Patterns of Service Utilization among Children in the Child Protection System Under Implementation of Child Welfare Prepaid Mental Health Plan

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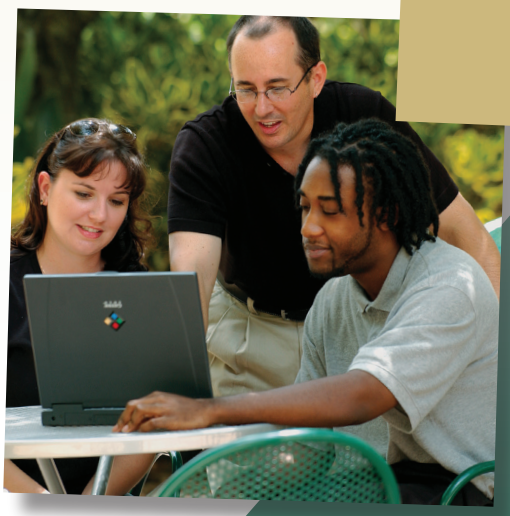

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University of South Florida

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The College of Behavioral and Community Sciences enrolls nearly 2,200 students and includes the Departments of Aging and Mental Health, Child and Family Studies, Communication Sciences and Disorders, Criminology, Mental Health Law and Policy, and Rehabilitation and Mental Health Counseling as well as the School of Aging Studies and School of Social Work. In addition, the college includes the Louis de la Parte Florida Mental Health Institute, a research, knowledge dissemination, and policy institute with a special focus on mental health and substance abuse.

Louis de la Parte Florida Mental Health Institute

The Louis de la Parte Florida Mental Health Institute at the University of South Florida has a mission to strengthen mental health services throughout the state. The Institute provides research, training, education, technical assistance, and support services to mental health professionals and agencies as well as consumers, consumer organizations, and behavioral health advocates statewide. At the state level, the Institute works closely with the Departments of Children and Families (DCF), Corrections (DOC), Elder Affairs (DOEA), Education (DOE), and the Agency for Health Care Administration (AHCA), as well as with members and staff of the State Legislature and providers of mental health services throughout Florida.

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Patterns of Service Utilization among Children in the Child Protection System Under Implementation of Child Welfare Prepaid Mental Health Plan

Executive Summary

Children who enter the child protection system represent the greatest users of behavioral health services defined as any mental health, alcohol or drug abuse treatment services (Burns et al., 2004; Leslie et al., 2004; Staudt, 2003), have the highest rates of hospitalization, and have health care costs that are considerably higher compared to other Medicaid eligible children (Takayama, Bergman, & Connel, 1994). To increase effectiveness of mental health services provision, cost efficiency, as well as to better help children in the child protection system, the Florida Agency for Health Care Administration contracted with Magellan Behavioral Health of Florida, Inc. to implement the Child Welfare-Prepaid Mental Health Plan (CW-PMHP) in Florida.

To enhance our understanding of children's mental health service utilization and factors associated with it, we sought to examine the effect of child individual characteristics, child maltreatment histories, diagnoses, and CW-PMHP on mental health service utilization. Therefore, the goals of this study were to examine the effect of individual characteristics (e.g., demographic characteristics, maltreatment histories, and diagnoses) and the effect of the Child Welfare Prepaid Mental Health Plan on mental health service utilization among children placed in out-of-home care. Participants in this study were children in Florida who were placed in out-of-home care during fiscal year 2006-2007 between birth and age 18.

Mental health services utilization was examined based upon six key indicators that reflect inpatient and outpatient services: 1) number of office-based outpatient mental health services; 2) number of visits to mental health providers; 3) number of hospital-based outpatient services; 4) number of mental health–related hospitalization episodes; 5) length of stay (in days) during the first hospitalization episode; and 6) time (in days) to re-admission to an inpatient treatment facility.

Predictor measures included: 1) child's demographic characteristics, such as child's age (i.e., child's age by the end of fiscal year 2006-2007), gender, and race/ethnicity [only three categories of race/ethnicity were included in the analyses: a) Whites; b) African Americans; and c) Hispanics. Asian Americans and American Indians had too few cases for obtaining stable and reliable estimates. The *Other* category was excluded as the definition of *Other* was too heterogeneous for interpretation; 2) child's mental health diagnosis; and 3) child's maltreatment history, such as type of maltreatment (i.e., abuse, neglect, threatened harm, and loss of a caregiver), the number of verified maltreatment incidents during fiscal year 2006-2007, and maltreatment severity.

Results showed that the four most prevalent disorders among children who entered out-of-home care were (in rank order) attention deficit disorder, conduct disorder, post traumatic stress disorder, and anxiety disorder. Boys were more likely to receive the diagnosis of attention deficit disorder or conduct disorder, while girls

were more likely to receive post traumatic stress disorder. Race/ethnicity was found to be associated with only attention deficit disorder, that is, children who were either Hispanic or African American were significantly less likely to have received this diagnosis.

When outpatient mental health office-based services (including visits to mental health providers) were examined, the results of this study indicated that older children received more outpatient office-based services and had more mental health visits. Children who lost their caregiver received significantly more outpatient services and had more mental health visits compared to children with other types of maltreatment. Finally, children with attention deficit disorder and children with conduct disorder received significantly more outpatient office-based services and had more mental health visits compared to children who did not have these disorders.

When hospital-based outpatient services were examined, only age and having a diagnosis of attention deficit disorder were significantly associated with the number of hospital-based outpatient services received. Older children received significantly more hospital-based outpatient services, but children diagnosed with attention deficit disorder received significantly fewer services compared to children who did not have such a diagnosis.

No significant associations were found when the number of hospitalizations, length of stay in a mental health institutional facility, and the time to second hospitalization were examined. Post traumatic stress disorder and attention deficit disorder were the only examined predictors found to be significantly associated with increased likelihood of placement in State Inpatient Psychiatric Program (SIPP).

Area Comparison

The results of our analyses indicated that children in Broward county (AHCA area 10) received substantially more outpatient services, including services provided by institutional facilities, compared to the rest of the state, while children in Escambia, Okaloosa, Santa Rosa, Walton counties (AHCA area 1) and in Hardee, Highlands, Hillsborough, Manatee, Polk counties (AHCA area 6) received considerably fewer outpatient services compared to the rest of the state. No significant differences were found when areas 1, 6, and 10 were compared with the rest of the state on indicators reflecting inpatient services.

Background

Prevalence of mental health problems among children in out-of-home care. Numerous studies have documented the prevalence of mental health problems among children in out-of-home care. Leslie et al. (2000) reported that almost 50% of the children in long-term foster care demonstrated the need for mental health services as defined by the borderline clinical cut-point on the Total Problem Scale of the CBCL (Achenbach, 1991). Burns et al. (2004) also documented that nearly half of youth aged 2 to 14 with completed child welfare investigations had clinically significant emotional and behavioral needs. Some studies (Farmer et al., 2001, Landsverk, Garland, & Leslie, 2002; Taussig, 2002) suggest that as many as 80% of youths involved with child welfare agencies have emotional or behavioral disorders, developmental delays, or other indications of need for behavioral health services. Based upon a review of 13 studies, Staudt (2003) demonstrated that children in foster care had higher rates of mental disorders and mental health utilization than comparison groups of children

not in foster care but receiving public assistance. Bilaver, Jaudes, Koepke, and Goerge (1999) found that children who entered foster care were nearly 2.5 times more likely to be diagnosed with a chronic psychiatric condition and nearly 1.5 times more likely to be diagnosed with developmental disorders and mental retardation than children who received public assistance but did not receive child protection services. Similarly, DosReis, Zito, Safer, and Soeken (2001) showed that the prevalence of mental disorders among youths enrolled in foster care was twice that of youths receiving Supplemental Security Income (SSI) and nearly 15 times that of youths receiving other types of aid. High rates of behavioral problems and impaired functioning among children in out-of-home care were also reported by Pilowsky (1995), Clausen, Landsverk, Ganger, Chadwick, and Litrownik (1998), Dore (1999), & Garwood and Close (2001).

Utilization of mental health services among children in out-of-home care. A great number of studies have also demonstrated that children in out-of-home care are among the highest users of behavioral health services. For example, Takayama, Bergman, and Connel (1994) examined Medicaid claims and found that service use and expenditures in Washington State were considerably higher for the foster care population than for children receiving public assistance. Similarly, Bilaver et al. (1999) and Staudt (2003) found that children in foster care were significantly more likely to use all types of mental health services compared to children receiving public assistance. A study by Leslie et al. (2000) indicated that almost 42% of children in foster care received some type of outpatient mental health service during the 18-month period following removal from their homes of origin. Swenson, Brown, and Sheidow (2003) found that initially half of physically abused children were provided mental health services, but this rate fell 40% within 6 months. Burns et al. (2004) concluded that despite high utilization of mental health services by children in out-of-home care, there is a substantial gap between mental health needs and services received.

Factors associated with mental health service utilization. Findings from other research suggest that children who enter out-of-home care differ in their service utilization. For example, Garland and colleagues (2001) showed that increased age was associated with a significantly greater likelihood of service use. Staudt (2003) demonstrated that children in kinship foster care used mental health services less than children who were placed in non-kinship foster care. Findings of the study by McMillen et al. (2004) indicated that presence of a psychiatric disorder was associated with increased service use among older children in foster care. Results of a study conducted by Hussey and Guo (2002) indicated that behavioral symptomatology was strongly linked to the use of inpatient mental health services. Finally, James and colleagues (2004) showed that children who experienced behavior-related placement changes received more outpatient mental health visits than children who experienced placement changes for other reasons.

Race/ethnicity as a factor associated with mental health service utilization. Race/ethnicity was shown to be associated with mental health service utilization. For example, the findings of studies conducted by Leslie et al. (2004), Garland and Besinger (1997), and Garland et al. (2000) suggest that minority youths were less likely to receive behavioral health services than Caucasians. In a study that examined the effect of managed care on access to mental health treatment by minority youth in foster care, Snowden, Evans-Cuellar, and Libby (2003) concluded that despite the introduction of managed care, Hispanic children continued to trail behind White and Black groups in terms of the average number of outpatient visits, and both Black and Hispanic

children spent fewer days in residential treatment centers compared to White children. Similarly, Courtney et al. (1996) reported that minority children and their families in the child welfare system received fewer services and had poorer outcomes that did Caucasian children. Based on a review of the studies that dealt with service utilization among children in foster care, Staudt (2003) demonstrated that race was a consistent non-need predictor, that is, Caucasian children were likely to receive mental health services and have more visits than children of color. In addition, McMillen and colleagues (2004) showed that youth of color placed in foster care were less likely to receive outpatient therapy, psychotherapeutic medications, and outpatient services.

Type of maltreatment as a factor associated with mental health service utilization. Studies also showed that maltreatment type was associated with pattern of service utilization for children placed in out-of-home care. In particular, research conducted by Garland and colleagues (1996), Kinard (2002), and Staudt (2003) indicated that children with clinically significant behavior problems and children who were removed due to physical and/or sexual abuse were more likely to receive mental health services than children removed for other reasons. Similarly, a study by Burns et al. (2004) indicated that sexually abused preschool children were approximately four times more likely to receive mental health services compared to children who had been neglected. Leslie et al. (2004) found that children who experienced sexual abuse were almost five times more likely to receive services compared to children who had no such history. In contrast, neglected children had much lower rates of service use compared to children with history of physical abuse. McMillen and colleagues (2004) showed that youths that were placed in foster care because of neglect were less likely to receive mental health services. Finally, Leslie and colleagues demonstrated that children who experienced caregiver loss received fewer outpatient services than children who did not have such experience.

The effect of health care policy. Following Combs-Orme, Chernoff, and Kager's (1991) theoretical model, service utilization may be thought of as a product of three factors: 1) relevant health care policy; 2) structure of the health care system; and 3) certain characteristics of the population including need and predisposing factors. However, only a few studies have addressed the effect of health care policy and structure of the health care system on service utilization by foster children (Clyman, 2000; Steinhauer, 1988). Furthermore, there is a growing interest in understanding the effect of system-level intervention in general and the effect of specific types of financing mental health services in particular (Clyman, 2000) on children's outcomes.

To increase effectiveness of mental health services provision and cost efficiency as well as to better help children in the child protection system, the Florida Agency of Health Care Administration contracted with the Community Based Care Partnership, Ltd.,. to implement the Child Welfare-Prepaid Mental Health Plan (CW-PMHP) in Florida. Implementation of the CW-PMHP began in February, 2007 and represents a major change in financing and delivery of mental health services for the child welfare population. Understanding the impact of CW-PMHP on mental health services delivery for children in the child protection system as well as exploring patterns of service utilization under implementation of PMHP is critical for developing appropriate interventions and improving service delivery and outcomes for children in the child protection system. Because the implementation of the CW-PMHP began during fiscal year 2006-2007, it is not feasible to expect the occurrence of anticipated changes by the end of the year. Therefore, this part of the study will focus on assessment of the current status of mental health services utilization and

examination of baseline data for the CW-PMHP versus AHCA areas 1, 6, and 10 comparisons.

To enhance our understanding of children's mental health service utilization and factors associated with it, we sought to examine the effect of child individual characteristics, child maltreatment histories, diagnoses, and CW-PMHP on mental health service utilization. Therefore, the goals of this study were to examine the effect of individual characteristics (e.g., demographic characteristics, maltreatment histories, diagnoses) and the effect of the Prepaid Mental Health Plan on mental health service utilization among children placed in out-of-home care.

Study Research Questions

Specific research questions addressed in this study were the following:

1. What is the prevalence of the eight most common children's mental health disorders among children entering out-of-home care?
2. Are there differences in utilization of *outpatient office-based mental health services* by child demographic characteristics, child maltreatment histories, and diagnoses?
3. Are there differences in the number of *outpatient visits to mental health providers* by child demographic characteristics, child maltreatment histories, and diagnoses?
4. Are there differences in utilization of *outpatient hospital-based mental health services* by child demographic characteristics, child maltreatment histories, and diagnoses?
5. Are there differences in the *number of mental health hospitalizations* by child demographic characteristics, child maltreatment histories, and diagnoses?
6. Are there differences in the *length of stay in mental health institutional facilities* by child demographic characteristics, child maltreatment histories, and diagnoses?
7. Are there differences in time to *readmission in mental health institutional facilities* by child demographic characteristics, child maltreatment histories, and diagnoses?
8. Are there differences in utilization of *outpatient office-based mental health services, outpatient visits to mental health providers, outpatient hospital-based mental health services, number of mental health hospitalizations, length of stay in mental health institutional facilities,* and *readmission in mental health institutional facilities* between the CW-PMHP Area versus AHCA areas 1, 6 and 10?

Methods

Participants

Children in Florida who were placed in out-of-home care during fiscal year 2006-2007 between birth and age 18 (all children who did not reach their 19th birthday by July 1, 2007, $M = 7.07$, $SD = 5.25$), which is the beginning of the fiscal year, were included in this study. Age limitations are imposed by the nature of the research questions (service utilization among children placed in out-of-home care).

Data Sources

Data for the analyses of indicators used in this report came from the Florida Medicaid claims administrative databases. Three datasets were used: 1) fee-for services Medicaid Medical claims dataset, which contains information on any outpatient services paid by Medicaid; 2) Medicaid Institutional claims dataset, which contains information on services provided by hospitals and other institutional facilities; and 3) Prepaid Mental Health Medical claims, which contains information on any health-related services provided to children and included in the prepaid mental health plan. In addition, these databases provide information about clients' sociodemographic characteristics, their diagnoses, type of services they received, dates when these services were provided, and costs per service.

Information about children placed in out-of-home care was obtained from HomeSafenet (HSn). Specifically, two HSn modules were used: 1) the Child Safety Assessment Module; and 2) the Case Module. Information about child maltreatment reports, results of child protective investigations, and frequency of maltreatment incidents were obtained from the Child Safety Assessment Module. Information regarding out-of-home care, out-of-home care placements, and child outcomes after discharge from out-of-home care was obtained from the Case Module.

Indicators

The key indicators were:

1. ICD-9 mental health diagnostic codes;
2. number of office-based outpatient mental health services;
3. number of visits to mental health providers;
4. number of hospital-based outpatient services;
5. number of mental health–related hospitalization episodes;
6. length of stay (in days) during the first hospitalization episode; and
7. time (in days) to readmission to an inpatient treatment facility.

Predictor Measures

Predictor measures included:

1. child's demographic characteristics, such as age (i.e., child's age by the end of fiscal year 2006-2007), gender, and race/ethnicity [Only three categories of race/ethnicity were included in the analyses. They consist of Whites, African Americans, and Hispanics. Neither Asian Americans nor American Indians were included in these analyses, as too few cases were available for obtaining stable and reliable estimates. The *Other* category was excluded as the definition of *Other* was too heterogeneous for interpretation];
2. child's mental health diagnosis; and
3. child's maltreatment history, such as type of maltreatment (i.e., abuse, neglect, threatened harm, and loss of a caregiver), the number of verified maltreatment incidents during fiscal year 2006-2007, and maltreatment severity.

Analytic Approach

Several analytic techniques were used to address the research questions of the project. Multiple regression analyses were used to address the research questions related to the *number of service,* Cox regression (i.e., proportional hazards modeling) was used (Cox, 1972) to address research questions related to the time to event indicators. Analysis of Variance (ANOVA) was used to compare means (i.e., average number of services received by Area). Logistic regression was used to predict the likelihood of having a specific mental disorder and to predict the likelihood of being placed in the State Inpatient Psychiatric Program (SIPP).

Results/Discussion

Prevalence

Prevalence of mental health disorders among children: Nine different mental disorders, considered to be the most prevalent among children by the Center for Mental Health Services (Center for Mental Health Services, 2006), were examined for their relative frequency of occurrence among children: 1) attention deficit; 2) conduct disorder; 3) depression; 4) bipolar disorder; 5) post traumatic stress disorder; 6) substance abuse; 7) schizophrenia; 8) eating disorder; and 9) anxiety disorder. Table 1 lists the ICD-9 diagnostic codes that were included in each of the disorders.

The four most prevalent disorders that were found among children who entered out-of-home care were: 1) attention deficit disorder (2.8%); 2) conduct disorder (1.0%); 3) post traumatic stress disorder (0.7%); and 4) anxiety disorder (0.6%). Table 2 lists the nine disorders in descending prevalence (see Table 2).

Patterns of prevalence for the four most prevalent disorders

For each of the four most prevalent disorders, prevalence of the diagnosis was examined for significant differences among racial/ethnic groups using logistic regression. The patterns were examined for African Americans, Hispanics, and Whites (the reference group). Additional covariates included in these analyses as control variables were gender and age.

Results of the logistic regressions indicated that children who were either Hispanic or African American were significantly less likely to have received the diagnosis of attention deficit disorder. Specifically, Hispanic children were 1.7 times less likely to be diagnosed with attention deficit disorder. In addition, boys were 55% more likely to be diagnosed with this disorder. Similarly, males were more likely to have conduct disorder (i.e., 70% more likely), but no effect for race/ethnicity was found. No differences were found by race/ethnicity for anxiety or post traumatic stress disorders, but females were 1.8 times more likely than males to be diagnosed with post traumatic stress disorder. Age was significantly associated with all four examined disorders in such a way that one year of getting older is related to approximately 12% increased likelihood of receiving a diagnosis.

Outpatient Office-Based Mental Health Service Use

The number of outpatient services per year received by children who were placed in out-of-home care in FY06-07 (N = 4,218) averaged 13.64. For each of the four most prevalent disorders, the number of services received was considerably greater, averaging 26.89 for attention deficit disorder, 25.51 for conduct disorder, 23.11 for

posttraumatic stress disorder, and 17.19 for anxiety disorder.

The results of multiple regression indicated that among child demographic characteristics, only age was associated with increased number of services, with older children receiving more outpatient office-based services (see Table 3). Race/ethnicity was not found to be significantly associated with the number of outpatient office-based services.

When child maltreatment histories were examined, the results of multiple regression showed that children who were abused and children who lost their caregiver received significantly more services compared to children with other types of maltreatment.

Finally, when the effect of different diagnoses was examined, results of multiple regression indicated that children with attention deficit disorder and children with conduct disorder received significantly more services compared to children who either did not have any disorders or had other mental disorders (see Table 3).

Number of visits to mental health providers

When only outpatient visits to a mental health provider were considered, the mean number of visits for children with all examined mental disorders was 11.15. For only children with attention deficit disorder, the overall mean was 22.66, with conduct disorder it was 23.79, with posttraumatic stress disorder it was 20.05, and for children with anxiety disorder it was 12.32.

Results of the multiple regression analyses indicated that older children and children who lost their caregiver had significantly more outpatient visits to mental health providers. In addition, children who were diagnosed with attention deficit disorder or conduct disorder had significantly more visits to mental health providers compared to children who did not have these diagnoses. Race/ethnicity was not found to be significantly associated with the number of visits to mental health providers.

Mental Health Service Use Provided by Institutional Facilities

Number of hospital-based outpatient services. During FY06-07, children placed in out-of-home care received on the average 7.64 outpatient services provided by institutional facilities. The average number of hospital-based outpatient services for children with attention deficit disorder was 5.57, 7.64 for children with conduct disorder, 8.94 for children with post traumatic stress disorder, and 7.20 for children with anxiety disorder.

Results of multiple regression analyses indicated that only age and having a diagnosis of attention deficit disorder were significantly associated with the number of hospital-based outpatient services received. However, there was an inverse association between having a diagnosis of attention deficit disorder and the number of hospital-based outpatient services: Children with this diagnosis received significantly fewer services compared to children who did not have such diagnosis (see Table 3).

Number of hospital episodes. During fiscal year 2006-2007, there were 174 children who entered out-of-home care and subsequently were admitted into a hospital-based treatment facility. These children averaged 1.6 hospital episodes per year. Children with post traumatic stress disorder had on average the highest number of hospitalization episodes (1.8), and children with conduct disorder had on average the

lowest number of hospitalization episodes (1.3). However, this difference was not statistically significant. When the associations between other predictors and the number of hospitalizations were examined, no significant associations were found (see Table 4).

Number of hospital days for first hospitalization. For children who were placed in out-of-home care during FY06-07 and were hospitalized in mental health institutional facilities (*N* = 174), the median number of hospital days for a first hospitalization was 4. Examined by disorder, the medians ranged between 5 and 6 days per hospitalization. Cox regression analyses were used to examine if the number of hospital days or length of stay for the first hospitalization episode differed significantly by child's demographic characteristics, child's maltreatment history, and mental disorder. Results indicated that none of the examined predictors were associated with the length of stay in a mental health institutional facility (see Table 5).

Number of days until second hospitalization. Among children who were placed in out-of-home care during FY06-07 and who received a second hospitalization (*N* = 172), the median number of days until a second hospitalization was 227. Broken down by disorder, the medians ranged between 162 for children with conduct disorder and 234 for children with attention deficit disorder.

Results of multivariate Cox regression analyses indicated that only age and race/ethnicity were significantly associated with the time to second hospitalization. Specifically, children who were Hispanic had fewer days until second hospitalization compared to children who were White and African American. In addition, Hispanic children were almost three times (odds ratio = 2.86) more likely to be hospitalized a second time compared to White and African American children. Similarly, younger children were likely to be hospitalized sooner, and being one year younger is associated with a 15% increased likelihood of being hospitalized (see Table 6).

Placement in State Inpatient Psychiatric Program (SIPP). There were 31 children who were placed in out-of-home care in FY06-07 and subsequently placed in SIPP. The average length of stay in SIPP for these children was approximately 2 months. The results of logistic regression analysis indicated that post traumatic stress disorder and attention deficit disorder were the only examined predictors found to be significantly associated with placement in SIPP. Children with posttraumatic stress disorder were almost 7 times more likely to be admitted to SIPP. In contrast, children with attention deficit disorder were 4 times less likely to be placed in SIPP.

Area Comparison

To understand the impact of the new Child Welfare Prepaid Mental Health Plan (CW-PMHP) on mental health service delivery for children in the child protection system, all areas in the state of Florida where this plan was implemented (referred to as "rest-of-state") were compared to Area 1 (Escambia, Santa Rosa, Okaloosa, and Walton), Area 6 (Hardee, Highlands, Hillsborough, Manatee, Polk) where children in child protection system can receive services from other managed care programs, and area 10 (Broward County) where a pilot health care reform has been occurring. Four sets of comparisons were performed: 1) rest-of-state compared to area 1; 2) rest-of-state compared to area 6; 3) rest-of-state compared to area 10; and 4) rest-of-state compared to areas 1, 6 and 10 combined. These comparisons were conducted on 6 indicators: 1) the number of office-based mental health services; 2) the number of visits to mental health providers; 3) the number of outpatient hospital-based services; 4) the number of hospitalization episodes; 5) the length of time in first hospitalization; and 6) time between first and second hospitalization.

Area 1 vs. Rest-of-State comparison. When area 1 was compared to the rest-of-state on the average number of office-based mental health services per child per year and the average number of visits to mental health providers per child per year, the results of ANOVA indicated that children in area 1 received a significantly lower number of services and had a significantly lower number of visits to mental health providers compared to children in the rest-of-state. For example, children in area 1 received, on average, seven outpatient office-based mental health services compared to 13.5 in the rest-of-state (see Table 14). Similarly, children in area 1, on average, had six visits to mental health providers compared to 11 in the rest-of-state (see Table 15). In addition, the results of ANOVA analysis indicated that children in area 1, on average, received six outpatient hospital-based services per year compared to eight services received by children in the rest-of-state (see Table 16). No significant differences were found when area 1 was compared to the rest-of-state on any indicators that reflect inpatient services.

Area 6 vs. Rest-of-State comparison. When area 6 was compared to the rest-of-state on the average number of office-based mental health services per child per year and the average number of visits to mental health providers per child per year, the results of ANOVA indicated that children in area 6 received a significantly lower number of services compared to the rest-of-state. For example, children in area 6 received, on average, 10 outpatient office-based mental health services compared to 13.5 in the rest-of-state (see Table 14). However, no significant differences were found when area 6 was compared to the rest-of-state on visits to mental health providers and the number of outpatient hospital-based services. No significant differences were found when area 6 was compared to the rest-of-state on any indicators that reflected inpatient services (see Tables 17, 18, and 19).

Area 10 vs. the Rest-of-State comparison. When area 10 was compared to the rest-of-state on the average number of office-based mental health services per child per year, the average number of visits to mental health providers per child per year, and the number of outpatient hospital-based services, the results of ANOVA indicated that children in area 10 received a significantly higher number of these services. For example, compared to the rest-of-state, children in area 10 received, on average, 40 outpatient office-based mental health services, had 35 visits to mental health providers, and received 10 outpatient hospital-based services (see Tables 14-16). No significant differences were found when area 10 was compared to the rest-of-state on any indicators that reflected inpatient services (see Tables 17-19).

Areas 1, 6, and 10 vs. the *Rest-of-State comparison.* When areas 1, 6, and 10 were compared to the rest-of-state on all examined indicators, no significant differences were found (see Tables 14 -19).

Conclusions

Prevalence of Mental Disorders

The four most prevalent disorders that were found among children who entered out-of-home care included attention deficit disorder, conduct disorder, post traumatic stress disorder, and anxiety disorder. Consistent with findings of a study by McMillen et al. (2004), the results of this study indicated that age was significantly associated with having a mental disorder. Older children were more likely to be diagnosed with any of the four the most prevalent disorders. Gender was found to

be significantly associated with receiving attention deficit disorder, conduct disorder, or post traumatic stress disorder, but these associations differ for males and females. Boys were more likely to receive the diagnosis of attention deficit disorder or conduct disorder, while girls were more likely to receive post traumatic stress disorder. Race/ethnicity was found to be associated with only attention deficit disorder, that is, children who were either Hispanic or African American were significantly less likely to have received this diagnosis.

Outpatient Office-Based Mental Health Service Use

Results of multiple regression analyses indicated that among child demographic characteristics only age is associated with increased number of services and number of mental health visits, with older children receiving more outpatient office-based services and having more mental health visits. No effect for race/ethnicity was found when the number of outpatient office-based services was examined. In contrast, with the findings of a study by Leslie et al. (2004), the results of this study indicated that children who lost their caregiver received significantly more services and had more mental health visits compared to children with other types of maltreatment. Finally, children with attention deficit disorder and children with conduct disorder received significantly more outpatient office-based services and had more mental health visits compared to children who did not have these disorders.

Mental Health Service Use Provided by Institutional Facilities

When hospital-based outpatient services were examined, only age and having a diagnosis of attention deficit disorder were significantly associated with the number of hospital-based outpatient services received. However, there was an inverse association between having a diagnosis of attention deficit disorder with the number of hospital-based outpatient services: Children with this diagnosis received significantly fewer services compared to children who did not have such a diagnosis.

No significant associations were found when the number of hospitalizations and length of stay in a mental health institutional facility were examined. However, age and race/ethnicity were found to be associated with the time to second hospitalization indicator. Children who were Hispanic were almost three times more likely to be hospitalized a second time compared to White and African American children. Similarly, younger children were likely to be hospitalized a second time and were hospitalized sooner. Post traumatic stress disorder and attention deficit disorder were the only examined predictors found to be significantly associated with placement in SIPP.

Area Comparison

When areas 1, 6, and 10 were compared to the rest-of-state on outpatient services, including services provided by institutional facilities, results indicated that children in area 10 received substantially more services compared to the rest-of-state. Children in areas 1 and 6 received considerably fewer outpatient services compared to the rest-of-state. Consistent with the results of a study by James and colleagues (2004), which showed that children who experienced behavior-related placement changes received more outpatient mental health visits than children who experienced placement changes for other reasons, children in area 10 were found to have a higher number of out-of-home placements compared to areas 1 and 6 and the rest-of-state. No significant differences were found when areas 1, 6, and 10 were compared with the rest-of-state on indicators reflecting inpatient services.

References

Achenbach, T. M. (1991). *Manual for the Child Behavior Checklist/4 -18 and 1991 profile*. Burlington, VT: University of Vermont Department of Psychiatry.

Bilaver, L. A., Jaudes, P. K., Koepke, D., & Goerge, R. M. (1999). The health of children in foster care. *Social Service Review, 73*, 401-417.

Burns, B. J., Phillips, S. D., Wagner, H. R., Barth, R. P., Kolko, D. J., Campbell, Y., & Landsverk, J. (2004). Mental health need and access to mental health services by youths involved with child welfare: A national survey. *Journal of the American Academy of Child and Adolescent Psychiatry, 43*, 1-18.

Center for Mental Health Services. (2006). *Mental health, United States, 2004* (DHHS Publication No. SMA-06-4195). Rockville, MD: Substance Abuse and Mental Health Services Administration.

Clausen, J. M., Landsverk, J., Ganger, W., Chadwick, D., & Litrownik, A. (1998). Mental health problems of children in foster care. *Journal of Child and Family Studies, 7*, 283-296.

Clyman, R. B. (2000). A systems perspective on research and treatment with abused and neglected children. *Child Abuse and Neglect, 24,* 159-70.

Combs-Orme, T., Chernoff, R., G., & Kager, V. A. (1991). Utilization of health care by foster children: Application of a theoretical model. *Children and Youth Services review, 13*, 113-29.

Courtney, M. E., Barth, R. P., Berrick, J. D., Brooks, D., Needell, B., & Park, L. (1996). Race and child welfare services: Past research and future directions. *Child Welfare, 75*, 99-137.

Cox, D. R. (1972). Regression models and life tables. *Journal of the Royal Statistical Society. Series B (Methodological)*, *34*(2), 187-220.

Dore, M. M. (1999). Emotionally and behaviorally disturbed children in the child welfare system: Points of preventive intervention. *Children and Youth Services Review,21,* 7-29.

DosReis, S., Zito, J. M., Safer, D. J., & Soeken, K. L. (2001). Mental health services For youths in foster care and disabled youths. *American Journal of Public Health, 91,* 1094-1099.

Farmer, E. M. Z., Burns, B. J., Chapman, M. V., Phillips, S. D., Angold, A., & Costello, E. J. (2001). Use of mental health services by youth in contact with social services. *Social Service Review, 75*, 605-624.

Garland, A. F., Hough, R. L., McCabe, K. M., Yeh, M., Wood, P., & Aarons, G. A. (2001). Prevalence of psychiatric disorders in youths across five sectors of care. *Journal of the American Academy of Child and Adolescent Psychiatry, 40,* 409-418.

Garland, A. F., Hough, R. L., Landsverk, J. A., McCabe, K. M., Yeh, M., Ganger, W. C., et al. (2000). Racial and ethnic variations in mental health care utilization Among children in foster care. *Children's' Services: Social Policy, Research, and Practice, 3*, 133-146.

Garland, A. F., & Besinger, B. A. (1997). Racial/ethnic differences in court referred pathways to mental health services for children in foster care. *Children and Youth Services Review, 19,* 651-666.

Garland, A. F., Landsverk, J., Hough, R. L., & Ellis-MacLeod, E. (1996). Type of maltreatment as a predictor of mental health service use for children in foster care. *Child Abuse and Neglect, 20*, 675-688.

Garwood, M. M., & Close, W. (2001). Identifying the psychological needs of foster children. *Child Psychiatry and Human Development, 32,* 125-135.

Hussey, D. L., & Guo, S. (2002). Behavioral change trajectories of partial Hospitalization Children. *American Journal of* Orthopsychiatry*, 72,* 539-547.

James, S., Landsverk, J. A., Slymen, D. J., & Leslie, L. K. (2004). Predictors of outpatient mental health service use: The role of foster care placement change. *Mental Health Services Research, 6,* 127-141.

Kinard, E. M. (2002). Services for maltreated children: Variations by maltreated characteristics. *Child Welfare, LXXXI*, 617-645.

Landsverk, J., Garland, A. F., & Leslie, L. K. (2002). Mental health services for Children reported to child protective services. In C.T. Hendrix, L. Berliner, . Jenny, J. Briere, & T. Reid (Eds.), *APSAC Handbook on Child Maltreatment* (2nd ed.) (pp. 487-507). Thousand Oaks, CA: Sage.

Leslie, L. K., Hurlburt, M. S., Landsverk, J., Barth, R., & Slymen, D. J. (2004). Outpatient mental health services for children in foster care: A national perspective. *Child Abuse and Neglect, 28,* 697-712.

Leslie, L. K., Landsverk, J., Ezzet-Lofstrom, R., Tschann, J. M., Slymen, D. J., & Garland, A. F. (2000). Children in foster care: Factors influencing outpatient mental health service use. *Child Abuse and Neglect, 24,* 465-476.

McMillen, J. C., Scott, L. D., Zima, B. T., Ollie, M. T., Munson, M. R., & Spitznagel, E. (2004). Use of mental health services among older youths in foster care. *Psychiatric Services, 55,* 811-817.

Pilowsky, D. (1995). Psychopathology among children placed in family foster care. *Psychiatric Services, 46*, 906-910.

Snowden, L. R., Evans-Cuellar, A., & Libby, A. M. (2003). Minority youth in foster care and access to mental health treatment. *Medical Care, 41*, 264-274.

Staudt, M. M. (2003). Mental health services utilization by maltreated children: Research findings and recommendations. *Child Maltreatment, 8*, 195-203.

Steinhauer, P. D. (1988). The preventive utilization of foster care. *Canadian Journal of Psychiatry, 33*, 459-467.

Swenson, C. C. Brown, E. J., & Sheidow, A. J. (2003). Medical, legal, and mental Health service utilization by physically abused children and their caregivers. *Child Maltreatment, 8*, 138-144.

Takayama, J. I., Bergman, A. B., & Connel, F. A. (1994). Children in foster care in the state of Washington: Health care utilization and expenditures. *Journal of the American Medical Association, 271*, 1850-1855.

Taussig, H. N. (2002). Risk behaviors in maltreated youth placed in foster care: A longitudinal study of protective and vulnerability factors. *Child Abuse and Neglect, 26*, 1179-1199.

APPENDIX

Table 1

ICD-9 Codes for DSM-IV Mental Disorders

DSM-IV Disorder	ICD Code
Attention deficit disorder	314 (314.0 – 314.9)
Conduct disorder	312 (312.0 – 312.9)
Depression	296.3
Bipolar disorder	296.0 296.1 296.4 296.5 296.6 296.7 296.8
	300.0 300.01 300.02 300.09 300.1 300.11 300.12 300.14 300.15 300.2 300.21 300.22 300.23 300.29 300.3 300.5 300.6 300.8 300.81 300.9
Post traumatic stress disorder	309.81
Substance abuse	291 292 303 304 305 (excluding 305.1, 305.1)
Schizophrenia	295 (295.0- 295.9)
Eating disorder	307.1 307.5 307.51

Table 2

Mental Disorder Prevalence among Children Who Entered Out-of-Home Care in Fiscal Year 2006-2007, All Ethnic Groups, (N = 15,149)

Disorder Name	Frequency	Percentage
Attention deficit disorder	429	2.83
Conduct disorder	148	0.98
Post traumatic stress disorder	103	0.68
Anxiety disorder	83	0.55
Depression	68	0.45
Bipolar disorder	51	0.34
Substance abuse	28	0.18
Eating disorder	6	0.04
Schizophrenia	1	0.01

Table 3

Summary of Logistic Regression Analysis for Predictors of Attention Deficit Disorder, Fiscal Year 2006-2007 (N = 15,014).

Factors	Logistic Regression Model Parameters				
	β	Wald $\chi^2(1)$	Odds Ratio	95% Confidence interval for risk ratio	
				Lower	Upper
Gender	1.09	97.90*	3.00	2.41	3.72
Age	0.13	180.82*	1.13	1.11	1.16
Hispanic	- 0.56	7.75*	0.57	0.39	0.85
African American	- 0.27	6.28*	0.77	0.62	0.94

Note. The reference group for Hispanic and African American children is White children.
*$p < .05$.

Table 4

Summary of Logistic Regression Analysis for Predictors of Conduct Disorder, Fiscal Year 2006-2007 (N = 15,014).

Factors	Logistic Regression Model Parameters				
	β	Wald $\chi^2(1)$	Odds Ratio	95% Confidence interval for risk ratio	
				Lower	Upper
Gender	0.99	29.14*	2.69	1.88	3.86
Age	0.13	70.67*	1.14	1.11	1.18
Hispanic	-0.07	0.06	0.93	0.52	1.67
African American	0.20	1.29	1.21	0.87	1.71

Note. The reference group for Hispanic and African American children is White children.
*$p < .05$.

Table 5

Summary of Logistic Regression Analysis for Predictors of Anxiety Disorder, Fiscal Year 2006-2007 (N = 15,014).

Factors	Logistic Regression Model Parameters				
	β	Wald $\chi^2(1)$	Odds Ratio	95% Confidence interval for risk ratio	
				Lower	Upper
Gender	0.44	3.84	1.55	1.00	2.41
Age	0.09	20.36*	1.10	1.05	1.14
Hispanic	0.57	3.54	1.77	0.98	3.22
African American	- 0.02	0.01	0.98	0.62	1.56

Note. The reference group for Hispanic and African American children is White children.
*$p < .05$.

Table 6

Summary of Logistic Regression Analysis for Predictors of Post Traumatic Stress Disorder, Fiscal Year 2006-2007 (N = 15,014).

Factors	Logistic Regression Model Parameters				
	β	Wald $\chi^2(1)$	Odds Ratio	95% Confidence interval for risk ratio	
				Lower	Upper
Gender	- 0.56	7.24*	0.57	0.38	0.86
Age	0.08	20.82*	1.09	1.05	1.12
Hispanic	- 0.05	0.02	0.96	0.51	1.81
African American	- 0.27	1.58	0.76	0.50	1.17

Note. The reference group for Hispanic and African American children is White children.
*$p < .05$.

Table 7

Summary of Multiple Regression Analysis for Number of Outpatient Office-Based Services for All Children Who Entered Out-of-Home Care in Fiscal Year 2006-2007 (N =15,014)

Variable	*B*	*SE B*	β
Gender	1.23	1.11	0.02
Age	1.65*	0.12	0.22
Hispanic	2.06	1.82	0.02
African American	2.22	1.20	0.03
Maltreatment severity	- 0.27	0.25	- 0.02
Number of maltreatment episodes	- 0.03	0.57	- 0.01
Abuse	5.97*	2.26	0.06
Neglect	- 0.42	1.98	0.01
Absence of a caregiver	16.04*	3.44	0.08
Attention Deficit Disorder	8.70*	1.90	0.07
Conduct Disorder	6.03*	3.04	0.03
Anxiety Disorder	0.11	3.95	0.01
Post Traumatic Stress Disorder	6.38	3.56	0.03

Note. The reference group for Hispanic and African American children is White children. The reference group for abuse, neglect, and absence of a caregiver as a type of maltreatment is threatened harm. $R^2 = .30$.
*$p < .05$.

Table 8

Summary of Multiple Regression Analysis for Number of Mental Health Visits for All Children Who Entered Out-of-Home Care in Fiscal Year 2006-2007(N =15,014)

Variable	*B*	*SE B*	β
Gender	0.53	0.98	0.01
Age	1.41*	0.10	0.22
Hispanic	1.66	1.59	0.02
African American	1.59	1.05	0.02
Maltreatment severity	- 0.27	0.22	- 0.02
Number of maltreatment episodes	- 0.20	0.49	- 0.01
Abuse	4.02	2.24	0.05
Neglect	- 1.11	1.74	- 0.02
Absence of a caregiver	9.51*	3.01	0.06
Attention Deficit Disorder	5.30*	1.66	0.05
Conduct Disorder	6.09*	2.66	0.04
Anxiety Disorder	- 2.08	3.46	- 0.01
Post Traumatic Stress Disorder	5.67	3.12	0.03

Note. The reference group for Hispanic and African American children is White children. The reference group for abuse, neglect, and absence of a caregiver as a type of maltreatment is threatened harm. $R^2 = .28$.
*$p < .05$.

Table 9

Summary of Multiple Regression Analysis for Number of Hospital-Based Outpatient Services for All Children Who Entered Out-of-Home Care in Fiscal Year 2006-2007 (N =15,014)

Variable	*B*	*SE B*	β
Gender	0.39	0.90	0.03
Age	0.26*	0.11	0.17
Hispanic	- 0.61	1.92	- 0.02
African American	- 0.68	0.93	- 0.05
Maltreatment severity	0.06	0.17	0.03
Number of maltreatment episodes	0.20	0.37	0.04
Abuse	1.82	2.01	0.14
Neglect	1.25	1.77	0.11
Absence of a caregiver	3.61	2.23	0.18
Attention Deficit Disorder	- 2.25*	0.95	- 0.20
Conduct Disorder	- 0.26	1.43	- 0.01

Note. The reference group for Hispanic and African American children is White children. The reference group for abuse, neglect, and absence of a caregiver as a type of maltreatment is threatened harm. $R^2 = .34$.
*$p < .05$.

Table 10

Summary of Multiple Regression Analysis for the Number of Hospital Episodes for All Children Who Entered Out-of-Home Care in Fiscal Year 2006-2007 (N =174)

Variable	*B*	*SE B*	β
Gender	- 0.12	0.20	- 0.06
Age	0.04	0.03	0.13
Hispanic	- 0.23	0.26	- 0.08
African American	0.22	0.19	0.10
Maltreatment severity	0.02	0.05	0.04
Number of maltreatment episodes	- 0.10	0.09	- 0.10
Abuse	0.03	0.46	0.01
Neglect	0.19	0.44	0.09
Absence of a caregiver	0.41	0.49	0.15
Attention Deficit Disorder	0.04	0.21	0.02
Conduct Disorder	- 0.58	0.44	- 0.11

Note. The reference group for Hispanic and African American children is White children. The reference group for abuse, neglect, and absence of a caregiver as a type of maltreatment is threatened harm. $R^2 = .20$.
*$p < .05$.

Table 11

Summary of Cox Regression Analysis for Total Number of Days in First Hospitalization For All Children Who Entered Out-of-Home Care in Fiscal Year 2006-2007 (N =174).

Risk factors	Cox Regression Model Parameters				
	B	Wald $\chi^2(1)$	Odds Ratio	95% Confidence Interval for Risk Ratio	
				Lower	Upper
Gender (Female)	0.22	1.33	1.25	0.86	1.81
Age	0.01	0.15	1.01	0.96	1.07
Hispanic	- 0.09	0.12	0.92	0.55	1.53
African American	0.02	0.01	1.02	0.71	1.47
Maltreatment severity	0.03	0.30	1.03	0.94	1.13
Number of maltreatment episodes	0.04	0.18	1.04	0.87	1.23
Abuse	- 0.32	0.42	0.73	0.28	1.89
Neglect	- 0.21	0.21	0.81	0.34	1.96
Absence of a caregiver	- 0.26	0.30	0.77	0.30	1.96
Attention Deficit Disorder	- 0.01	0.01	0.99	0.67	1.48
Conduct Disorder	0.58	1.63	1.78	0.73	4.34

Note. The reference group for Hispanic and African American Children is White Children. The reference group for abuse, neglect, and absence of a caregiver as a type of maltreatment is threatened harm.
*$p < .05$.

Table 12

Summary of Cox Regression Analysis for Total Number of Days to Second Hospitalization For All Children Who Entered Out-of-Home Care in Fiscal Year 2006- 2007 (N=172)

Risk factors	Cox Regression Model Parameters				
	B	Wald $\chi^2(1)$	Odds Ratio	95% Confidence Interval for Risk Ratio	
				Lower	Upper
Gender (Female)	- 0.22	0.55	0.80	0.45	1.43
Age	- 0.14	5.37*	0.87	0.77	0.98
Hispanic	- 1.06	3.90*	0.35	0.12	0.99
African American	- 0.05	0.02	0.95	0.52	1.75
Maltreatment severity	0.06	0.71	1.06	0.93	1.20

Note. $*p < .05$.

Table 13

Summary of Logistic Regression Analysis for Placement in SIPP For All Children Who Entered Out-of-Home Care and Were Hospitalized in Fiscal Year 2006-2007 (N =174).

Risk factors	Logistic Regression Model Parameters				
	B	Wald $\chi^2(1)$	Odds Ratio	95% Confidence Interval for Risk Ratio	
				Lower	Upper
Age	0.32	8.96*	1.38	1.12	1.71
Gender	0.49	0.97	1.63	0.62	4.33
Hispanic	0.69	1.02	2.00	0.52	7.68
African American	- 0.17	0.13	0.85	0.34	2.10
Severity of maltreatment	- 0.03	0.06	0.97	0.74	1.26
Number of maltreatment incidents	- 0.03	0.01	0.97	0.60	1.57
Abuse	- 0.53	0.25	0.59	0.07	4.69
Neglect	- 0.78	0.64	0.46	0.07	3.07
Absence of a caregiver	- 0.38	0.14	0.69	0.09	5.09
Conduct disorder	0.01	0.01	1.00	0.22	4.58
Post Traumatic Stress Disorder	1.89	6.82*	6.59	1.60	27.15
Attention deficit disorder	- 1.48	4.39*	0.23	0.06	0.91

Note. *$p < .05$.

Table 14

Results of Analysis of Variance (ANOVA): The Average Number of Office-Based Outpatient Services Received by PMHP Area Among Children Placed in Out-of-Home Care in FY06-07 (N = 3,366).

Area	Means	*SD*	Number of Outpatient Office-based Services
			F (*df 1*)
Rest-of-State	13.48	35.03	15.85*
Area 1	7.02	20.52	
Rest-of-State	13.48	35.03	4.33*
Area 6	10.26	35.83	
Rest-of-State	13.48	35.03	98.66*
Area 10	40.02	68.14	
Rest-of-State	13.48	35.03	0.17
Areas without PMHP	13.98	40.68	

Note. $*p < .05$.

Table 15

Results of ANOVA: The Average Number of Visits to Mental Health Providers by PMHP Area Among Children Placed in Out-of-Home Care in FY06-07 (N = 3,233).

Area	Means	*SD*	Number of Visits to Mental Health Providers
			F (*df 1*)
Rest-of-State	10.64	30.22	10.62*
Area 1	6.04	17.69	
Rest-of-State	10.64	30.22	1.52
Area 6	8.95	33.67	
Rest-of-State	10.64	30.22	109.58*
Area 10	35.36	61.41	
Rest-of-State	10.64	30.22	2.06
Areas without PMHP	12.20	36.98	

Note. *$p < .05$.

Table 16

Results of Analysis of Variance (ANOVA): The Average Number of Hospital-Based Outpatient Services Received by PMHP Area Among Children Placed in Out-of-Home Care in FY06-07 (N =8,920).

Area	Means	*SD*	Number of Outpatient Office-based Services
			F (*df 1*)
Rest-of-State	7.67	12.74	9.96*
Area 1	6.11	5.59	
Rest-of-State	7.67	12.74	0.07
Area 6	7.56	11.82	
Rest-of-State	7.67	12.74	11.35*
Area 10	10.04	18.52	
Rest-of-State	7.67	12.74	0.23
Areas without PMHP	7.52	11.89	

Note. *$p < .05$.

Table 17

Results of Analysis of Variance (ANOVA): The Average Number of Hospitalizations by PMHP Area Among Children Placed in Out-of-Home Care in FY06-07 (N = 147).

Area	Means	*SD*	Number of Hospitalizations
			F (*df 1*)
Rest-of-State	1.55	0.99	0.97
Area 1	1.78	1.67	
Rest-of-State	1.55	0.99	0.04
Area 6	1.50	1.09	
Rest-of-State	1.55	0.99	0.01
Area 10	1.57	0.94	
Rest-of-State	1.55	0.99	1.74
Areas without PMHP	1.74	1.14	

Note. $*p < .05$.

Table 18

Results of Analysis of Variance (ANOVA): The Average Number of Days During the First Hospitalization Episode by PMHP Area Among Children Placed in Out-of-Home Care in FY06-07 (N =147).

Area	Means	*SD*	Number of Hospitalizations
			F (*df 1*)
Rest-of-State	19.28	41.87	1.22
Area 1	9.39	21.72	
Rest-of-State	19.28	41.87	0.52
Area 6	11.43	32.99	
Rest-of-State	19.28	41.87	0.20
Area 10	25.64	73.43	
Rest-of-State	19.28	41.87	0.66
Areas without PMHP	13.62	41.08	

Note. $*p < .05$.

Table 19

Results of Analysis of Variance (ANOVA): The Average Number of Days Between the First and Second Hospitalization Episodes by PMHP Area Among Children Placed in Out-of-Home Care in FY06-07 (N = 143).

Area	Means	*SD*	Number of Hospitalizations
			F (*df 1*)
Rest-of-State	21.95	41.62	0.17
Area 1	18.30	22.22	
Rest-of-State	21.95	41.62	0.65
Area 6	31.38	59.59	
Rest-of-State	21.95	41.62	1.18
Area 10	35.86	62.17	
Rest-of-State	21.95	41.62	0.44
Areas without PMHP	26.71	47.19	

Note. *$p < .05$.