter during the reporting period was calculated. In other words, the typical monthly rate of change was calculated for each youth during their active service episode. These analyses are summarized in terms of the mean and median rate of change observed across active youth for each quarter. These analyses were similar to the reliable change analysis in spirit (i.e., it is an indication of intra-individual change). These analyses differ in that they use information from all available assessments conducted during the active service episode whereas the reliable change analysis only uses data from two assessments (i.e., baseline and follow-up). However, these analyses do not adjust for measurement error, whereas reliable change analyses explicitly incorporate measurement error.

During the FY 2006 evaluation, it was noted that the trend toward more rapid improvement ended and may have backed off from its peak performance. FY 2007 results provided further evidence that this trend has reversed (see Figure 12). During FY 2007, youth continued to improve at a rate that is more rapid than at the beginning of FY 2002 ($N_{\text{Mean}} = 1,107$) but that is slower than late FY 2004 and early FY 2005.

Figure 10. Reliable Change on CAFAS 8-Scale Total

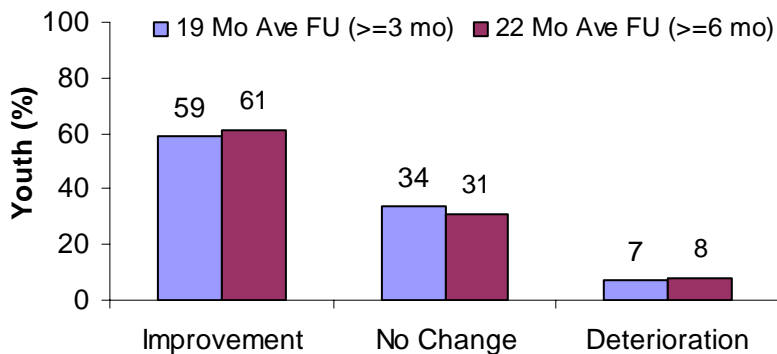


Figure 11. Reliable Change on CALOCUS Level of Care

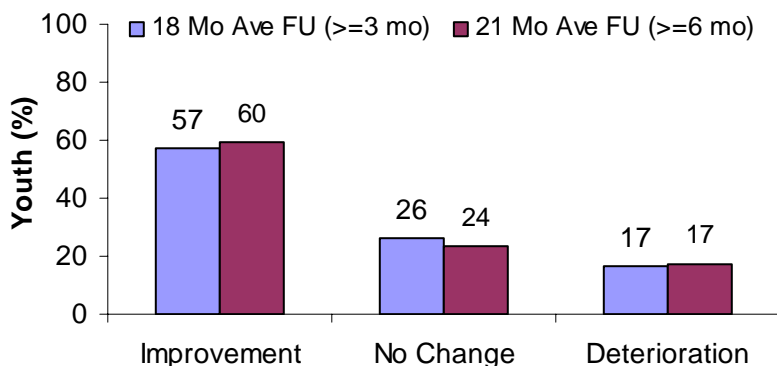
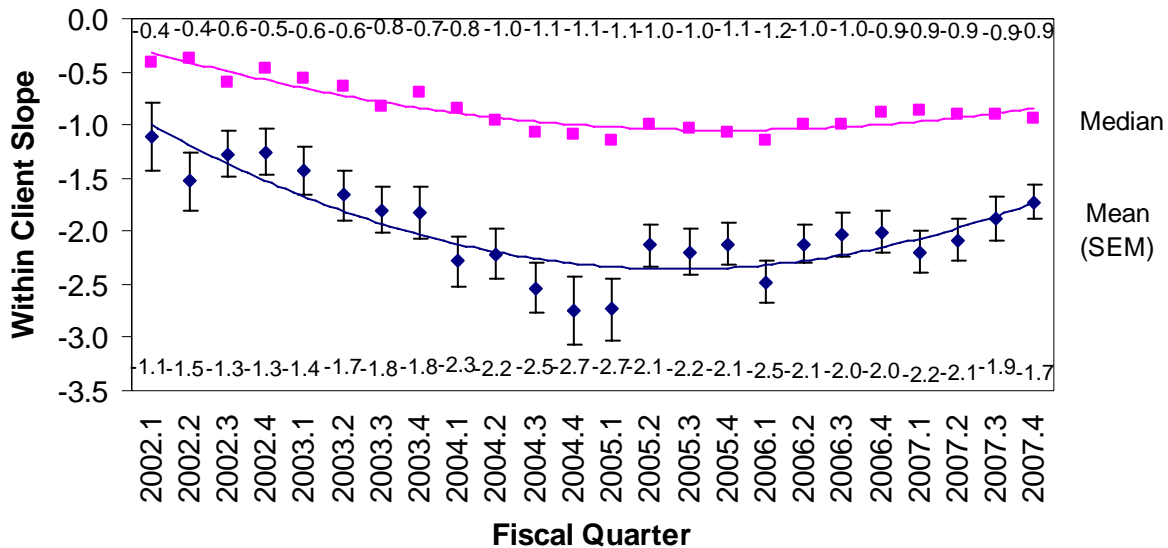


Figure 12. Rate of Change per Month on the CAFAS 8-Scale Total Score during Current Service Episode



Service Instability and Child Status

One of the core tenets of the CAMHD practice model is that establishing stable relationships for youth, particularly through care coordination, promotes positive outcomes. To provide a preliminary evaluation of this tenet, follow-up analyses were conducted to investigate whether youth who experienced care coordinator changes differed significantly in their outcomes from those who did not experience a care coordinator change. Analyses were conducted separately for the total registered population and the population of youth with services procured. As findings did not meaningfully differ between the registered and service procured populations, only the registered population results are reported here.

To determine whether groups differed in overall severity, the highest level of functional impairment observed for each youth during their CAMHD registration (i.e., maximum CAFAS 8-scale total score) was examined. The group of youth with a care coordinator change during FY 2007 (M = 128) did not significantly differ from those without a care coordinator change (M = 126), nor did they differ in their average scores during FY 2007. However, youth who experienced a change in care coordinator were significantly more impaired than youth without a care coordinator change in their most recent CAFAS scores (M = 89 vs. 84 for FY 2007). There was also a tendency for youth who experienced a care coordinator change to show less clinical improvement (35% vs. 39%, p = .09) on the CAFAS 8-scale total score, but this effect did not generalize across other measures of change (i.e., total change score ore reliable improvement). Interestingly, but unrelated to child status, analysis of sentinel events found that youth with a care coordinator change were significantly more likely to participate in child events, particularly property directed events such as theft, destruction of property, or possession of weapons or hazardous items, but also tended to engage in person-directed or self-injury events. The group of youth who experienced care coordinator changes were more likely to have received hospital residential services, Multisystemic therapy, ancillary services, and crisis stabilization, and less likely to have received intensive in-home services. Altogether, there was some mild indication that youth experiencing a change in care coordinator displayed somewhat more recent behavior problems, but this effect was not pervasive.

The correlates of provider instability were also examined. The group of youth who experienced a change in providers was much more likely to have received out-of-home services during the year than youth who did not experience a provider change (66% vs. 27%). Accordingly, the overall severity of functional impairment for the group youth who experienced a change in providers was greater than for the group of youth who did not. The average and most recent scores were also greater in the group with changing providers. However, change scores and

reliable improvement did not significantly differ between groups. The group of youth who experienced a change of providers did show significantly less clinical improvement (27% vs. 42%). Taken together, these findings suggest that the group of youth who changed providers were more impaired but showed comparable improvements in functioning yet remained in the clinical range of impairment.

These analyses are correlational in nature and thus are insufficient for attributing the change in care coordination or provider agency as the cause of the observed effects. For example, cases that fail to show clinical improvement in functioning may be assigned to new care coordinators or may change provider agencies in an attempt to improve the client outcomes. Other variables may also account for the observed association. Thus, the direction of causal influence among service instability and outcome variables remains an open question.

Child Status Summary

In general, the child status findings indicate that the system has largely stabilized with respect to the overall outcomes produced for youth, but that these outcomes were not achieved as rapidly as when the system was functioning at its best. Both population-based and individual analyses found that youth entering CAMHD show improvements with services. Youth tend to enter CAMHD with impairments that call for multiple intensive and integrated mental health services and the majority of youth show reliable improvements in functioning upon receipt of services. Despite recent setbacks in the rate of improvement for youth, the system appears to produce more rapid change for youth than it did half a decade ago. Although youth are effectively helped to achieve a moderate level of impairment, continuing progress to achieve a low level of impairment remains a challenge. Service instability had a limited relationships with child outcome.

Special Population Analyses: QUEST and Special Education

To further investigate the QUEST and special education (SPED) populations, a series of SPED by QUEST (3 x 2) analyses were conducted with population, service, and child status indicators as the dependent variables. Bonferroni corrections were used to adjust follow-up contrasts. To increase the comparability of groups statewide, youth registered to the Kauai Mokihana project that did not receive high-end services were excluded from these analyses. Table 9 presents the breakdown of the final sample for these analyses.

The QUEST and special education (SPED) involved populations differed in a number of meaningful ways (see Table 10). Notably, the QUEST involved population was more likely to be female, Hispanic, or multiracial, have primary disruptive behavior disorders, and register with Leeward Oahu or Hawaii (Big Island) Family Guidance Centers than the non-QUEST population. The QUEST population was also less likely to be Asian, have attention disorders or mental retardation and register with Maui Family Guidance Center.

As a whole the special education population (IDEA, 504, and pending) was more likely to be male, and less likely to have mood or substance-related disorders than the population without special education involvement. The population with special education pending was more likely to be young, have initial admissions, and have court hearings than the IDEA or 504 and no involvement populations. The IDEA or 504 population was more likely to have attention disorders and register with Central Oahu, Windward Oahu, or Kauai.

Several more complex interactions were also evident for the QUEST and special education (SPED) populations. For example, if youth were QUEST, IDEA or 504 involved, then they were more likely to have services procured through the provider network than youth with special education pending or no involvement. Readmission was most likely for the IDEA or 504 population, but less likely if youth were QUEST involved or special education was pending. Department of Human Services (DHS) involvement was highest for youth with both QUEST and IDEA or 504 involvement, and was generally higher for QUEST involved than non-QUEST involved youth except for QUEST involved youth without special education involvement.

Table 9. Cross Tabulation of Youth with Special Education and QUEST Involvement Excluding Kauai “Low-End” Youth.

Special Education Involvement	QUEST	
	No	Yes
No	75	329
Pending	390	400
IDEA or 504	458	491

From a health equity perspective, this differential pattern of findings highlights areas of potential inequity and may help guide solutions. For example, the smaller gender difference within the QUEST population (i.e., higher prevalence of females) may indicate a preference among females for accessing mental health services through the health care system rather than the education system or may indicate a system barrier in the special education eligibility and referral system that disproportionately affects females. Either way, this may identify an opportunity for increasing service to females by target marketing of the Support for Emotional and Behavioral Development (SEBD) program to females in regions with lower QUEST enrollment. Similar arguments may apply to other groups with differential prevalence rates (e.g., Hispanic) across QUEST and special education groups.

Some differences were also evident when the specific type of services received was examined. Out-of-home services were more commonly used by the QUEST population and by youth without special education services pending (i.e., no involvement or IDEA/504 involvement). There was some indication that youth with special education involvement used more intensive in-home services than youth without special education involvement, but this was not significant when the Bonferroni correction was applied. The population of youth with QUEST involvement and special education pending were more likely to receive outpatient assessments than any other group. The no involvement group had the highest rate of ancillary service use, whereas the QUEST population used ancillary services at a moderate level, while youth involved with special education had the lowest ancillary service utilization.

In terms of child status, the population of youth with special education pending had lower overall severity scores, but higher average scores during FY 2007 and higher recent scores than the other groups. In terms of change, the youth with special education pending showed significantly less improvement than other groups regardless of index (i.e., change scores, reliable improvement, and clinical improvement). Similarly, the QUEST population showed significantly more improvement than the non-QUEST population on all indices analyzed (i.e., change scores, reliable improvement, and clinical improvement).

The evolution toward decreasing special education involvement and increasing health care (QUEST) involvement continued. The QUEST population had more female, Hispanic, and Multiracial youth, and fewer Asian youth, and more disruptive behavior disorders, and less attention disorders and mental retardation than the Non-QUEST population. The special education population was more likely to be male and less likely to have mood and substance-related disorders. The specific population of youth with IDEA or 504 involvement was more likely to have attention disorders and readmissions. As one might expect of a population early in their CAMHD service experience, the population of youth with special education involvement pending received more assessment services, had greater functional impairment on their most recent assessment, and showed less improvement during FY 2007.

Special Population Analyses: Youth With and Without Provider Network Services Procured

To further investigate youth with services procured (n = 1,413) versus those without services procured (n = 730), a series of analyses were conducted with population characteristics and child status indicators as the dependent variables. To increase the comparability of groups statewide, youth registered to the Kauai Mokihana project that did not receive high-end services were excluded from these analyses. Youth with and without services procured differed in a number of meaningful ways (see Table 11). Notably, youth without services procured were more likely to have a Native Hawaiian or Pacific Island ancestry and to be registered with Maui, Kauai (High End), or the Family Court Liaison Branch than youth with services procured. Youth without services procured were also more likely to have pending educational disability and mental health eligibility status. Related to this, there is a general lack of knowledge of youth without procured services as indicated by having significantly more missing data for these youth than for youth with procured services.

As a whole, youth with services procured had more significant pathology as evidence by type of diagnoses and child status indicators. Youth with procured services were more likely to have Disruptive Behavior, Attentional, and/or Anxiety Disorders whereas youth without services procured were more likely to have an Adjustment Disorder. In addition, comorbidity was more common in youth with services procured and the average number of diagnoses per youth was higher than in youth without services procured. Youth with services procured had higher lifetime, average, and recent scores on the CAFAS and the CALOCUS. Further, although youth with services procured showed less overall clinical improvement on the CAFAS and CALOCUS than youth without services procured, they did show greater improvement on the CAFAS Self-Harm and Substance Use subscales.

Table 10. Summary of population characteristics that differ based on QUEST and special education involvement

Population Characteristic	QUEST	Special Education	QUEST by Special Education Interaction
Services Procured	-	-	Service procurement more likely if QUEST or IDEA/504 than pending or no involvement
Admissions & Discharges	-	Initial admission more likely if special education involvement was pending	Readmission most likely for IDEA/504 group. Readmission less likely if special education pending or QUEST involved Discharges lower for QUEST involved, but if no QUEST involvement then discharges lower for special education involved
Geographic Region	Leeward Oahu and Hawaii (Big Island) had more QUEST Maui had less QUEST Family Court Liaison Branch had no QUEST involvement	Central Oahu, Windward Oahu, Kauai had more IDEA/504 involvement Hawaii (Big Island) and Family Court Liaison Branch had less special education involvement	Honolulu Oahu has an inverse relationship between QUEST and special education involvement: Honolulu had more QUEST only and special education only involvement, with less joint involvement and less non-involvement
Age and Gender	Slightly younger if QUEST More females if QUEST	Youngest if special education pending Fewer females if special education	-
Race and National Origin	More Hispanic, Multiracial if QUEST Less Asian if QUEST	-	-
Diagnoses	Primary disruptive behavior and miscellaneous disorders were more common for QUEST Attention disorders and mental retardation were less common for QUEST	Attention disorders were more common and adjustment disorders were less common for IDEA/504 involved Mood and substance-related disorders were less common for special education	Psychotic disorders more likely in group with special education Pending without QUEST involvement and less likely in group with special education Pending with QUEST involvement
Type of Service	More out-of-home services for QUEST, specifically community residential and therapeutic foster home	More out-of-home services for no special education pending, specifically community residential, therapeutic group home, and therapeutic foster home	More outpatient assessments for QUEST involved with special education pending than any other group. Ancillary service use highest for the no involvement group, moderate for QUEST, lowest for special education

Child Status	Greater change, more reliable improvement, more clinical improvement for QUEST	Smaller change, less reliable improvement, less clinical improvement for special education pending	Lower overall severity scores, higher average scores during FY 2007, and higher recent scores for special education pending than other groups.
Agency Involvement	Court hearing more likely for QUEST	Court hearing less likely if special education pending	<p>Department of Human Service involvement higher if QUEST unless no special education involvement; highest for joint QUEST and special education involved</p> <p>Incarceration less likely if QUEST involved or special education was pending</p>

Table 11. Summary of differences between youth with services procured versus those without services procured

Dependent Variables	With Services Procured (n = 1,413)	Without Services Procured (n = 730)
Admissions & Discharges	-	Initial admission more likely for youth without services procured Discharges higher for youth without services procured
Geographic Region	Central Oahu, Windward, and Hawaii (Big Island) had proportionately more youth with services procured	Maui, Kauai (High End), and Family Court Liaison Branch had proportionately more youth without services procured
Age and Gender	No Difference	No Difference
Race and National Origin	-	Native Hawaiian or Pacific Island ancestry more common in youth without services procured
Diagnoses	Disruptive Behavior, Attentional, and Anxiety Disorders were more common in youth with services Comorbidity was more common and the average number of diagnoses per youth was higher for youth with services procured	Adjustment Disorder more common in youth without services procured
Agency Involvement	QUEST, DHS, Juvenile Justice, and IDEA more common in youth with services procured	504 and Educational Disability Pending more common in youth without services procured
Mental Health Eligibility	Medicaid/SEBD more common in youth with services procured	Juvenile Justice and Eligibility Under Determination more common in youth without services procured
Child Status	Youth with services procured had higher lifetime, average, and most recent scores on the CAFAS and the CALOCUS Youth with services procured demonstrated greater clinical and reliable improvement on the CAFAS Self-Harm scale and clinical improvement on the CAFAS Substance Use scale	Youth without services procured demonstrated greater clinical improvement on the total CAFAS and CALOCUS scores Youth without services procured demonstrated greater clinical improvement on the CAFAS Home Role Performance scale
Data Quality	-	Across all indicators, youth without services procured had significantly more data missing

Similar to the findings described above, this differential pattern underscores areas of potential inequity which should be evaluated in more detail. For example, the greater proportion of youth with a Native Hawaiian or Pacific Island ancestry without procured services suggests a cultural health disparity and may indicate a system barrier to accessing services that disproportionately affects this group. Geographically, attention to Maui, Kauai high end, and Family Court Liaison Branches may be indicated given their higher proportion of youth without services procured. Together with their overall declining registration trends, special attention to improving access to care at Maui Family Guidance Center and Family Court Liaison Branch appears indicated. Greater attention should also be devoted to improving the data quality for youth without procured services so that disparities such as these can be better understood and addressed.

Summary and Conclusions

Fiscal year 2007 saw the start of a new era for CAMHD. A new, expanded service array was implemented and the long-time Division Chief resigned.

The transition to the new service array appeared to progress with relatively few major obstacles, and the many adjustments related to the service change have gradually propagated through the system. In addition to other services, two evidence-based services packages for disruptive behavior disorders, Multidimensional Treatment Foster Care and Functional Family Therapy, were implemented as independent levels of care in the new array.

The effect of the departure of the Division Chief remains to be determined. During the transition months, the interim leadership has apparently filled the gap successfully. Following the close of the fiscal year, but prior to the writing of this report, a new Division Chief (now called an Administrator) was hired and the Acting Chief moved into a reconstructed Assistant Administrator role.

As in recent years, the primary systemic challenge that CAMHD faces remains a weakening personnel infrastructure. Many of the core infrastructure and health plan positions at CAMHD remain special project positions that are exempt from civil service. These positions were scheduled to expire at the end of FY 2007, and the FY 2006 evaluation noted, "the system appears to be moving toward an impending crisis that will require departmental or interdepartmental action to avert." Fortunately, the Director of Health petitioned the Director of Human Resources Development for approval of a Behavioral Health Special Project to support implementation of the Mental Health Transformation project, privatization of particular core functions, and review of the CAMHD and the Adult Mental Health Division (AMHD) for opportunities to reduce duplication and gain efficiency. In April of 2007, CAMHD received extension for 82 exempt positions through FY 2009.

Unfortunately, because this personnel action came late in the year, many employees sought alternative employment in the face of uncertainty regarding their CAMHD position. In FY 2007, position occupancy rates hit a new low. The special project approval creates a temporary reprieve for employees in exempt positions, but recent experience dictates that such employees will start losing morale and seeking alternative employment as early as nine months before the position expiration date. Therefore, it is recommended that leadership set the fall of 2008 as a target date for completing the next personnel action related to these exempt positions.

Despite these transitions and challenges, CAMHD met with continued success with its long-standing initiatives to increase the size of the registered population and decrease utilization of out-of-home services, particularly community residential services. Unfortunately, some of the gains of prior years were lost during FY 2007. Most notably, the rate of youth improvement has decreased. Several enduring challenges remain including earlier identification and treatment, extending services to youth involved with the Juvenile Justice or Department of Human Services, and managing cost and utilization of hospital residential services. Hopefully, as CAMHD moves forward with the new service array, reinvigorates its provider supports, and re-stabilizes its workforce, youth improvements will begin to accelerate again. The Mental Health Transformation project will hopefully create a new opportunity for CAMHD to again review its unique role in the broader behavioral health and child serving systems and to gain efficiencies and effectiveness through new collaborations.

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CAMHD Reports are available on-line at <http://www.hawaii.gov/health/mental-health/camhd/resources/index.html>

Appendix A: Glossary

Data Sources

Data for this report were gathered from a variety of sources. The primary source of information is the Child and Adolescent Mental Health Management Information System (CAMHMIS), which supports registration of child and youth with CAMHD, authorization of services, electronic billing for services, and child status monitoring functions. System information was collected from independent databases maintained by numerous offices and committees within CAMHD. The CAMHD Administrative Services Office maintains the databases for QUEST enrollment, manual billing information, contracts, personnel occupancy, and provides analysis and reporting based on the Department of Accounting and General Services (DAGS) Financial Accounting and Management Information System (FAMIS). The Clinical Services Office maintains a database of youth placed in out-of-home settings based on weekly provider census reports. The Performance Management Office maintains databases of grievances and appeals, internal review results, and sentinel events based on incident reports submitted by providers. The CAMHD research and evaluation section (RES) was responsible for merging and validating information from this multitude of databases, and is responsible for any errors in data or analysis reported here.

Child and Adolescent Mental Health Information System (CAMHMIS) Fields. Information was gathered and entered into CAMHMIS through the standard operating procedures of the regional Family Guidance Centers. Generally, care coordinators are responsible for gathering data from families and professionals and for organizing completion of child status measures on a quarterly basis. Detailed information about the structure of the CAMHMIS database is beyond the scope of the present report.

Population Variables

Admissions were defined to include both initial registrations and repeated registrations. Initial registrations were counted when a new record is created for a youth previously unknown to CAMHD with a registration start date within the reporting period. Repeated registrations were identified whenever a previously known youth had at least one registration record during the reporting period indicating a change in registration status from a discharged status to a registered status.

Age in Years was defined as the difference between a youth's date of birth and the final day of each fiscal year (e.g., June 30, 2007).

Agency Involvement data (i.e., Department of Human Services (DHS), court, and incarcerated/detained) were entered into CAMHMIS in the form of a start date and end date of involvement with each agency. An exception to this procedure is that Medicaid/Med-QUEST involvement is recorded based on a back office HIPAA-compliant transaction with the Med-QUEST Division's eligibility system, not direct data entry into CAMHMIS. A youth was defined as involved with a specific agency if they had an active record for one or more days during the reporting period.

Diagnostic Status was defined based on Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994) codes entered into CAMHMIS. Children and youth may receive up to three Axis I diagnoses and two Axis II diagnoses. Diagnoses on either axis whether primary, secondary, or tertiary were included in analysis of comorbid diagnoses. Diagnostic information from the most recent assessment recorded in CAMHMIS provided the data for these indicators. The primary diagnosis indicators count only primary diagnoses, whereas the *any diagnosis* indicators counts a diagnosis within each category regardless of whether it is primary, secondary, or tertiary. The multiple diagnosis indicators describe the number and proportion of youth with any secondary or tertiary diagnosis recorded. The arithmetic mean of diagnoses is also reported for all registered youth.

Discharges were recorded when a youth had at least one registration record during the reporting period indicating a change in registration status from registered status to discharged status.

Ethnicity information was collected using the categories of Alaska Native, American Indian, Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, Other Asian, Black or African-American, Guamanian or

Chamorro, Micronesian, Samoan, Other Pacific Islander, White or Caucasian, Portuguese, Cuban, Mexican, Puerto Rican, or Other Hispanic or Latino or of Spanish Origin, Other Race or Ethnicity not Listed, or Unknown. The race and national origin categories were collected through two different questions. Consumers could select multiple responses so the number of endorsements reported is duplicated across categories. A multiethnic category is also calculated indicating whether more than one category was endorsed regardless of whether the multiple categories occurred within or across racial and national origin groups.

Family Court Liaison Branch (FGB) was defined as registration of youth to the statewide Family Court Liaison Branch as of the final day of the reporting period without registration to a regional Family Guidance Center.

Family Guidance Branch (FGB) is a term used to refer to the regional Family Guidance Centers along with the Family Court Liaison Branch and the other center designation for special populations (e.g., youth involved in specially funded projects or special divisional programs).

Family Guidance Center (FGC) was defined as the most recent regional center to which youth were registered as of the final day of the reporting period.

Gender was based on (a) client self-presentation, (b) caregiver presentation of child gender), or (c) staff observation of child gender, and was coded as either female or male.

Homeless was defined as any youth who lacked housing, including a youth whose primary residence during the night was a supervised public or private facility that provides temporary living accommodations or transitional housing. Youth were counted as homeless if they were homeless at any point during the year.

Mental Health Eligibility was intended to describe the source of the youth's eligibility for CAMHD services. A youth was included in each category if there was a record of eligibility for one or more days during the reporting period. FGC staff enters this information into CAMHMIS. Due to revisions to these fields and concerns about data quality, mental health eligibility was excluded from analysis in FY 2007. Available data is reported as a placeholder, but should not be used for substantive interpretation.

National Origin was based on consumer reports in the categories of (a) Hispanic or Latino or of Spanish Origin, (b) Not Hispanic or Latino or of Spanish Origin, or (c) Unknown whether Hispanic or Latino or of Spanish Origin. Within the Hispanic or Latino or of Spanish Origin category, consumers could select multiple choices from the options of Cuban, Mexican, Puerto Rican, or Other .

Race was based on consumer reports as either (a) American Indian or Alaska Native; (b) Asian, (c) Black or African-American, (d) Native Hawaiian or Other Pacific Islander, (e) White, (f) Other Race or Ethnicity not Listed, (g) Multiracial, or (h) Unknown. Consumers could select multiple choices from the options of Alaska Native, American Indian, Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, Other Asian, Black or African-American, Guamanian or Chamorro, Micronesian, Samoan, Other Pacific Islander, White or Caucasian, or Portuguese. The multiracial category was identified when respondents selected multiple choices that crossed racial categories (e.g., American Indian and Chinese) but not when multiple choices were selected within the same racial category (e.g., Chinese and Filipino was classified as single race Asian). If valid consumer reports are not available then care coordinators may identify youth race, ethnicity, and national origin based on their observations. This category is reported as "Based on Observation."

Runaway was defined using the National Incidence Study of Missing, Abducted, Runaway, and Thrownaway Children (NISMAART-2) criteria for runaway or thrownaway children. A runaway episode met one of the criteria that (a) a youth leaves home without permission and stays away overnight, (b) a youth 14 years old or younger (or older and mentally incompetent) who was away from home choose not to come home when expected to and stayed away overnight, or (c) a youth 15 years old or older who was away from home choose not to come home and stayed away two nights. A thrownaway episode met one of the criteria that (a) a youth was asked or told to leave home by a parent or other household adult, no adequate alternative

care was arranged for the youth by a household adult, and the youth is out of the household overnight or (b) a youth who was away from home was prevented from returning home by a parent or other household adult, no adequate alternative care was arranged for the youth by a household adult, and the youth was out of the household overnight.

Service Variables

Crisis Stabilization was defined to include community-based crisis group home and crisis therapeutic foster home.

Intensive Home and Community Services were defined to include partial hospitalization, Multisystemic Therapy, intensive in-home, intensive outpatient services, and ancillary (i.e., flexibly funded) services for any of these levels of care.

Monthly Treatment and Progress Summary (MTPS; CAMHD 2003; 20058). The MTPS is a locally constructed clinician report form designed to measure the service format, service setting, treatment targets, clinical progress, intervention practice elements, and provider outcomes on a monthly basis. In addition to providing structured response options from which clinicians could select, the MTPS included other fields for each domain that allowed clinicians to write open-ended responses that were not addressed by the predefined fields. For the format and setting questions, clinicians are asked to indicate all formats (individual, group, parent, family, teacher, or other) and settings (home, school, community, out of home, clinic/office, or other) in which the youth received services during the reporting month. Clinicians are then asked to indicate up to 10 target competencies or concerns, which were the focus of treatment during the reporting month. The targets are selected from a list of 48 predefined targets and two additional open-response fields are provided. Clinicians then provide a progress rating for each target that describes the degree of progress achieved between the child's baseline level of functioning and the goal specified for the target. Progress ratings are provided on a 7-point scale with the anchors of *Deterioration < 0%*, *No Significant changes 0 – 10%*, *Minimal Improvement 11 – 30%*, *Some Improvement 31 – 50%*, *Moderate Improvement 51 – 70%*, *Significant Improvement 71 – 90%*, and *Complete Improvement 91 – 100%*. Next, clinicians are asked to indicate all of the specific intervention strategies (a.k.a., practice elements) that were used with the child and family during the month. The MTPS records 55 predefined intervention practice elements (e.g., activity scheduling, assertiveness training, biofeedback, etc.) and allows for the write-in of up to three additional intervention practice elements per month. The 2005 revision includes additional fields for listing psychiatric medications, dose, and schedule, discharge living situation, and reason for discharge. Finally, the MTPS provides a number of optional fields that allow providers to report other measure of outcomes that they may collect including the ASEBA, CAFAS, CALOCUS, whether the youth was arrested during the month, and the percent of school days attended. These forms and the structured codebook defining the interventions are available on the CAMHD website. Statewide training is provided on the completion of the form and definitions of various practice elements. Additional videotaped training is available upon request to CAMHD's Clinical Services Office.

For the annual evaluation and factbook, MTPS data were based exclusively on CAMHMIS records. Provider's written responses were individually reviewed and coded into appropriate categories, including several new response categories that were created to account for novel answers. The definitions for the specific codes are as follows:

Service Format

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.

Phone - any written response to an open-end question that indicated use of the telephone as a service format. No specification of the person called was required.

Professional Consult - any written response to an open-end question that indicated consultation or involvement of another service profession.

Unclear - any written response whose meaning could not be discerned.\

Service Setting

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.

Phone - any written response to an open-end question that indicated use of the telephone as a service setting. No specification of the person called was required.

Unclear - any written response whose meaning could not be discerned.

Treatment Targets described the strengths and needs being addressed as part of the youths' mental health services.

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 and specific challenges in learning or achievement

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, peer involvement, or community involvement.

Adaptive Behavior/Living Skills – any written response to an open-end question that targeted 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, self-management, social skills, housing/living situation, or occupational functioning/stress.

Adjustment to Change – any written response to an open-end question referring 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.).

Adult Intercoordination – any written response to an open-end question that targeted 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.

Aggression – verbal and/or physical aggression, or threat thereof, that results in intimidation, physical harm, or property destruction.

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.

Anxiety – a general uneasiness that can be characterized by irrational fears, panic, tension, physical symptoms, excessive anxiety, worry, or fear.

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.

Attention Problems – described by short attention span, difficulty sustaining attention on a consistent basis, and susceptible to distraction by extraneous stimuli.

Avoidance – behaviors aimed at escaping or preventing exposure to a particular situation or stimulus.

Caregiver Self-Management/Coping – any written response to an open-end question that indicated attempting to alter a caregiver's management, regulation, or monitoring of their own behavior and emotions

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.

- Community Involvement** – detailed description of amount of involvement in specific community activities within the child’s day.
- Compulsive Behavior** – any written response to an open-end question that targeted specific compulsive/excessive responses such as hoarding or trichotillomania
- Contentment/Enjoyment/Happiness** – refers to issues involving the experience and expression of satisfaction, joy, pleasure, and optimism for the future.
- Depressed Mood** – behaviors that can be described as persistent sadness, anxiety, or "empty" mood, feelings of hopelessness, guilt, worthlessness, helplessness, decreased energy, fatigue, etc.
- 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.
- Empathy** – identifications with and understanding of another person’s situation, feelings, and motives.
- 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.
- Fire Setting** – intentionally igniting fires.
- Fitness/Exercise** - any written response to an open-end question that indicated issues related to general fitness or exercise.
- 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.”
- Goal Setting** – any written response to an open-end question that indicated 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 or occupational functioning/stress.
- Grief** – feelings associated with a loss of contact with a significant person in the youth’s environment (e.g., parent, guardian, friend, etc.).
- 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..
- Housing/Living Situation** – any written response to an open-end question that indicated finding or stabilizing an appropriate living situation for a youth.
- Hyperactivity** – can be described by fidgeting, squirming in seat, inability to remain seated, talking excessively, difficulty engaging in leisure activities quietly, etc.
- Information Gathering** – any written response to an open-end question that indicated focus on service provider learning more about the child and family through assessment, evaluation, or history taking.
- Learning Disorder, Underachievement** – refers to specific challenges with learning or educational performance that are not better accounted for by cognitive-intellectual functioning or general academic achievement.
- 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.
- 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.
- 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).
- Occupational Functioning/Stress** – any written response to an open-end question that indicated 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).
- 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.).
- Pain Management** - any written response to an open-end question that indicated a focus on regulating experiences or behaviors related to pain or ill health.

- Parenting Skills** – any written response to an open-end question that indicated attempting to modifying a caregiver’s strategies for managing child behavior, emotions, or structuring of the caregiving environment.
- 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.
- Peer/Sibling Conflict** – peer and/or sibling relationships that are characterized by fighting, bullying, defiance, revenge, taunting, incessant teasing and other inappropriate behaviors.
- Phobia/Fears** – irrational dread, fear, and avoidance of an object, situation, or activity.
- Personal Hygiene** – challenges related to self-care and grooming.
- Positive Family Functioning** – issues related with healthy communication, problem-solving, shared pleasurable activities, physical and emotional support, etc. in the context of a interactions among multiple persons in a family relation, broadly defined.
- Positive Peer Interaction** – social interaction and communication with peers that are pro-social and appropriate. This differs from peer involvement in that it focuses on interactional behavior, styles, and intentions, whereas peer involvement targets actual engagement in activities with peers regardless of interactional processes.
- 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.
- Pregnancy Education/Adjustment** – any written response to an open-end question that indicated issues related to helping a pregnant youth prepare and adjust to parenthood.
- Psychosis** – issues related to bizarre thought content (delusions of grandeur, persecution, reference, influence, control, somatic sensations), and/or auditory or visual hallucinations.
- Runaway** – running away from home or current residential placement for a day or more.
- Safe Environment** – any written response to an open-end question that indicated establishing a safe and secure environment for the youth’s development that was not better described as targeting the youth’s housing/living situation.
- 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.
- School Involvement** – detailed description of amount of involvement in specific school activities within the child’s scheduled school day.
- Self-Injurious Behavior** – acts of harm, violence, or aggression directed at oneself.
- Self-Management/Self-Control** – issues related to management, regulation, and monitoring of one’s own behavior.
- 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.
- Sexual Orientation** – any written response to an open-end question that indicated issues related to clarification or management of a youth’s sexual orientation that are excluded from the gender identity problems code.
- 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.
- Sleep Disturbance** – difficulty getting to or maintaining sleep.
- Social Skills** – skills for managing interpersonal interactions successfully. Can include body language, verbal tone, assertiveness, and listening skills, among other areas.
- Speech and Language Problems** – expressive and/or receptive language abilities substantially below expected levels as measured by standardized tests.
- 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.
- Suicidality** – issues related to recurrent thoughts, gestures, or attempts to end one’s life.
- 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.

Treatment Engagement – any written response to an open-end question that indicated targeting interest, motivation, or active participation in therapeutic activities. This included targeting improved rapport.

Treatment Planning/Framing – any written response to an open-end question that indicated setting or revising a treatment plan or treatment structure (including IEPs, CSPs, MPs, MHTPs, etc.)

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.

Other – any written response to an open-end question with a reasonably interpretable intention that could not be categorized into another target area and appeared 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)

Unclear – any written response to an open-end question whose meaning could not be discerned and could not be coded into another category (e.g., relationship issues not otherwise specified).

Intervention Strategies (a.k.a. Practice Elements; Treatment Practices)

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.

Anger Management – any written response to an open-end question that referred to treatment in the family of anger management with no specific practices identified

Animal or Plant Assisted Activities – any written response to an open-end question that indicated use of activities incorporating animals or plants as a therapeutic modality

Arousal Reconditioning – any written response to an open-end question that indicated use of classical or operant conditioning procedures to alter the targets of sexual arousal

Art/Music Therapy – any written response to an open-end question that indicated use of expressive activities as a therapeutic modality

Assertiveness Training - exercises or techniques designed to promote the child's ability to be assertive with others, usually involving rehearsal of assertive interactions.

Assessment – any written response to an open-end question that focused on service provider learning more about the child and family through evaluation, testing, or observation (that would not qualify as parent or self-monitoring).

Behavioral Contracting – any written response to an open-end question that indicated the development of a formal agreement specify rules, consequences, and a commitment by the youth and relevant others to honor the content of the agreement

Behavior Management – any written response to an open-end question that indicated the use of behavioral techniques or plan with no specific practices identified

Biofeedback/ Neurofeedback - strategies to provide information about physiological activity that is typically below the threshold of perception, often involving the use of specialized equipment.

Care Coordination – any written response to an open-end question that indicated coordinating among the service providers to ensure effective communication, receipt of appropriate services, adequate housing, etc.

Catharsis - strategies designed to bring about the release of intense emotions, with the intent to develop mastery of affect and conflict.

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.

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.

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).

Counseling – any written response to an open-end question that referred to counseling sessions with youth or parent with no specific practices identified

- 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.
- Cultural Training** – any written response to an open-end question that indicated education or interaction with culturally important values, rituals, or sites with no specific practices identified
- 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.
- Educational Support** - exercises designed to assist the child with specific academic problems, such as homework or study skills. This includes tutoring.
- 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.
- 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.
- Eye Movement/Body 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.
- Family Engagement** - the use of skills and strategies to facilitate family or child's positive interest in participation in an intervention.
- 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.
- Family Visit** – any written response to an open-end question that indicated 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
- Free Association** - technique for probing the unconscious in which a person recites a running commentary of thoughts and feelings as they occur.
- 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.
- Goal Setting** – any written response to an open-end question that indicated setting specific goals and developing commitment from youth or family to attempt to achieve those goals (e.g., academic, career, etc.)
- 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.
- Ho'Oponopono** – any written response to an open-end question that indicated use of the techniques of Ho'Oponopono with no specific practices identified
- Hypnosis** - the induction of a trance-like mental state achieved through suggestion.
- 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.
- Informal Supports** – any written response to an open-end question that explicitly identified 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.)
- Insight Building** - activity designed to help a youth achieve greater self-understanding.
- 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.
- Juvenile Sex Offender Treatment** – any written response to an open-end question that indicated sex offender treatment with no specific practices identified
- Legal Assistance/Involvement** – any written response to an open-end question that indicated obtaining legal aide for the youth or family or engaging the legal system to provide additional motivation for treatment

- Line of Sight Supervision** - direct observation of a youth for the purpose of assuring safe and appropriate behavior.
- 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
- Marital Therapy** - techniques used to improve the quality of the relationship between caregivers.
- Medication/ Pharmacotherapy** - any use of psychotropic medication to manage emotional, behavioral, or psychiatric symptoms.
- Mentoring** - pairing with a more senior and experienced individual who serves as a positive role model for the identified youth.
- Milieu Therapy** - a therapeutic approach in residential settings that involves making the environment itself part of the therapeutic program. Often involves a system of privileges and restrictions such as a token or point system.
- 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.
- 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.
- 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.
- 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.
- Parent Coping** - exercises or strategies designed to enhance caretakers' ability to deal with stressful situations, inclusive of formal interventions targeting one or more caretaker.
- Parent Monitoring** - the repeated measurement of some target index by the caretaker.
- 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.
- Parenting** - any written response to an open-end question that addressed parenting issues with caregiver(s) but no specific practices identified
- Peer Modeling/Pairing** - pairing with another youth of same or similar age to allow for reciprocal learning or skills practice.
- 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, which involves a specific focus on modifying parent-child communication. This is also different from play designed specifically to build relationship quality.
- 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.
- Psychoeducational-Child** - the formal review of information with the child about the development of a problem and its relation to a proposed intervention.
- 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.
- 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.
- 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.
- 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.
- Response Prevention** - explicit prevention of a maladaptive behavior that typically occurs habitually or in response to emotional or physical discomfort.
- Self-Monitoring** - the repeated measurement of some target index by the child.

- Self-Reward/Self-Praise** - techniques designed to encourage the youth to self-administer positive consequences contingent on performance of target behaviors.
- Skill Building** - the practice or assignment to practice or participate in activities with the intention of building and promoting talents and competencies.
- Social Skills Training** - providing information and feedback to improve interpersonal verbal and non-verbal functioning, which may include direct rehearsal of the skills. If this is paired with peer pairing, that should be coded as well.
- 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.
- Supportive Listening** - reflective discussion with the child designed to demonstrate warmth, empathy, and positive regard, without suggesting solutions or alternative interpretations.
- 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.
- Therapist Praise/Rewards** - the administration of tangible (i.e. rewards) or social (e.g., praise) reinforcers by the therapist.
- 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.
- 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.
- 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.
- Other** – any written response to an open-end question 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)
- Unclear** – any written response to an open-end question whose meaning could not be discerned and could not be coded into another category

Discharge Living Situation described the type of living environment in which the youth was expected to reside at the time of discharge

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

residence for individuals intended to be institutionalized, or a public or private place not designed for, or ordinarily used as, a regular sleeping accommodation for human beings (e.g., on the street). Youth who were discharged due to extended runaway or elopement episode should be recorded in this category.

Reason for Discharge

Success/Goals Met - Youth was clinically discharged due to sufficient treatment progress (e.g., symptoms reduced, functioning improved), treatment goals were met, youth was evaluated and services were determined unnecessary, services were completed, or youth was moving to a less restrictive and intensive level of care.

Insufficient Progress - Youth was discharged from service without showing sufficient treatment progress to be judged as clinically successful (i.e., little symptom reduction, improvement in functioning, or goal attainment was achieved).

Family Relocation - Youth was discharge because the youth and family moved out of state or out of the service area.

Runaway/Elopement - Youth was discharged in association with an extended period of unavailability for treatment because the youth had runaway from home or eloped from the program.

Refuse/Withdraw - Youth was discharged due to parental refusal, non-participation in treatment, lack of consent, or other indication that client withdrew from services against professional advice.

Eligibility Change - Youth was discharged in association with a change in eligibility for services, such as a termination of a court order or commitment, aging out of child and adolescent services, loss of Medicaid insurance, etc.

Out-of-Home Services was an indicator variable identifying if a youth received any out-of-home service during the period. Out-of-home services included out-of-state, acute hospitalization or detoxification (under development during FY 2007), hospital residential, community high-risk residential, community residential, therapeutic group home (i.e., therapeutic group home or community mental health shelter), therapeutic foster home (i.e., Multidimensional Treatment Foster Care or therapeutic foster home) services, and ancillary (i.e., flexibly funded) services for any of these levels of care. Billing records for bed-holds and therapeutic passes were also considered when calculating the indicator of whether a youth received any out-of-home services. When specifically noted, some analysis may include services provided while youth were detained or incarcerated as out-of-home services.

Out-of-home Service Intensity was calculated as the proportion of hours recorded for out-of-home services during the period divided by the total service hours during the period (for details see service intensity definition below).

Outpatient Services were defined to include ambulatory treatment (i.e., medication management, Functional Family Therapy, outpatient therapy [individual, group, or family], parent skills training), consultation, assessment of any type, and ancillary (i.e., flexibly funded) services for any of these levels of care.

Service Authorizations were based exclusively on CAMHMIS data and describe the number of youth who were provided with an authorization to receive a service for one or more days during the reporting period. The percent of authorized describes the number of youth with an authorization for a given level of care divided by the unduplicated count of youth with authorization for any service during the period.

Services Procured (Receipt of Services) was calculated based on records that were accepted as payable during billing adjudication. This billing information is augmented by information from service authorizations, manual billing, and weekly provider census data from the Fiscal and Clinical Services offices for specific levels of care (i.e., out-of-state, community high risk residential, Multidimensional Treatment Foster Care, Multisystemic Therapy, Functional Family Therapy, Crisis Stabilization). A youth is identified as receiving a service if there was any indication of service for that youth on at least one day during the reporting period. Thus, the service receipt counts are unduplicated within a level of care, but are duplicated across levels of care. For example a youth who received hospital residential and intensive in-home services would be recorded as receiving both of these levels during the period. A hierarchical model of services is used so

that unduplicated aggregates are systematically presented. For example, the out-of-home services count is unduplicated across out-of-home services, such that a youth who received hospital residential and community residential services would be counted only once for the out-of-home services, but would also be counted at the hospital residential and community residential levels.

Service Changes: Care Coordinator Changes were defined as any change in the assignment of a care coordinator to a youth as recorded in CAMHMIS child registration. Because youth are registered to a Branch Chief or intake coordinator while their eligibility is being determined, such assignments were excluded prior to calculation of this indicator. The total number of changes across all youth is reported, as are the average number of changes per month, and the average number of changes per registered youth during the reporting period (i.e., FY 2004).

Service Changes: Out-of-Home Changes were defined as any a transition of services from one type of out-of-home service to another (e.g., hospital-residential to therapeutic group home).

Service Changes: Placement Changes were defined as any a transition of services from community-based to out-of-home or from one type of out-of-home service to another (e.g., hospital-residential to therapeutic group home).

Service Changes: Provider Agency Changes was calculated as the number of provider agency changes per period. For example, a youth who moved from a community residential provider to a multisystemic therapy provider during a period would record one provider change, whereas a youth moving from community residential to hospital residential and back to community residential services during the period would record two changes. A youth changing providers within a level of care would record a provider change whereas a youth changing levels of care within a provider agency may not. This variable was selected to provide a gross indicator of the frequency with which youth experience major service transition, but it does not capture the frequency of changes to individual therapists within a provider agency.

Service Intensity was defined as the number of service hours per reporting period. Service units are generally recorded in CAMHMIS as 15-minute units for non-residential services and daily units for out-of-home services. To create a relatively comparable metric across levels of care, daily out-of-home services were converted to hours at a rate of 6.5 hours per day. Because daily utilization of multisystemic therapy was not reliably recorded, hours of service were allocated based on the practice standard formula of 80 hours during the first month of service, 40 hours during the second month, and 20 hours for subsequent months. The service intensity was design to provide some basis for comparison across time, but the absolute level of this indicator is largely meaningless due to the arbitrary nature of the daily conversion rate.

Supportive Services was defined to include respite home, respite therapeutic foster home, respite support, peer support, and ancillary services that could not be classified as another level of care.

Fiscal Variables

Total Expenditures were the total US dollars recorded as expended on services for youth as recorded in CAMHMIS, except for community high risk residential, Multidimensional Treatment Foster Care, Multisystemic Therapy, Functional Family Therapy, and crisis stabilization (crisis group and foster homes), which were based on the FY 2007 Operational Expenditure Report from the CAMHD fiscal office.

Total Expenditures: Cost per Level of Care (LOC) was calculated as the total cost in U. S. dollars (US\$) of services for a given level of care. Therefore, these expenditures are unduplicated across levels of care and when summed across all levels of care will equal the total expenditures during the period for the study sample.

Total Expenditures: Level of Care (LOC) per Youth represented the average cost (US\$) for services received by youth at the specified during the period. This variable describes the average cost of providing the specific service to youth. If a youth received any other service during the period, this value will be less

than the total cost of providing services to that youth. For Functional Family Therapy, youth counts for allocating expenditures were based on service authorization data rather than accepted record data.

Total Expenditures: Percent of Total Cost described the proportion of all unduplicated costs (US\$) that were associated with a specific level of care. This was the cost per level of care divided by the total service expenditures across all levels of care.

Total Service Cost by Family Guidance Center were based on the total service expenditures recorded in CAMHMIS allocated to the most recent Family Guidance Center to which a youth was registered. Thus, if a youth was transferred among guidance centers during the reporting period, the cost incurred by the earlier guidance center would be allocated to the final guidance center to which the youth was registered. The average cost per youth represents the total service cost divided by the number of youth with one or more services procured.

Outcome Variables

ASEBA Child Behavior Checklist (CBCL; Achenbach, 1991a; Achenbach and Rescorla, 2001). The CBCL is a 113-item child behavior problem checklist completed by parents, parent-surrogates, or others who know the children in family-like settings. Respondents are asked to rate items on a three point scale from not true to very true or very often that describe a youth “now or within the past 6 months.” It provides total, broadband, syndrome, and competence scales. The broadband problem scales measure an internalizing factor and an externalizing factor. The syndrome scales measure withdrawn behavior, somatic complaints, anxious/depressed behavior, delinquent behavior, aggressive behavior, social problems, thought problems, and attention problems. The competence scales assess school, activity, and social competence. Raw scores and T-scores (Mean = 50, SD = 10) based on gender and age groups from the standardization sample are available. Achenbach (1991a) reported acceptable internal consistency ($\alpha = .90$ internalizing, $\alpha = .93$ externalizing) and test-retest reliability (one-week $r = .89, .93$; one-year $r = .79, .87$; two-year $r = .70, .86$) for the CBCL. Achenbach (1991a) also reviewed numerous studies supporting the validity of the CBCL relative to other parent-report behavior checklists, clinic-referral status, and categorical psychiatric diagnosis. T-scores were used in all analyses. Achenbach and Rescorla (2001) reported internal consistency ($\alpha = .90 - .92$ broadband, $\alpha = .82 - .92$ syndrome, $\alpha = .82 - .93$ competence), parent agreement ($r = .72 - .85$ broadband, $r = .65 - .85$ syndrome, $r = .57 - .76$ competence), 8-day test-retest reliability ($r = .91 - .92$ broadband, $r = .67 - .88$ syndrome, $r = .83 - .91$ competence), 12-month stability ($r = .80 - .82$ broadband, $r = .64 - .82$ syndrome, $r = .62 - .76$ competence), and 24-month stability ($r = .70 - .82$ broadband, $r = .56 - .81$ syndrome, $r = .43 - .73$ competence) for the CBCL. The ASEBA information is collected on optical scan forms that are sent via state courier to the CAMHD Management Information System (MIS) office for processing and uploading to CAMHMIS. As a guide to interpreting the reported T-scores, a score of 65 roughly represents borderline clinical elevations and a score of 70 roughly represents a clinically significant elevation.

ASEBA Teacher Report Form (TRF; Achenbach, 1991b; Achenbach and Rescorla, 2001). The TRF is a 113-item behavior problem checklist that is completed by teachers or school personnel who know the child in school-like settings. Respondents are asked to rate items on a three point scale from not true to very true or very often that describe a pupil “now or within the past 2 months.” It provides total, broadband, syndrome, and competence scales. The broadband problem scales measure an internalizing factor and an externalizing factor. The syndrome scales measure withdrawn behavior, somatic complaints, anxious/depressed behavior, delinquent behavior, aggressive behavior, social problems, thought problems, and attention problems. The TRF competence (a.k.a. adaptive functioning) assessment differs from the other ASEBA forms and yields the following scales: academic performance, working hard, behaving appropriately, learning, and happy. Raw scores and T-scores (Mean = 50, SD = 10) based on gender and age groups from the standardization sample are available. Achenbach and Rescorla (2001) reported internal consistency ($\alpha = .90 - .95$ broadband, $\alpha = .72 - .95$ syndrome, $\alpha = .90$ total adaptive functioning), teacher agreement ($r = .58 - .69$ broadband, $r = .28 - .69$ syndrome, $r = .37 - .58$ competence), 16-day test-retest reliability ($r = .86 - .89$ broadband, $r = .60 - .96$ syndrome, $r = .78 - .93$ competence), 4-month stability ($r = .48 - .69$ broadband, $r = .38 - .84$ syndrome) for the TRF. The ASEBA information is collected on optical scan forms that are sent via state courier to the CAMHD Management Information System (MIS) office for processing and

uploading to CAMHMIS. As a guide to interpreting the reported T-scores, a score of 65 roughly represents borderline clinical elevations and a score of 70 roughly represents a clinically significant elevation.

ASEBA Youth Self-Report (YSR; Achenbach, 1991c; Achenbach and Rescorla, 2001). The YSR is a 112-item behavior problem checklist that is completed by youth between 11 and 18 years of age. Respondents are asked to rate items on a three point scale from not true to very true or very often that describe themselves “now or within the past 6 months.” It provides total, broadband, syndrome, and competence scales. The broadband problem scales measure an internalizing factor and an externalizing factor. The narrowband problem scales measure the following dimensions: withdrawn behavior, somatic complaints, anxious/depressed behavior, delinquent behavior, aggressive behavior, social problems, thought problems, and attention problems. Raw scores and T-scores (Mean = 50, SD = 10) based on gender and age groups from the standardization sample are available. The YSR competence scales measure activity and social competence, but not school competence. Achenbach and Rescorla (2001) reported internal consistency ($\alpha = .90$ broadband, $\alpha = .71 - .90$ syndrome, $\alpha = .55 - .75$ competence), 8-day test-retest reliability ($r = .80 - .89$ broadband, $r = .67 - .88$ syndrome, $r = .83 - .91$ competence), and 7-month stability ($r = .53 - .59$ broadband, $r = .36 - .63$ syndrome, $r = .43 - .59$ competence) for the YSR. The ASEBA information is collected on optical scan forms that are sent via state courier to the CAMHD Management Information System (MIS) office for processing and uploading to CAMHMIS. As a guide to interpreting the reported T-scores, a score of 65 roughly represents borderline clinical elevations and a score of 70 roughly represents a clinically significant elevation.

Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1998). The CAFAS is a 200-item clinician report scale that measures youth’s level of functional impairment. Based on their knowledge and experience with the child, raters review behavioral descriptions ordered by level of impairment within eight domains of functioning. The subscales of School Role Performance, Home Role Performance, Community Role Performance, Behavior Toward Others, Mood/Emotions, Mood/Self-Harmful Behavior, Substance Use, and Thinking are calculated by scoring the highest level of impairment (i.e., severe = 30, moderate = 20, mild = 10, no/minimal = 0) endorsed within the respective domain of items. An eight-scale total score is calculated by summing across the eight subscales, whereas a five-scale total is calculate by summing the raw scores from behavior, substance use, and thinking scales with the maximum score from the school, home, and community role performance scales and with the maximum score from the emotions and self-harm. The CAFAS has been found to have acceptable internal consistency across items, inter-rater reliability across sites, and stability across time (Hodges, 1995; Hodges and Wong, 1996). Studies of concurrent validity have found that CAFAS scores are related to severity of psychiatric diagnosis, intensity of care provided, restrictiveness of living settings, juvenile justice involvement, social relationship difficulties, school-related problems, and risk factors. Studies of predictive validity have found that CAFAS scores from intake assessments predict service utilization and cost for services. Analysis of the operating characteristics of the CAFAS within the CAMHD system suggested reasonable convergent validity with the CALOCUS and MTPS progress ratings periods (Daleiden, 2004; Nakamura, Daleiden, & Mueller, 2007). Care coordinators serve as the primary raters for the CAFAS and results are entered directly into a networked, computer-scoring program by care coordinators or statistics clerks.

Recommended interpretation guidelines for the eight-scale total score are:

8-Scale	Description
0 – 10	Exhibits no or minimal impairment
20 – 40	Likely can be treated on an outpatient basis provided that risk behaviors are not present
50 – 90	May need care additional services beyond outpatient care
100 –130	Likely needs care which is more intensive than outpatient and/or which includes multiple sources of supportive care
140 +	Likely needs intensive treatment, the form of which would be shaped by the presence of risk factors and the resources available within the family and the community

Child and Adolescent Level of Care Utilization System (American Academy of Child and Adolescent Psychiatry, 1999). The CALOCUS is a clinician rating form. Clinicians make dimensional ratings on a five-point scale in the domains of risk of harm, functional status, comorbidity, environmental stress, environmental support, resiliency and treatment history, child treatment acceptance and engagement, and parent treatment acceptance and engagement. These ratings may be summed to yield a total score, but are also combined through a detailed algorithm into a level of care judgment into one of seven categories: basic services (Level 0), recovery maintenance and health management (Level 1), outpatient services (Level 2), intensive outpatient services (Level 3), intensive integrated service without 24-hour medical monitoring (Level 4), non-secure, 24-hour, medically monitored services (Level 5), and secure, 24-hour, medically managed services. Preliminary reliability (Fallon et al., 2002) indicated that intrajudge agreement based on clinical vignettes ranged from ICC (2,2) = .57 - .95 across scales with all scale above .70 except for environmental stress and child treatment acceptance and engagement. Preliminary validity analysis found that the CALOCUS total score correlated -.33 with the Child Global Assessment of Scale (CGAS) and .62 with the CAFAS eight-scale total score. Analysis of the operating characteristics of the CALOCUS within the CAMHD system suggested reasonable convergent validity with the CAFAS and MTPS progress ratings over short time periods (Daleiden, 2004; Nakamura, Daleiden, & Mueller, 2007). Care coordinators serve as the primary raters for the CALOCUS and results are entered directly into a networked computer scoring program by care coordinators or statistics clerks.

Recommended interpretation guidelines for the total and level of care scores are:

Total	Level	Description
7 – 9	0	Basic Services
10 – 13	1	Recovery Maintenance and Health Management
14 – 16	2	Outpatient Services
17 – 19	3	Intensive Outpatient Services
20 – 22	4	Intensive Integrated Service without 24-hour Psychiatric Monitoring
23 – 27	5	Non-secure, 24-hour, Services with Psychiatric Monitoring
28 +	6	Secure, 24-hour, Services with Psychiatric Monitoring

CAMHD Lifetime Max represents the most severe level of functioning, need, or impairment known to CAMHD since the youth has entered the system. Specifically, this is the highest score that the youth has ever received at any assessment occasion recorded in CAMHMIS. Due to missing data or time between assessments, this value may underestimate the youth’s “true” level of most impaired functioning.

Average During Period represents the youth’s typical level of functioning during the reporting period as defined by arithmetic average of all scores recorded for the youth during the reporting period.

Most Recent Score represents the most “up-to-date” status of the youth as indicated by the most recent assessment conducted during the reporting period.

Average Max:Recent Change represents the most “up-to-date” status of the youth relative to their most impaired status and is an indication of the amount of progress the youth has achieved since their “worst” level. Specifically, the youth’s most recent score is subtracted from their CAMHD lifetime maximum score to calculate this value. The number of youth (N) reported for this indicator includes youth with at least two assessments, one of which must have been completed during the reporting period.

Reliable Improvement in Child Status. Reliable improvements were calculated using the most recent score during the reporting period for youth with more than one assessment. This was compared to the most impaired level of functioning the child experienced during any assessment since s/he was registered for CAMHD services. This index describes whether the child’s recent functioning is statistically significantly

better than the most problematic functioning. This maximum to recent value comparison was selected to increase the sample size available for this analysis due to limited availability of intake assessments available. Because the maximum values represent extreme scores, this procedure will tend to overestimate the percent of improvement that would be expected from intake to most recent scores. However, the maximum scores also tended to have greater variability than intake scores, so the amount of change necessary to be considered reliable would also be greater and thus tend to buffer the overestimation effect. The final indicator was the number of youth showing reliable improvement divided by the number of youth (N) with maximum scores in the moderate to severe range represented as a percentage.

Clinical Improvement in Child Status. Youth were identified as experiencing clinical improvements if their maximum scores represented moderate to severe impairments or problems and their most recent score represented mild or borderline problems. The final indicator was the number of youth showing clinical improvement divided by the number of youth (N) with maximum scores in the moderate to severe range represented as a percentage. For the CAFAS, total scores of 70 or above were defined as moderate to severe, whereas scores 20 or above on the subscales were defined as moderate to severe. For the CALOCUS, a level of care score of 3 or above were defined as moderate to severe, whereas scores of 17 or above on the total scale define moderate to severe. For the ASEBA, T-scores of 70 or above were defined as moderate to severe for all scales.

Sentinel Event information is based on hard copy reports that are submitted by the provider network to the CAMHD performance management office. These reports are recorded in the Sentinel Event Database, which provided the final data for analysis. The total number of hard copy reports was adjusted based on the monthly CAMHD census to estimate the rate of sentinel event reports per 1,000 youth. The monthly average represents the average number of reports that are received per month and is not adjusted for population size. Finally, the percent of youth with one or more event reports is presented to provide some indication of the distribution of events across youth. Child events are events that involve behaviors emitted by the youth (e.g., person-directed events involve physical or sexual assault of another person by the youth). Institutional events are circumstances that involve actions by others in the youth's ecology. For institutional events, the youth may be the recipient or victim of the event (e.g., assault of the youth by another) or it may involve staff injury during the treatment of the youth.

Coordinated Service Plan Quality ratings were based on a quarterly review by CAMHD quality assurance specialists. Each quarter a random sample of coordinated service plans were selected for review and were rated on an 11-item quality checklist. Each quality indicator was rated as fully (2), partially (1), or not (1) meeting quality standards. The indicators were stakeholder involvement, understanding child needs, individualized, included informal supports, incorporated evidence-based practices, addressed concerns and priorities, presented a long-term view on outcomes, accountable services, incorporated contingency and crisis plans, planned for transitions and discharges, and least restrictive environment. The average rating across all 11 indicators is reported, as is the percent of youth with an average rating above 1.5 units.