

Behavioral Health Service Utilization and Cost for North Carolina's Foster Children:  
A Report for Partnering For Excellence

Prepared for: Michelle Hughes and Benchmarks

Prepared by: Susan Cohen Foosness, MSW  
Master of Public Policy Candidate  
The Sanford School of Public Policy  
Duke University

Faculty Advisor: Katie Rosanbalm, PhD

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## **I. Policy Question**

How can county Departments of Social Services (DSS) and Local Management Entity-Managed Care Organizations (LME-MCOs) use existing data to better manage the foster care population and improve mental health outcomes?

## **II. Introduction**

The foster care population in North Carolina, which hovered around 8,882 children as of August 2013, is of special interest to policymakers, politicians, Medicaid officials, child welfare professionals, and healthcare providers. This group of infants through young adults faces unique challenges in their educational, social, emotional, developmental, and physical growth. Their elevated needs put extra pressure on already stressed systems with limited financial resources. High levels of behavioral health and emotional problems lead to placement disruptions, costly interventions, and require extra diligence on the part of caseworkers, foster parents, and professionals to manage crises and keep foster children safe.

It is essential to identify strategies to address the behavioral health needs of foster children within the constraints of limited resources, and in ways that take

advantage of the most recent research on evidence-based treatments. These strategies should aim to reduce placement disruptions and promote healthy outcomes for foster children. By using existing data collection systems within the Department of Social Services and Local Management Entity-Managed Care Organizations (LME-MCOs), we can gain important insight into this population's health and mental health needs, access to services, utilization, and cost.<sup>1</sup> These data will also provide us with an opportunity to improve the existing systems and recommend policy changes.

### **III. Background**

In order to analyze the currently available data and make informed policy recommendations, it is important to survey the academic literature on the topic of foster children and emotional and behavioral issues. This background section will synthesize the research on this topic and summarize findings on behavioral health service utilization and expenditures for foster children. Additionally it will explore the impact of placement stability, managed care, and Medicaid access for foster children.

#### **Foster Children Have Increased Mental Health Issues**

Children and youth in foster care are, by definition, children with special health care needs. Their history of child abuse, neglect, and/or dependency places them at increased risk for emotional and behavioral problems. Foster children have often experienced trauma in their family of origin, which is compounded by the trauma of investigation, removal, changing schools, and multiple placements.

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<sup>1</sup> A more comprehensive evaluation will also include data on Medicaid physical health claims and outcomes from Community Care of North Carolina (CCNC) Informatics Center.

Youth in foster care experience problems with physical and mental health at significantly higher rates than non-foster care peers.<sup>2</sup> Utilizing national household survey data, researchers compared foster children to other high-risk low-income peers and found that foster children were more likely to have high levels of emotional or behavioral problems, to be suspended or expelled from school in the past year, and to have skipped school in the past year.<sup>3</sup> More than 60% of the foster care population will experience significant mental health issues during their lifetime, compared with 46% of national representative samples of adults.<sup>4</sup>

Children who are reported to social services for an investigation of child abuse or neglect have higher rates of identified developmental, social and emotional problems than children who were never referred for an investigation. As Figure 1<sup>5</sup> below indicates, regardless of investigative outcome, children who have been reported to the state for maltreatment are at risk for these types of problems, and would benefit from referral for further assessment and services even if they do not enter state custody.<sup>6</sup>

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<sup>2</sup> (Jaudes, 2012)

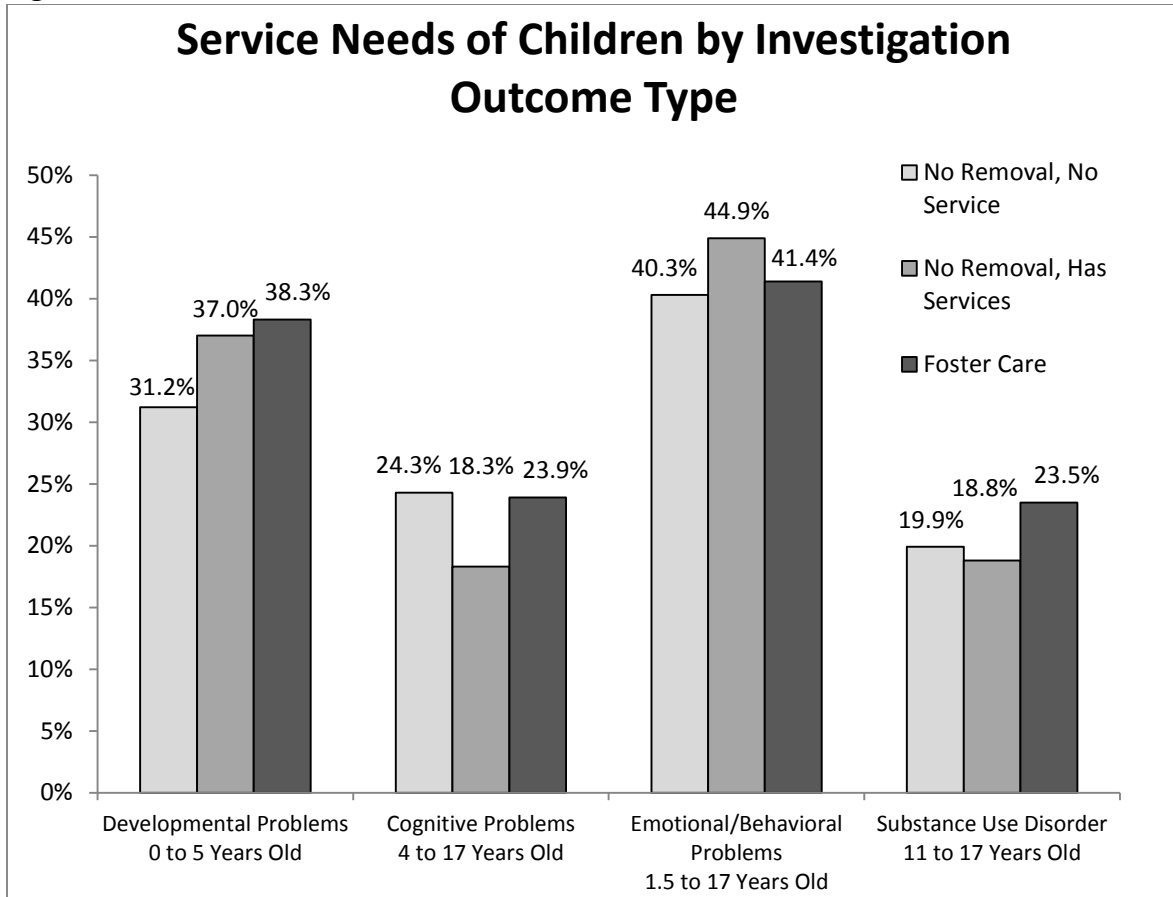
<sup>3</sup> (Kortenkamp, 2002)

<sup>4</sup> (Kessler et al., 2005)

<sup>5</sup> Estimates are based on assessments to 5,803 children with the cognitive domain of the Battelle Developmental Inventory, 2nd Edition (BDI-2) used with children 0 to 4 years old; Preschool Language Scale-3 (PLS-3) used with children 5 years old and younger, Vineland Adaptive Behavior Scale (VABS) Screener—Daily Living Skills domain (all age children); Kaufman Brief Intelligence Test (K-BIT) for children 4 to 17 years old; Woodcock-Johnson III Tests of Cognitive Abilities for children 5 to 17 years old; CRAFFT ( substance use disorder ) for children 11 to 17 years old, and the Achenbach scales (CBCL, YSR, and TRF) for children 1.5 to 17 years old.

<sup>6</sup> (Office of Planning Research & Evaluation, 2013)

Figure 1



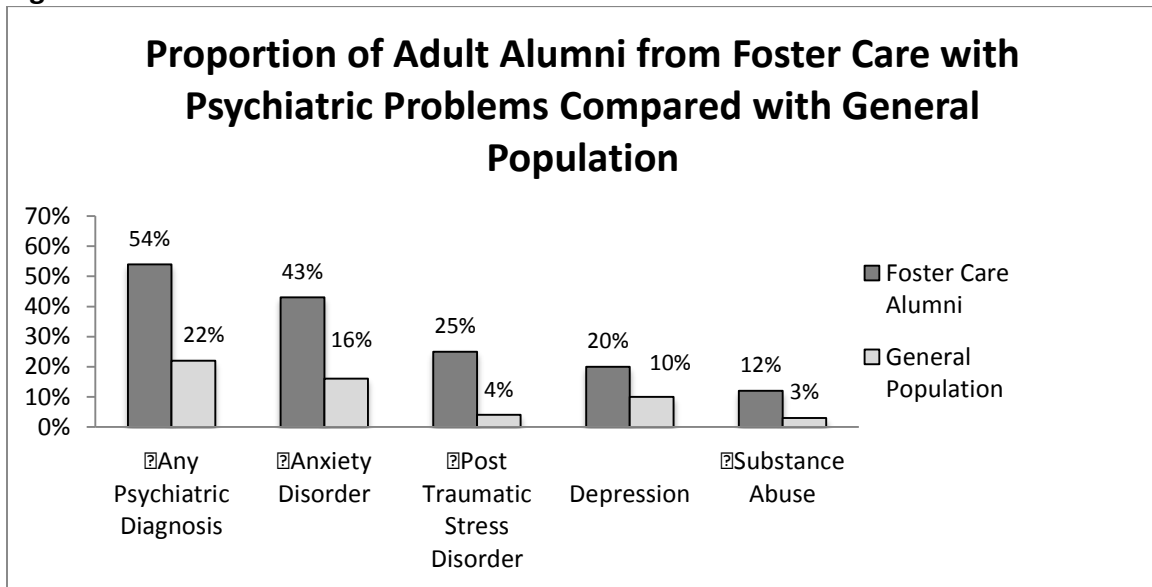
Foster children are a broad and changing population with diverse needs. In response the federal government has conducted a longitudinal survey of two cohorts in this population. The second National Survey of Child and Adolescent Well-Being (NSCAW II) sampled 5,872 foster children, revealing elevated rates of depression among children 8 to 15 years old compared to the general population.<sup>7</sup> NSCAW II also found increased levels of clinically significant behavior problems compared to a normative sample, and that behavioral problems were higher for children in foster care, group homes, or residential placements than for those in custody but living with parents or kin. It is

<sup>7</sup> (Casanueva, 2012)

possible that children who are able to remain with parents or kin have fewer behavioral problems, or that these problems are more easily managed by a family member.

Older youth in foster care experience disproportionately high rates of psychiatric disorders. Among adolescents in foster care, 30 to 40% struggle with current mental health issues, and more than one third of older adolescents in care have a chronic illness or disability.<sup>8</sup> In one study, 61% of foster youth surveyed had at least one psychiatric disorder in their lifetime, and of those youth 62% reported onset of their earliest disorder occurring before entry into foster care.<sup>9</sup> Studies of former foster youth reveal that this population has significantly elevated rates of psychiatric problems compared to their non-foster care peers, as demonstrated in Figure 2.<sup>10</sup>

**Figure 2**



One study in Pennsylvania found that children in foster care were 3 to 10 times more likely to have a mental health problem compared to similar non-foster care

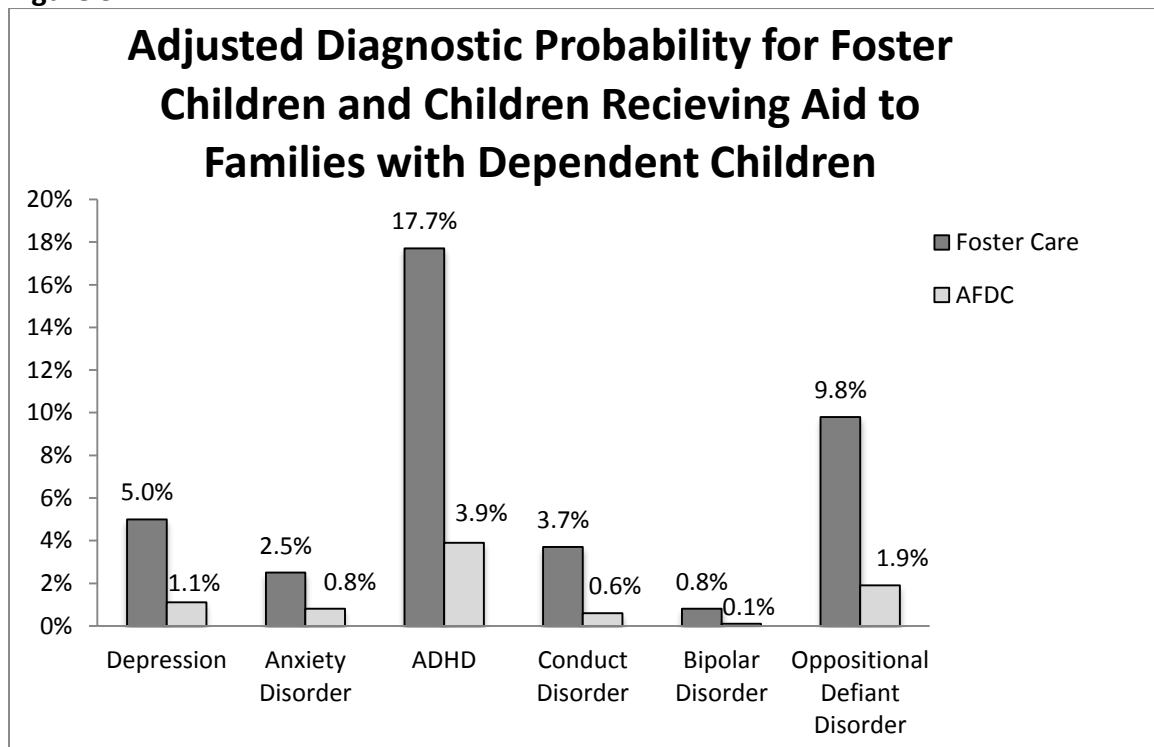
<sup>8</sup> (Jaudes, 2012)

<sup>9</sup> (McMillen et al., 2005)

<sup>10</sup> (Pecora & Studies, 2005)

peers.<sup>11</sup> As Figure 3 indicates, this study found statistically significant levels of psychiatric diagnoses among children in foster care compared to their non-foster care peers who received Aid to Families with Dependent Children (AFDC) after controlling for age, sex, race, and county of residence (urban vs. rural). The increased diagnoses in the foster care population may be due to the additional professional monitoring that occurs in child welfare, rather than reflecting an underlying population difference. Additionally, ADHD is often over or misdiagnosed in the foster care population when the true underlying problem is trauma or anxiety. When true ADHD does exist, it can be successfully treated with psychopharmacology and behavioral training.

**Figure 3**



<sup>11</sup> (Harman, Childs, & Kelleher, 2000)

## **Foster Children and Trauma**

Foster children may enter care with preexisting chronic health, developmental, and psychiatric disorders that are rooted in the abuse, neglect or dependency they experienced, and exacerbated by the subsequent removal.<sup>12</sup> These foster children may experience symptoms of fear and confusion, and are at increased risk of developing Post Traumatic Stress Disorder (PTSD).<sup>13</sup> Among older adolescents in foster care, the majority of respondents in a random sample survey (80.3%) self-reported that they had experienced at least one traumatic event in their life.<sup>14</sup> Almost two-thirds (61.7%) had experienced two or more traumatic events. It's interesting to note that the experience of entering foster care could be considered traumatic in itself, but this type of trauma is not specifically described on many instruments designed to measure PTSD. For foster youth that had experienced sexual abuse or sexual assault, rates of PTSD were at 32.8 and 45.2% respectively. The researchers conclude that rates of PTSD for this sample (18.8% of traumatized foster youth) were higher than the general population of non-foster care adolescents who had also experienced trauma (8.8%).

While many of these studies are useful for conceptualizing the increased rates of psychiatric diagnoses in foster children, it's difficult to ascertain how accurate these data truly are because children will not receive a mental health diagnosis unless they are taken to a behavioral health provider for assessment. Many of the studies cited in this paper rely on self-report or surveys of older adolescents or adults who may not be aware of the diagnoses they had as children. With barriers to treatment and access

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<sup>12</sup> (Simms, Dubowitz, & Szilagyi, 2000)

<sup>13</sup> (Bruskas, 2008)

<sup>14</sup> (Salazar, Keller, Gowen, & Courtney, 2012)

issues described elsewhere in this paper, the rates of mental health issues are likely an underestimate for the actual foster care population.

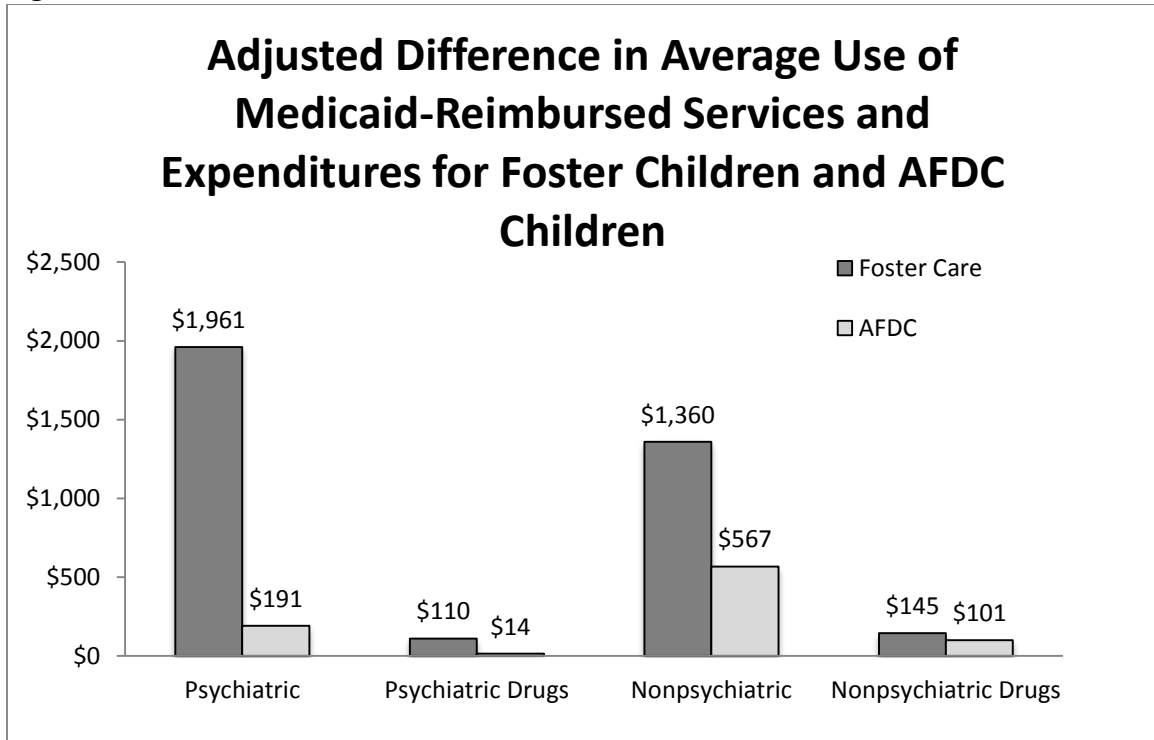
### **National Behavioral Health Utilization and Expenditures**

Children and adolescents in foster care utilize mental health services reimbursable by Medicaid at much higher rates than similar high-risk, low-income non-foster care peers. In a study of foster children in Pennsylvania, researchers found that foster children utilize mental health services at much higher rates (34.6%) than their similar non-foster care peers (8.7%).<sup>15</sup> As Figure 4 demonstrates, after adjusting for age, sex, race, and county of residence (urban vs. rural), foster children have significantly higher expenditures for psychiatric and non-psychiatric services and medications. Expenditures for all health services and drugs were 4.3 times higher for foster children (\$3,703) than for similar peers (\$857).

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<sup>15</sup> (Harman et al., 2000)

Figure 4



An early study in California found that children in foster care had a 23% greater utilization rate of Medicaid services and a 41% greater expenditure rate than all children covered by Medicaid in California. The greatest difference in service utilization was in the area of mental health services where foster children, only 4% of the child Medicaid population, accounted for 55% of psychologist visits and 45% of psychiatry claims.<sup>16</sup>

The findings from the California study were replicated with a subset of the Medicaid population in Washington State comparing foster children to low-income children receiving Aid to Families with Dependent Children (AFDC). The researchers found mental health services were utilized by 25% of foster children compared with only 3% of AFDC children.<sup>17</sup> Average health care expenditures for foster children (\$3,075)

<sup>16</sup> (Halfon, Berkowitz, & Klee, 1992)

<sup>17</sup> (Takayama, Bergman, & Connell, 1994)

were five and a half times greater than for AFDC children (\$543). Statewide, children who were considered high-cost (exceeding \$10,000 per year) included 8% of foster children and 0.4% of AFDC children. A primary factor driving these high costs could be the 59% of foster children with mental health disorders in Washington State.

In a study comparing Florida's foster children to a sample of the general child Medicaid population, researchers found that foster children were twice as likely to use behavioral health services, and that total behavioral health expenditures were eight times higher (\$210 per month compared to \$26 per month per child) for foster children.<sup>18</sup> This study also found that service utilization was greatest while children were in foster care than before or after placement, indicating that biological families may have difficulty accessing services even after reunification. Additionally, once children leave custody they lose contact with professionals who may have facilitated access to services.

Another meta-analysis of state Medicaid claims data from Pennsylvania, Florida, and California revealed that children in foster care comprised between 1.1 and 1.3% of children enrolled in Medicaid, but had disproportionately greater expenditures between 3.6 and 7.8%.<sup>19</sup> Average Medicaid spending for foster children in this study was two or more times higher than the average for all Medicaid children.

Finally, a national survey of foster children in 2001 found that state average Medicaid expenditures were \$4,336 per foster child compared with \$1,315 for non-

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<sup>18</sup> (Becker, Jordan, & Larsen, 2006)

<sup>19</sup> (Rosenbach, 2001)

foster care Medicaid children.<sup>20</sup> This disproportionate spending on foster children, who are only 3.7% on the non-disabled Medicaid population, but account for 12.3% of expenditures, is not surprising given the high rates of health and mental health issues in child welfare. In this study, North Carolina's average Medicaid expenditure on foster children was just over the national average at \$4,673 per child for the 15,680 foster children enrolled in Medicaid in FY 2001.

Despite these high rates of psychiatric issues and foster children being categorically eligible for Medicaid, some studies have found low levels of referral to mental health services. According to the NSCAW II, only a quarter of the children with reported behavioral problems in out-of-home care actually received mental health services within a one-year follow up.<sup>21</sup> Despite utilizing services at higher rates than the general population, foster children are still not referred to services as often as they need to be or as early as they should be. Early intervention is not only more effective, but also more affordable, than later more intensive and expensive interventions.

### **Foster Children and Placement Stability**

For the majority of foster children, entering foster care is a strange, frightening, and uncertain event in their lives. Children entering care may have lacked a supportive and nurturing home environment and as a result may struggle to form a relationship with their new caregivers.<sup>22</sup> The "honeymoon" phase of placement is a common scenario wherein the foster child abides by new rules and appears to be adapting, but within a few weeks or months, has started to act out provocatively and test limits. These

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<sup>20</sup> (Geen, 2005)

<sup>21</sup> (Office of Planning Research & Evaluation, 2013)

<sup>22</sup> (Simms et al., 2000)

children are seeking affirmation that their new caregivers really can keep them safe and will not abandon or abuse them in ways they have previously experienced. Children who act aggressive, depressed, angry, or withdrawn may have difficulty accepting comfort from their new caregivers until a trusting relationship is formed. This process can take weeks to months or longer depending on the experiences of the child and the skills of the foster parent. For this reason, and many others, foster parents need to respond with sensitivity and understanding and many will need additional professional support to manage challenging behaviors and emotional disturbance in foster children.<sup>23</sup>

Placements in foster care change or disrupt for a variety of reasons. One study of foster children in San Diego County found that 20% of all placement changes in foster care are related to foster children's behavior or the coping strategies of foster families.<sup>24</sup> Placements may also change because of a mismatch between the foster child and foster family, unrealistic expectations of foster parents, or unforeseen life events. More often, placement changes occur because of system or policy mandates. One study found that 7 out of 10 placement changes occurred for system or policy reasons.<sup>25</sup> Placement changes may indicate a positive step towards the least restrictive setting, use of kinship placements, or an effort to keep siblings together. Describing what constitutes a placement change is also important. Including short initial or crisis placements, hospitalizations, shelters, or detention facilities may significantly impact the number of placements. With the data available, it is difficult to tease out the exact reason for a placement change. However, we can seek to understand when behavioral issues might

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<sup>23</sup> (Simms et al., 2000)

<sup>24</sup> (James, 2004)

<sup>25</sup> (James, 2004)

be the cause, and what type of impact placement changes have on foster children's well-being.

Using national survey data of children in foster care, one study revealed that regardless of a child's baseline risk for placement instability, children who remain in unstable foster care placements after 18 months<sup>26</sup> were estimated to have a 36 to 63% increased risk of behavior problems compared to those who achieve stability in foster care.<sup>27</sup> Overall nearly one third of children in this national sample fail to achieve placement stability, indicating a need to reduce the amount of administrative placement changes in order to reduce risk of future behavior problems.

Research has revealed that placement changes during the first year in foster care are associated with increased instability for long-term foster children.<sup>28</sup> The first 100 days in foster care represents a particularly sensitive period where the risk of placement disruption due to a behavioral issue is greatest.<sup>29</sup> The type of abuse or neglect a child has experienced may also predict whether placement changes for behavioral problems may arise. Children placed in foster care due emotional abuse, typically correlated with caregiver neglect and substance abuse, are 48% more likely to disrupt due to behavioral difficulties. On the protective side, despite comparable rates of behavioral difficulties in kinship and foster care<sup>30</sup>, kinship care is associated with increased placement stability<sup>31</sup>

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<sup>26</sup> Unstable foster care placements were defined as children who failed to maintain a long-lasting placement for more than 9 months until the end of the observation period.

<sup>27</sup> (Rubin, O'Reilly, Luan, & Localio, 2007)

<sup>28</sup> (Webster, Barth, & Needell, 1999)

<sup>29</sup> (James, 2004)

<sup>30</sup> (Dubowitz, 1993)

<sup>31</sup> (Iglehart, 1994)

perhaps due to the familiarity of the environment or kinship caregivers' increased investment and attachment to the foster child.

In a study of foster children in Pennsylvania, researchers explored the relationship between placement stability and mental health services.<sup>32</sup> They found that foster children who had multiple placements (three or more in a year) were 101% more likely to be in the top 10% of mental health expenditures. Children who had multiple episodes in foster care had an 86% chance of having high mental health expenditures. The top 10% of mental health users accounted for \$1.9 million of the sample's \$2.4 million mental health expenditures. The direction of causality is difficult to conclude, perhaps children with increased behavioral health issues end up going through more placement changes and having greater mental health expenditures as result of that instability. Or perhaps the frequent changes, due to administrative issues or policy requirements, lead to increased emotional problems and subsequent mental health expenditures.

### **Psychiatric Residential Treatment and Foster Care**

In addition to the financial cost of institutional care, many concerns have arisen over the psychological, social, and educational impact of residential treatment for children and adolescents. Most professionals believe that the family unit, or at least a family setting, is preferable to a facility with staff. While child welfare policies dictate that children be placed in the least restrictive setting possible, hundreds of children across North Carolina, and many foster children, are placed in Psychiatric Residential

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<sup>32</sup> (Rubin et al., 2004)

Treatment centers (PRTFs) each year. Without a standard therapeutic model it is questionable whether children are receiving evidence-based treatment in these facilities, or just being housed, medicated, and supervised for long periods of time.

Over the past several decades as reliance on residential psychiatric treatment has grown, there has also been a growth in alternatives that are less costly, restrictive, and in some cases, offer more effective treatment. Several models of more intensive, community-based treatment have risen in popularity as an alternative to higher levels of residential care. Intensive Family Preservation Services (IFPS) offers brief, intense, home-based therapeutic interventions from licensed clinicians with small caseloads.<sup>33</sup> In North Carolina many Medicaid providers offer Intensive In-Home, a reimbursable service that fits this definition, but lacks an evidence-based framework. Research on IFPS has been methodologically unsound and suggests that the model may only delay, not prevent, the use of higher levels of residential treatment for about 50% of children who receive it.<sup>34</sup> Furthermore, the effects of the intervention dissipate quickly and as many as half the adolescents who participate end up in some form of placement 12 to 14 months after referral.

Another service commonly provided as a less restrictive alternative to PRTFs is Treatment Foster Care (TFC), or as it's known in North Carolina, Therapeutic Foster Care (Level II). In this service trained foster parents, employed by private therapeutic agencies, provide residential care and support to children with significant emotional and behavioral issues. This allows children to remain in a community setting, although some

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<sup>33</sup> (Bates, English, & Kouidou-Giles, 1997)

<sup>34</sup> (Bates et al., 1997)

may attend day treatment programs rather than regular school. The extent to which therapeutic foster care follows a specific evidence-based model varies greatly and the evidence of their effectiveness is similarly inconclusive. Several positive findings indicate that children in TFC tend to be discharged to less restrictive settings, many returning home to their families, and spend less time overall in residential placements. TFC is also significantly more cost effective than higher levels of residential treatment.<sup>35</sup> However, it's possible that the children admitted to TFC programs are significantly less disturbed than those admitted to PRTFs and do not form an appropriate comparison group. It is also unclear whether the positive outcomes of TFC can be attributed to the intervention provided by the foster parents themselves, versus the stability the home provides allowing other complementary treatment services to be more successful.

In North Carolina there are at least two other models that offer a possible alternative to psychiatric residential treatment facilities, both which have a therapeutic model and rigorous evaluations. Multisystemic Therapy (MST) was developed 30 years ago for adolescents with serious behavioral issues. MST is provided in the home and community by a highly trained licensed clinician who works intensively with the parent, adolescent, and other adults in the youth's life to stabilize behavior, reduce risk, and promote communication and safety. In over a dozen studies MST has been shown to reduce out-of-home placements by up to 50%, reduce arrest rates by up to 70%, improve family functioning and school attendance, and decrease psychiatric problems

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<sup>35</sup> (Bates et al., 1997)

and substance abuse.<sup>36</sup> MST has also been adapted for families where child abuse and neglect has occurred. One randomized clinical trial found that among physically abused adolescents MST-CAN reduced youth mental health symptoms, decreased parental psychiatric distress, increased social support, and decreased out-of-home placement by 63% fewer days.<sup>37</sup>

Another new treatment model that has been piloted in North Carolina, Intensive Alternative Family Treatment (IAFT), has promising initial results. Similar to Treatment Foster Care, IAFT is provided in a therapeutic foster home and is accompanied by intensive support by a licensed clinician, frequent contact between clinicians and foster parents, and involvement of biological families when appropriate. Although the program is too new to offer longitudinal results, preliminary results show that despite serious behavioral and emotional problems at intake, 79% of children are discharged to a lower level of care. The cost of IAFT is estimated around 57% less than other residential treatments offered in North Carolina such as PRTFs or group homes.<sup>38</sup>

### **Foster Children and Managed Care**

Managed care organizations that serve the Medicaid population can improve outcomes and provide more efficient coordinated care to meet the mental and physical health needs of foster children. Two specific managed care programs for children in child welfare in Wisconsin and Massachusetts have demonstrated reduced lengths of stay in intensive residential treatment, decreased psychiatric hospitalizations, improved clinical and functional outcomes, reduced school absences, and increased family

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<sup>36</sup> (Multisystemic Therapy, 2013)

<sup>37</sup> (Swenson, Schaeffer, Henggeler, Faldowski, & Mayhew, 2010)

<sup>38</sup> (Stephenson, 2013)

satisfaction.<sup>39</sup> A review of Medicaid managed care programs in eight states (including North Carolina in the 1990's) revealed that general children's mental health services are shifted towards more outpatient care and less inpatient service use, resulting in decreased overall expenditures.<sup>40</sup> These studies lack evidence of the impact of managed care on quality of mental health services or on particular overrepresented subgroups such as foster children.

The Center for Health Care Strategies, Inc. has several suggestions for managed care organizations serving the foster care population.<sup>41</sup> In order to address barriers that may interfere with effective managed care delivery, they recommend that managed care organizations:

- Adjust their financial risk given that foster children's Medicaid expenditures are disproportionately higher than other Medicaid children.
- Seek to identify children involved in child welfare that are Medicaid eligible, but are not in state custody, and focus services and interventions on this high-risk group.
- Establish appropriate data-sharing protocols between medical providers, behavioral health providers, and child welfare.

### **Fractured Delivery System in North Carolina**

In North Carolina medical and behavioral health services are managed by separate organizations. Community Care of North Carolina (CCNC) manages medical services for all children and adults enrolled in Medicaid. Behavioral health or mental

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<sup>39</sup> (Allen, 2008)

<sup>40</sup> (Hutchinson & Foster, 2003)

<sup>41</sup> (Allen, 2008)

health services are managed by one of ten LME-MCOs (Local Management Entity-Managed Care Organizations). Behavioral health services are only available for children with Medicaid over 3 years of age. Prior to 3 years old, Children's Developmental Services Agencies (CDSAs) are responsible for providing mental health assessment and services, which can create a problem for young children with mental health issues, as CDSAs traditionally see themselves as offering more developmental or physical support services than psychological. Young children and infants are often under-identified as having mental health issues because they are not verbal and may manifest their psychological distress physically with dysregulated sleep, tantrums, or eating changes.

This fractured system creates cracks through which foster children can fall. Their mental health needs may not be identified until they have reached critical levels. Even then, issues with provider access, Medicaid coverage, or logistics may interfere with timely and effective assessment and treatment of mental health issues.

### **Medical Costs and Foster Care in North Carolina**

According to data provided by CCNC, foster children represent 0.67% of the total number of enrolled children in CCNC. Only 7,626 foster children were enrolled in CCNC as of July 31<sup>st</sup>, 2013 when the foster care population was 8,995 according to state data collected by UNC.<sup>42</sup> Foster children's average Per Member Per Month (PMPM) cost in the second quarter of 2013 was \$936, four times higher than the average non-foster care child enrolled in CCNC (\$232). The PMPM cost is limited to claims data and does not encompass the care coordination services essential for children with special health

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<sup>42</sup> (Duncan, 2013) This discrepancy is likely due to duplication and errors in the state data analyzed by UNC.

care needs provided by CCNC. Foster children were also more likely to have visited an Emergency Room than non-foster children enrolled in CCNC.

### **Behavioral Health Diagnoses of Foster Children in North Carolina**

CCNC has analyzed rates of Attention Deficit/Hyperactive Disorder (ADHD), a condition that crosses medical and behavioral health services among children in foster care.<sup>43</sup> Using diagnostic codes and data collected in the most recent quarter ending in July 2013, CCNC found that approximately 24% of the 7,626 children in foster care have a diagnosis of ADHD compared to 8% in the non-foster care child population.

CCNC found that 51% of foster children (3,902) seen by a primary care physician in the CCNC network had at least one mental health diagnosis (depression, PTSD, bipolar, anxiety, schizophrenia, or other). CCNC also collected data that indicates that foster children enrolled with CCNC have higher rates of Developmental Disabilities (17%) than the general non-foster care child population (5%). These children require additional case management and supplementary therapies in educational and outpatient settings such as physical therapy, speech and language therapy, and occupational therapy.

### **North Carolina Behavioral Health Costs**

Data on the costs of behavioral health services in North Carolina for foster children are difficult to collect due to the fractured health delivery system. While utilization and costs for medical services are processed through CCNC, each LME-MCO has their own data on behavioral health services, and foster children are not well tracked within the LME-MCO data systems.

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<sup>43</sup> (CCNC, 2013)

Some limited preliminary data is available from Project Broadcast, a project funded by the Children’s Bureau of the US Department of Health and Human Services Administration for Children & Families piloted in nine counties in North Carolina.<sup>44</sup> In 2011, approximately 30% of children in foster care in Buncombe, Craven, Cumberland, Hoke, Pender, Pitt, Scotland, Union and Wilson had a prescription for at least one psychotropic drug. These medications cost Medicaid on average \$150,000 each month just for the 350 children in these nine counties. Children were most commonly prescribed second-generation antipsychotics (Seroquel, Abilify, and Risperdal) used for behavioral issues and mood disorders.

Placement in a Psychiatric Residential Treatment Facility (PRTF) is a costly residential option for children with the most severe mental health needs. On average about 30 children across the nine Project Broadcast counties were placed in PRTFs in 2011. The cost for this treatment varies between \$300,000 and \$400,000 per month for this group of foster children.

### **Foster Children and Medicaid**

Children in the legal custody of North Carolina are categorically eligible for Medicaid provided that the State remains their legal guardian. In 2007 the NC legislature approved funding to provide the state match for Medicaid coverage for youth who aged out of foster care at 18 years old, until the month of their 21st birthday, without regard to assets or income. The exact policy stipulates:

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<sup>44</sup> (Duncan, 2012)

*The Division of Medical Assistance, within the Department of Health and Human Services, shall provide Medicaid coverage to foster care adolescents ages 18, 19, and 20 without regard to the adolescent's assets, resources, or income levels. In order to be eligible, the young person should have been in foster care under the responsibility of the state on his or her 18th birthday.*<sup>45</sup>

In order to enroll for continued Medicaid coverage the youth must apply at a Department of Social Services office where they reside.

Medicaid for children in foster care covers the cost of general preventative medicine and treatment according to Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) guidelines. EPSDT is a federal Medicaid requirement that mandates NC Division of Medical Assistance (DMA) to:

*...provide services, products, or procedures requested by physicians and licensed clinicians that are considered medically necessary to correct or ameliorate a defect, physical or mental illness, or a condition identified by a screening examination.*<sup>46</sup>

Despite being categorically eligible for Medicaid, access issues for behavioral health services can arise for foster children in North Carolina. For example, the county issuing a foster child's Medicaid card is tied to the county of custody, which may be different from where the foster child actually resides in placement. This can create barriers to accessing services when the Medicaid county does not match the county where behavioral health providers are enrolled with their local LME-MCO. Other barriers can

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<sup>45</sup> (North Carolina Guardian ad Litem Program, 2013)

<sup>46</sup> (NC DHHS, 2013)

arise around issues of consent and documentation, uninformed foster parents, authorization for services from multiple providers due to multiple placements, and continuity of care between behavioral health providers.

### **The Affordable Care Act and Foster Children**

Beginning in 2014, the Patient Protection and Affordable Care Act of 2010 (P.L. 111-148) makes all youth aging out of foster care eligible for Medicaid coverage until age 26, regardless of income. The American Academy of Pediatrics has expressed concern in their Policy Statement on Health Care of Youth Aging Out of Foster Care about the lack of insurance for youth over 18 in the interim, and about the long-term access to care for the Medicaid adult population, particularly given low reimbursement rates.<sup>47</sup> While the Affordable Care Act (ACA) will allow former foster youth to be covered up to age 26, their level of services may change significantly. According to a July 5<sup>th</sup>, 2013 Final Rule from the Centers for Medicare & Medicaid Services (CMS) regarding ACA and foster care, CMS does not have statutory authority to require states to provide continued EPSDT services beyond age 21.<sup>48</sup> However, states have flexibility to design and implement an Alternative Benefit Plan (ABP) to former foster youth that provides more comprehensive services and health coverage than what is provided through the typical adult state Medicaid plan. For example, states may opt to include additional mental health services especially given the high rates of psychiatric disorders and trauma among former foster children who have aged out of care.

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<sup>47</sup> (Jaudes, 2012)

<sup>48</sup> (DHHS Centers for Medicare & Medicaid Services, 2013)

## **Summary**

The background section of this paper has explored the prevalence of mental health disorders among children and youth in foster care as well as their behavioral health utilization and costs to Medicaid, effective models of treatment, and barriers to accessing services. While a full review of all evidence-based treatments benefitting foster children is outside the scope of this paper, North Carolina is fortunate to have clinicians trained in a number of models including TF-CBT, PCIT, SPARCS, ABC, AF-CBT, CBT, MST and CPP. In order to best understand how these models can be effectively applied with the foster care population in North Carolina it is necessary to survey the existing data on the prevalence of mental health issues in children who come in contact with Child Protective Services, analyze the frequency and type of psychiatric diagnosis, and explore what behavioral health services they utilize and at what cost to Medicaid.

## **IV. Data and Methods**

The data required for this project was obtained by Dr. Rosanbalm and the *Partnering for Excellence* pilot through Benchmarks and de-identified for analysis. The data take the form of four major databases described below.

### **Child Protective Services (CPS) Data**

The State Data Warehouse provided these data for Rowan County for the years 2004 through 2012. These data include reports of all CPS assessments that ended during that period. Variables include the date of report to CPS, date the investigation began

and ended, and final case finding. The investigations are divided into two types with various case findings:

1. The investigative assessment track includes all children with abuse allegations and some with neglect allegations if they rise to concern of criminal neglect. These cases are considered higher risk, with more rapid investigation, and often children are interviewed before parents are notified. Possible case findings include: substantiation (child abuse, neglect, abuse/neglect, or dependency) or unsubstantiation. Findings rely on evidence for a specific reported event of maltreatment.
2. The family assessment track is strengths-based, and parents are notified prior to any interviews. These reports can be more general than a specific allegation of abuse or neglect and can include inappropriate discipline, inappropriate supervision, and other general safety concerns. Possible case findings include: services needed (mandated DSS in-home services), services recommended (a non-mandatory plan for community services is made), services provided no longer needed (a specific concern was identified, but the CPS worker helped remedy the issue and there is no longer a safety risk, so the case is closed), or services not needed (nothing occurs). Findings for this track pertain to general child welfare needs rather than evidence for a specific maltreatment event.

### **Services Information System (SIS)**

The State Data Warehouse provided these data for Rowan County for the years 2004 through 2012. The primary purpose of these data are to track the time and services provided by child welfare staff, to determine the costs of services delivered per case, and to provide an account of the services received for state and federal reporting and general program management. Variables include the start and stop dates for each phase of the child welfare system (case decision, in-home, foster care, etc.) as well as the amount of time a caseworker spent providing services during each phase.

### **Child Placement and Payment System (CPPS) Data<sup>49</sup>**

These data were provided by the Department of Social Services in Rowan County for the years 2004 through 2012. The primary purpose of these data is to collect information about children in the legal custody of North Carolina or those placed in foster care under a voluntary agreement. Additionally, these data collect information necessary to make foster care and adoption assistance payments, to maintain information on foster children who reside outside of North Carolina, and other administrative functions. These data include all children who entered a foster care living arrangement during the study period. Variables include the dates of placement, the number of placements, reason for placement, the date of placement authorization, the date of Termination of Parental Rights (if applicable), and barriers to permanence.

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<sup>49</sup> These data are somewhat inconsistent and may be an underestimate of the actual number of placements a foster child experiences. While the CPPS data should capture every change in placement, in practice some counties only document changes that reflect a change in who receives the payment. Changes in placement within the Medicaid residential system or with unpaid kinship providers may not be counted. Rowan County DSS has acknowledged this problem and is working to provide evaluators with a dataset that reports on actual changes in placement including the reason for the placement change.

## **Medicaid Behavioral Health Services Data**

Cardinal Innovations Healthcare Solutions, the Local Management Entity-Managed Care Organization (LME-MCO) covering the pilot county area, provided these data. The data include behavioral health service claims for Medicaid children in Rowan County for services provided between 2004 and 2012. Variables include, among others, the service type, diagnostic code, and the dollar amount associated with the service provided.

## **Method**

### **General Comments**

The analysis conducted was intended to be exploratory, not causal, in nature. The goal was to obtain a thorough understanding of the baseline relationships between child welfare and behavioral health services in Rowan County. Without a counterfactual group or quasi-experimental design, it was not possible to make causal inferences about the effect of behavioral health services on the child welfare population. After I analyzed the available data, I created a report based on my initial interpretation and shared it with Benchmarks, Cardinal, and county DSS stakeholders for further analysis and to guide my final recommendations. The recommendations are informed by the existing literature from academia, child welfare practice, evidence-based treatments, and advocacy and policy groups. The data analysis from Rowan County has allowed me to make specific recommendations to improve county practices and policies, inform the *Partnering for Excellence* pilot, and suggest recommendations that could be implemented statewide in North Carolina.

## Sample Selection

The Medicaid behavioral health services data include children ages 3 to 21, however for purposes of this analysis and the pilot project, only children ages 6 and older are considered. Medicaid does not typically cover behavioral health services for children under the age of three. If services are required they are provided by a Child Development Service Agency (CDSA), rather than an enrolled Medicaid provider. Additionally, Cardinal reported that their information on children between ages three and five might be somewhat unreliable, as these children may be served through multiple systems. The primary researchers on the *Partnering for Excellence* Project used the following method to match children across datasets in order to eliminate duplication and errors when creating the study sample:

Records were considered matches and given the same unique ID if they had either 1) the same SIS number (this only applies to records from the Data Warehouse, i.e., CPS, SIS, and CPPS records) or 2) the same Last Name, First Name, Birth Date, and Sex (where all values for these fields are non-missing). The data were further processed to assign the same unique ID to records with slight variations in the First Name, Last Name, Birth Date, or Sex fields. In all cases, the identifying fields were required to be non-missing. In some cases, SSN, SIS Number, Case Number, or Form Number were used to verify whether variations in the identifying variables indicated the records were for the same children.

## **Indices**

The researchers who began this evaluation created a comprehensive index of psychiatric diagnostic codes and categories that appear in the Medicaid behavioral health claims data (Appendix 1). I reviewed this index and made some minor categorization changes of mental health diagnoses into diagnostic types based on the DSM-V (i.e., anxiety disorders, conduct disorders, mood disorders, etc.). The researchers also created an exhaustive list of Medicaid-reimbursable behavioral health service codes across provider types. In order to conduct my analysis, I reorganized this index of behavioral health services based on location of service, intensity of service, duration of service, provider type, and model-specific services (Appendix 2). These indices represent an exhaustive list of all psychiatric diagnoses and behavioral health service codes in the Medicaid datasets for Rowan County. All codes were reviewed by a group of behavioral health providers and LME-MCO staff to ensure that the codes were interpreted correctly based on current usage practices.

## **Analysis**

The purpose of this analysis was to establish baseline summary statistics about children who had a CPS investigative assessment during the study period and to understand the behavioral health services that these children received. Additionally, the analysis explored the relationships between types and timing of behavioral health services, psychiatric diagnosis, placement stability, residential treatment, and repeat CPS investigative assessments. The primary value added to previous analysis, in addition to providing analysis to data from a new project county, is an estimate of the financial

costs associated with behavioral health services for children who have had a CPS assessment during the study period. Additionally, this analysis provided clinical insight from the field as well as a careful consideration of policy issues and next steps suggested by data findings. The findings of this analysis will be used to inform the pilot intervention in Rowan County and structure the post-intervention evaluation method. Furthermore, because this evaluation is the first of its type in North Carolina, broad policy recommendations may be made based on the findings.

## **V. Results**

### **Behavioral Health Services**

The initial baseline analysis of the Rowan County CPS and Medicaid data included a basic review of the population demographic characteristics (Table 1). This section will explore demographics of the sample, disparities in DSS custody and behavioral health, exploration of behavioral health service utilization, including specific analysis of enhanced services, care coordination, and MST, and analysis of psychiatric diagnoses in the sample. Of the 17,336 unique CPS investigative assessments in the dataset, 974 (6%) of these entered DSS custody. The sample is predominantly white, however black children (7%) are disproportionately more likely to be in DSS custody compared with whites (5%), other/unknown race (4%), or Hispanic children (2%). These percentages were calculated within race/ethnicity as the proportion of children with a CPS investigative assessment who entered DSS custody.

**Table 1: Children who had a CPS assessment during the study period**

	6-11		12-14		15+		Total	
	All Children	DSS Custody	All Children	DSS Custody	All Children	DSS Custody	All Children	DSS Custody
Total Number	7,955 (46%)	329	4,321 (25%)	253	5,060 (29%)	392	17,336	974
Female	49%	45%	47%	47%	57%	52%	52%	48%
Male	51%	55%	49%	53%	43%	48%	48%	52%
White	76%	70%	76%	69%	75%	68%	76%	69%
Black	23%	29%	22%	30%	24%	31%	23%	30%
Other/Unknown	1%	1%	2%	1%	1%	1%	1%	1%
Hispanic	7%	6%	6%	2%	4%	2%	6%	3%

*\*Data restricted to children ages 6 to 21*

*\*Hispanic includes children regardless of racial group*

Of the 17,336 children who were investigated by CPS during the study period only 2,462 (14%) had any associated behavioral health service (Table 2). Males (16%) were slightly more likely to have received any behavioral health service than females (13%). While white (14%) and black (15%) children appear to be receiving behavioral health services at similar rates, children identified as Hispanic are much lower (9%). Again, percentages were calculated within gender or race/ethnicity to represent the proportion of all children who had a CPS investigative assessment who also received a behavioral health service.

**Table 2:** Children who had a CPS assessment during the study period and also received any behavioral health service

	6-11		12-14		15+		Total	
	All Children	DSS Custody	All Children	DSS Custody	All Children	DSS Custody	All Children	DSS Custody
Total Number	970 (39%)	129	711 (29%)	123	781 (32%)	199	2,462	451
Female	38%	43%	47%	45%	55%	48%	46%	45%
Male	62%	57%	53%	55%	45%	52%	54%	55%
White	77%	75%	74%	66%	74%	72%	75%	71%
Black	22%	25%	24%	33%	25%	28%	24%	28%
Other/Unknown	1%	0%	2%	1%	1%	<1%	1%	1%
Hispanic	5%	4%	5%	3%	3%	2%	4%	3%

*\*Data restricted to children ages 6 to 21*

*\*Hispanic includes children regardless of racial group*

As Table 3 indicates, children who had substantiated abuse/neglect are most likely to have also received behavioral health services, but the number is still quite low (25%).

Children with a substantiation case finding are also the most likely to have received a behavioral health assessment, but few seem to be doing so (17%).

**Table 3:** Behavioral health services by CPS finding

	Substantiated	CPS Services Provided	CPS Services Recommended	Unsubstantiated
Total	3,011	947	863	12,515
Received any behavioral health service	25%	16%	13%	12%
Received a behavioral health assessment	17%	8%	8%	6%

*\*Substantiation includes: abuse, neglect, dependency, and services needed*

*\*Unsubstantiation includes: services not recommended and unsubstantiated*

*\*Assessment includes: 96110, 90801, 82055, H0001, H0002, T1023, H0031, 96101, & 96100*

Of all children who had a CPS investigative assessment, 1,594 (9%) had a behavioral health assessment (Table 4). For the 974 children in DSS custody, only 313 (32%) had a behavioral health assessment. Males (56%) in DSS custody were slightly more likely than females (44%) to receive a behavioral health assessment. There was not a significant difference between different racial groups and rates of behavioral health assessment. The services detailed in Table 4 were not restricted by date and could have followed any time after a CPS investigation had ended.

**Table 4:** Frequency of behavioral health service type by age and DSS custody

	6-11		12-14		15+		Total	
	All Children	DSS Custody	All Children	DSS Custody	All Children	DSS Custody	All Children	DSS Custody
Total Number	7,955	329	4,321	253	5,060	392	17,336	974
Assessment	8%	31%	11%	35%	9%	32%	9%	32%
E&M (Psychiatry)	2%	6%	3%	8%	3%	13%	3%	9%
Enhanced	2%	13%	5%	25%	6%	28%	4%	22%
Hospital	<1%	2%	1%	2%	1%	4%	1%	3%
Outpatient	9%	35%	11%	36%	9%	35%	9%	35%
Residential	1%	5%	2%	12%	2%	13%	2%	10%

Care coordination by Cardinal Innovations LME-MCO was examined separately because the service only became widely available in Rowan County after May 1, 2010. The frequency of care coordination by age group and DSS custody of the sample is displayed below in Table 5. Care coordination is indicated when children are utilizing high level placements such as Level III, Level IV (which Cardinal does not authorize), Psychiatric Residential Treatment Facilities (PRTF), or experience

psychiatric hospitalizations. Table 6 reflects Cardinal has been able to provide care coordination to many of these high-risk children.

**Table 5:** Frequency of care coordination by age and DSS custody

	6-11		12-14		15+		Total	
	All Children	DSS Custody	All Children	DSS Custody	All Children	DSS Custody	All Children	DSS Custody
Total Number	1,954	41	1,005	38	1,083	57	4,042	136
Care Coordination (LME-MCO)	<1%	2%	2%	18%	4%	25%	2%	16%

**Table 6:** Care coordination and high levels of residential treatment for children

	All Children	DSS Custody
Number in Level III (Percent with Care Coordination)	23 (43%)	10 (60%)
Number in PRTF (Percent with Care Coordination)	5 (80%)	1 (0%)
Number in Hospital (Percent with Care Coordination)	27 (67%)	3 (100%)

Additional analysis was conducted on children who received enhanced Medicaid services. Table 7 reflects that within the category of enhanced services the most frequently utilized services are Community Support Services followed by outpatient psychiatry, indicating that many children, particularly older foster care children, may be receiving medication management for behavioral health conditions.

**Table 7:** Frequency of enhanced behavioral health services by age and DSS custody

	6-11		12-14		15+		Total	
	All Children	DSS Custody	All Children	DSS Custody	All Children	DSS Custody	All Children	DSS Custody
Total Number	7,955	329	4,321	253	5,060	392	17,336	974
IDD	1%	2%	1%	3%	1%	5%	1%	3%
Substance Abuse	<1%	0%	1%	3%	2%	6%	1%	3%
Inpatient Psychiatry	<1%	<1%	<1%	<1%	<1%	1%	<1%	1%
Outpatient Psychiatry	2%	6%	3%	8%	3%	12%	2%	9%
Case Management	<1%	3%	1%	3%	1%	3%	<1%	3%
Community Support	1%	11%	3%	19%	4%	22%	2%	18%
Day Treatment	<1%	1%	<1%	2%	<1%	1%	<1%	1%
IIH	1%	2%	1%	3%	1%	3%	1%	3%
MST*	<1%	1%	2%	8%	2%	5%	1%	4%
ER Visits	<1%	0%	<1%	<1%	<1%	1%	<1%	<1%

\*MST is restricted to services provided to cases where CPS investigations ended after January 1, 2007 when teams became widely available in Rowan County (dates provided by Lisa Reiter at MST Services).

The analysis also examined the frequency of residential placement during the study period. Table 8 indicates increased utilization of residential placements in DSS custody, particularly Level II and Level III. Caution should be exercised when interpreting these

data because service definitions for residential placements, provider levels, and practices may have changed significantly during the period of data collection.

**Table 8:** Frequency of residential behavioral health services by age and DSS custody

	6-11		12-14		15+		Total	
	All Children	DSS Custody	All Children	DSS Custody	All Children	DSS Custody	All Children	DSS Custody
Total Number	7,955	329	4,321	253	5,060	392	17,336	974
Level I	<1%	1%	<1%	0%	0%	0%	<1%	<1%
Level II	<1%	4%	<1%	4%	<1%	3%	<1%	3%
Level III	<1%	1%	1%	9%	1%	10%	1%	7%
PRTF	<1%	0%	<1%	2%	<1%	2%	<1%	1%

*\*Data coded H0019 as Level III, although this may also be used for Level IV placements (and possible PRTF placements).*

*\*Cardinal reported they do not pay for Level IV placements or non-licensed residential Level III placements, so many may have been directly paid for by DSS and not captured in these data.*

*\*Data on rates of placement in IDD Level II, respite, and supports available upon request.*

Multisystemic Therapy (MST) was explored separately and restricted to those services provided only to cases where CPS investigation ended after January 1, 2007 when MST became widely available in Rowan County. As Table 9 below indicates, MST appears to be underutilized for adolescents with conduct disorders, particularly those in DSS custody. This is consistent with reports from MST Services (personal communication with Lisa Reiter, March 2014) that MST is underutilized state-wide despite high levels of Conduct Disorder, Oppositional Defiant Disorder and externalizing behavioral health issues.

**Table 9:** Exploring MST

	Has Conduct Disorder Category Diagnosis	Has Conduct Disorder Category Diagnosis and DSS Custody
Received MST	73 (17%)	14 (11%)
No MST	366 (83%)	111 (89%)
Total	439	125

*\*Restricted to children ages 12 and older*

Consistent with the literature described above, children in DSS custody had higher rates of psychiatric diagnoses, particularly ADHD, adjustment disorder, depression, other mood disorders, PTSD, and substance abuse compared to all children referred for a CPS investigative assessment (Table 10). Children can have more than one psychiatric diagnosis and more than one CPS investigative assessment so the number in Table 10 does not represent unique children, just unique CPS investigative assessments. The list of psychiatric diagnoses is also not exhaustive but represents the most frequent and significant diagnoses.

**Table 10:** Frequency of psychiatric diagnoses by age and DSS custody.

	6-11		12-14		15+		Total	
	All Children	DSS Custody	All Children	DSS Custody	All Children	DSS Custody	All Children	DSS Custody
Total Number	7,955	329	4,321	253	5,060	392	17,336	974
ADHD	1%	7%	1%	6%	1%	5%	1%	6%
Adjustment Disorder	1%	8%	2%	7%	1%	4%	1%	6%
Anxiety Disorder	1%	3%	1%	3%	<1%	1%	1%	2%
Conduct Disorder	6%	22%	9%	31%	8%	32%	7%	28%
IDD Disorder	<1%	<1%	1%	0%	1%	1%	<1%	<1%
Any Mood Disorder	2%	8%	4%	13%	6%	20%	3%	14%
Bipolar Disorder	<1%	2%	1%	1%	1%	4%	1%	2%
Depression	1%	5%	2%	8%	3%	14%	2%	9%
Other Mood Disorder	1%	3%	2%	6%	2%	8%	1%	6%
Personality Disorder	<1%	0%	<1%	2%	<1%	2%	<1%	1%
Psychosis	<1%	0%	<1%	1%	1%	1%	<1%	1%
PTSD	1%	7%	1%	5%	1%	4%	1%	5%
Substance Abuse/Dependence	1%	6%	2%	12%	3%	14%	2%	11%
Reactive Attachment Disorder	<1%	0%	<1%	2%	<1%	<1%	<1%	<1%

As shown in Table 10, disorders that fall into the conduct disorder category, including Oppositional Defiant Disorder, are strongly correlated with DSS custody. In the overall population of children reported for CPS investigative assessments, conduct disorder

presents in 7% of the cases (6% when cases that result in DSS custody are excluded), but increases to 28% of all DSS custody cases. The data in Table 10 also raises concerns about the use of bipolar disorder in children under age 13 and personality disorder diagnosis in anyone under 18 years old. Additionally, the data indicates elevated rates of anxiety disorders and PTSD in young children.

### **Placement Stability**

Detailed examination of the 974 children who entered DSS custody and their placement stability is reported in Table 11 below. Placement stability is categorized according to the number of placement moves a child experiences. It's important to note the high number of children (13%) with more than 10 placement moves. Average lengths of DSS custody were also calculated and found to be fairly consistent across age groups with an overall average of 9.7 months. The average length of first placement was also similar across age groups with an overall average length of 4.3 months.

Gender is significantly related to placement length and stability; females have, on average, 19 fewer days in their first DSS placement than males. This could be because they go home quicker than males from their first placement, or they move on to other placements. Females have, on average, 0.76 fewer placements while in DSS custody while males, on average, remain in DSS custody 44 days longer than females.

There is no significant relationship between average length of first DSS placement and receiving any behavioral health services. However, children in DSS custody who receive any behavioral health service are more likely to spend 4 months longer on average in DSS custody than children who receive no behavioral health

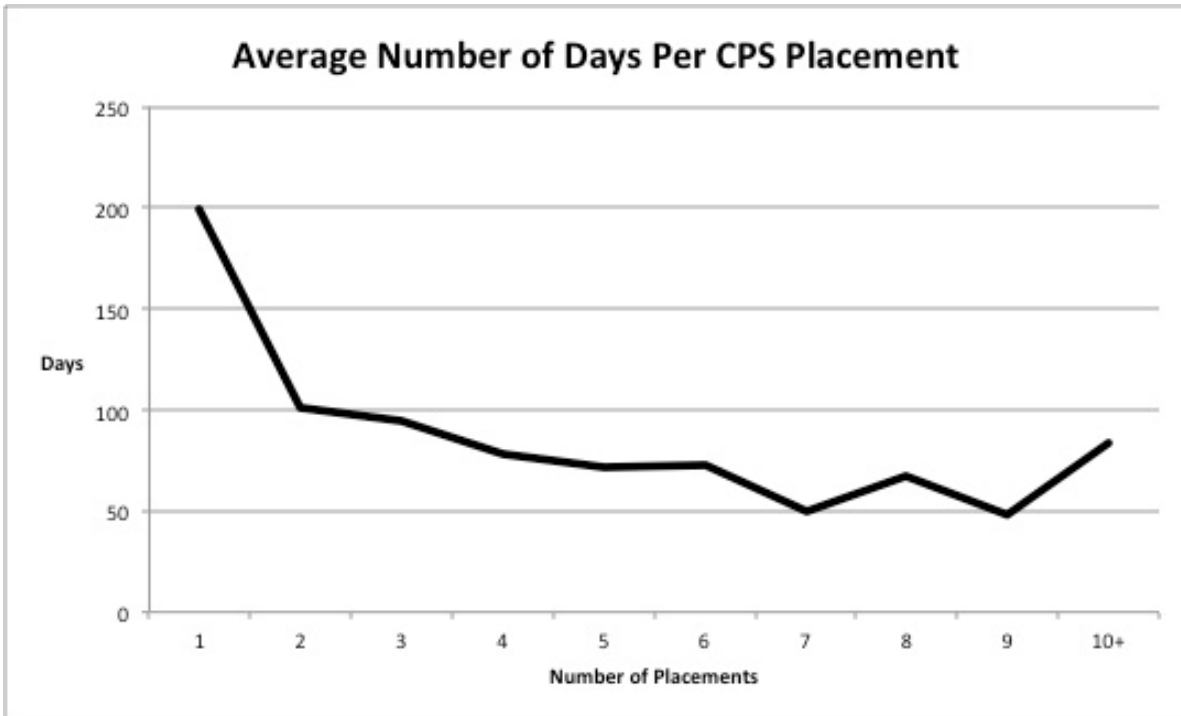
services. We cannot conclude the direction of this relationship or rule out a third alternative cause such as level of maltreatment. It's possible that these children entered custody with significant behavioral health issues that necessitated services, or perhaps the services, once in place, prolonged their stay in custody. Receiving substance abuse services, case management, community support, and Level I residential is associated with longer lengths of DSS custody. However, receiving MST is associated with shorter lengths of DSS custody (141 days less on average). Having a diagnosis of ADHD, adjustment disorder, anxiety disorder, conduct disorder, depression, psychosis, and PTSD is associated with longer lengths of DSS custody, but it is unclear whether these disorders were acquired prior to or after entering DSS custody. Finally, for children with a short first placement (<100 days) and more than one placement total there is a significant association with shorter length of time in DSS custody (139 days less on average) and greater number of DSS placements (2.2 more on average). This may indicate that children who have a short first placement, for administrative or behavioral reasons, tend to then have more placement instability later on.

**Table 11:** Placement stability for children in DSS custody by age

Age	6-11		12-14		15+		Total	%
	Number	%	Number	%	Number	%		
<b>0</b>	131	40%	83	33%	125	33%	339	33%
<b>1</b>	93	28%	66	26%	100	26%	259	26%
<b>2</b>	17	5%	21	8%	21	8%	59	8%
<b>3</b>	16	5%	17	7%	21	7%	54	7%
<b>4</b>	17	5%	10	4%	11	4%	38	4%
<b>5</b>	10	3%	8	3%	15	3%	33	3%
<b>6</b>	2	1%	5	2%	10	2%	17	2%
<b>7</b>	6	2%	5	2%	11	2%	22	2%
<b>8</b>	6	2%	1	0%	7	0%	14	0%
<b>9</b>	7	2%	4	2%	5	2%	16	2%
<b>10+</b>	24	7%	33	13%	66	13%	123	13%
<b>Total</b>	329	100%	253	100%	392	100%	974	100%

Figure 1 below demonstrates that as the number of placement moves increases, the average placement length decreases for children in DSS custody. This paints a picture of a typical foster child bouncing through frequent placement changes, although the reasons for the move are not identifiable from the data available for this analysis.

**Figure 1:** Average number of days per CPS placement by number of overall placements



### **Residential Treatment**

Residential treatment services represent a significant category of services available to the most high-risk children and result in the greatest expenditures as will be discussed later. This analysis examined the frequency and level of residential treatment by CPS finding and specifically for children in DSS custody in Tables 12 and 13 below. It's important to note that data coded as H0019 is reported as a Level III, although this code may also be used for Level IV or PRTF placements. Cardinal reported that they do not contract with any Level IV providers or non licensed Level III placements, so these may have been utilized but directly paid for by DSS and will not be captured in these data. Additionally, many children may have had more than one type of residential placement

so these numbers indicate unique CPS investigative assessments with residential treatment, not unique children.

**Table 12:** Frequency of residential treatment by CPS finding

	Substantiated	Unsubstantiated	Services Provided	Services Recommended	Across all findings
Total Number	3,011	12,515	947	863	17,336
Any Residential	75	189	20	13	297
Level I	4%	2%	0%	0%	2%
Level II	27%	22%	10%	23%	23%
Level III	55%	41%	10%	31%	42%
PRTF	5%	14%	15%	23%	12%
Other	9%	20%	65%	23%	21%

*\*"Other" includes IDD Level I placements (YA254), respite (H0045, S5150), residential leave (183), and residential supports (H2016).*

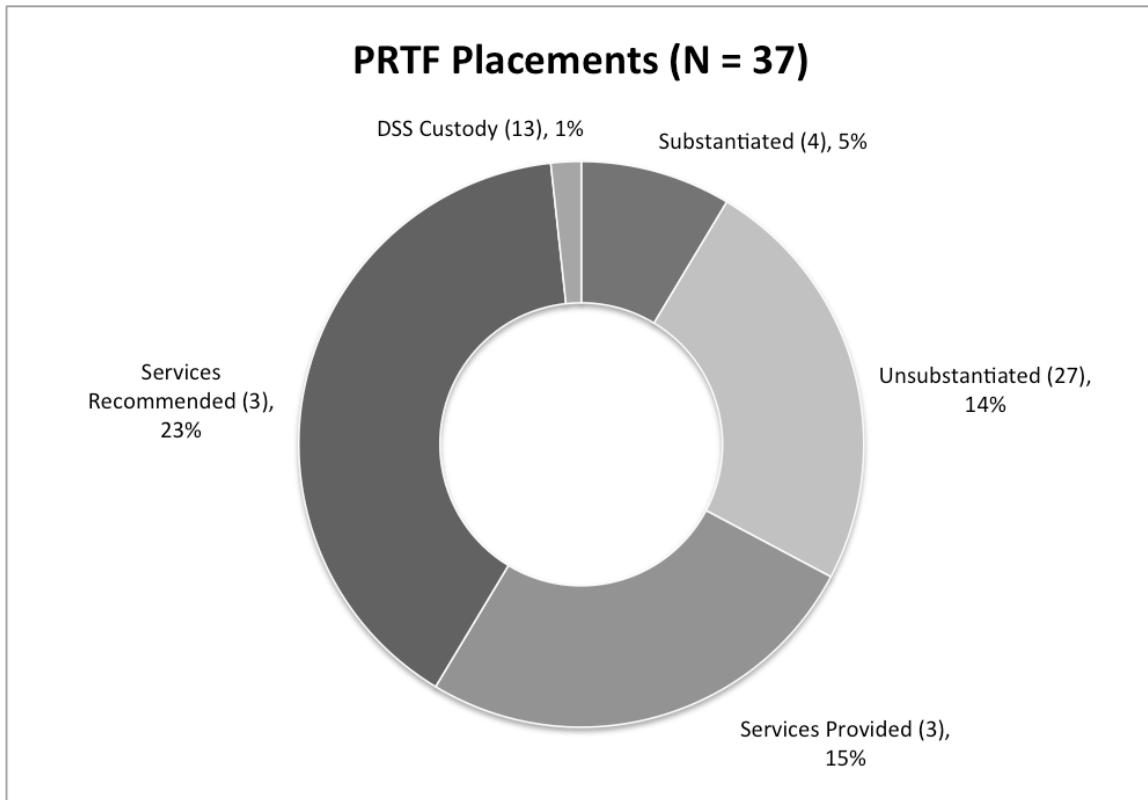
**Table 13:** Frequency of residential treatment for children in DSS custody

	Children in DSS Custody
Any Residential	100
Level I	3%
Level II	33%
Level III	67%
PRTF	13%
Other	5%

Psychiatric Residential Treatment Facility (PRTF) placements were examined separately to understand the type of CPS investigative assessment findings that predict PRTF placement. Figure 2 below reflects the proportion of the 37 PRTF placements associated

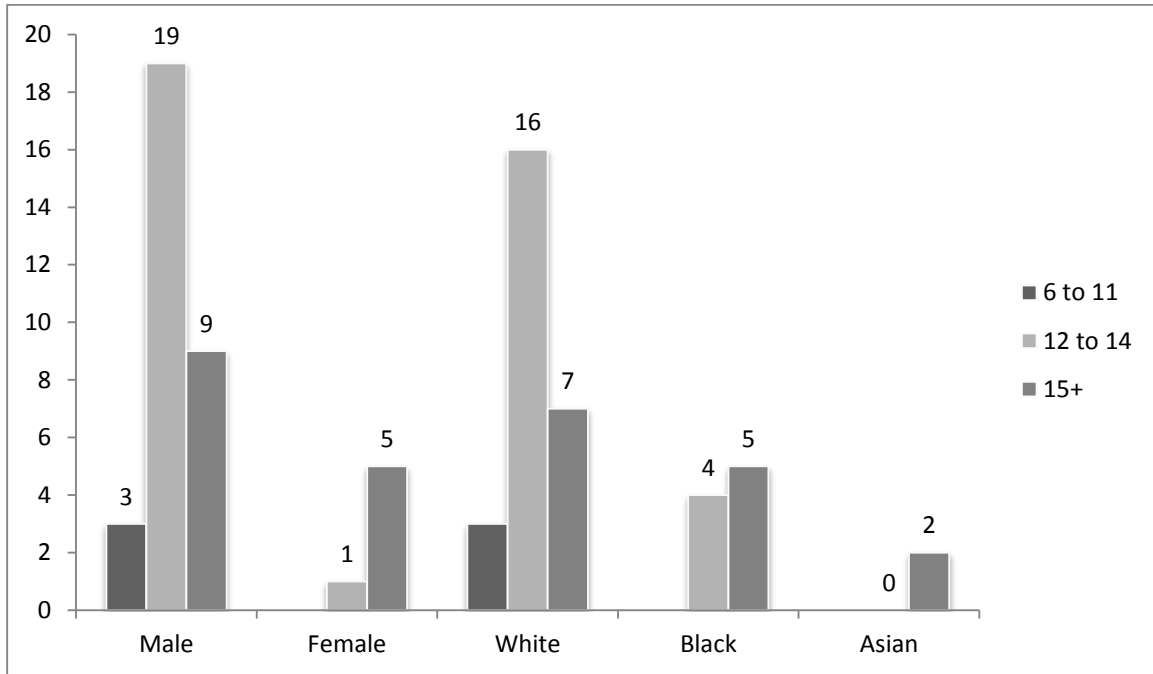
with each CPS investigative category and DSS custody. When examining the full sample of children with CPS involvement, children with an Unsubstantiation finding were twice as likely to be placed in PRTFs as those who are Substantiated. Children with Services Provided or Services Recommended findings are three times as likely as Substantiated to be placed in a PRTF.

**Figure 2:** PRTF placement as percent of CPS finding for any residential placement



Out of a total of 37 PRTF placements, 30 children had only one CPS assessment, 6 children had two, and one child had three assessments. PRTF placement by year appears to be declining (the peak in 2009 was nine, in 2011 there was one and in 2012 there were two). PRTF placements were also examined by age, gender and race as reported in Figure 3 below.

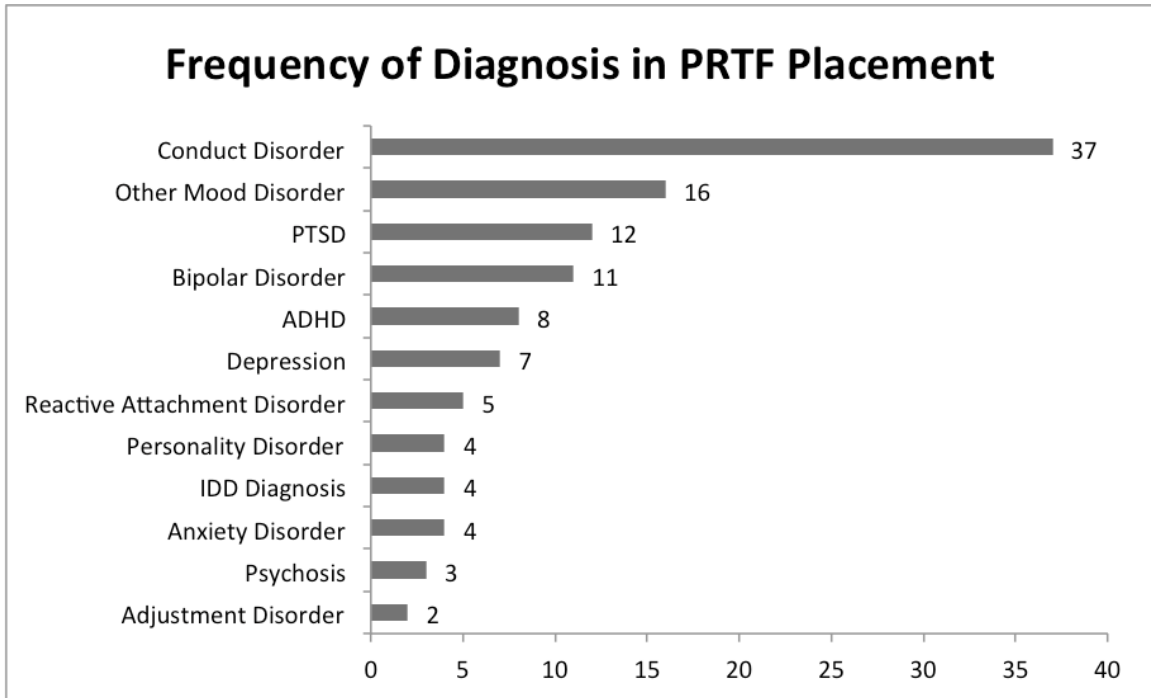
**Figure 3: PRTF Placements by Age, Gender and Race (N = 37)**



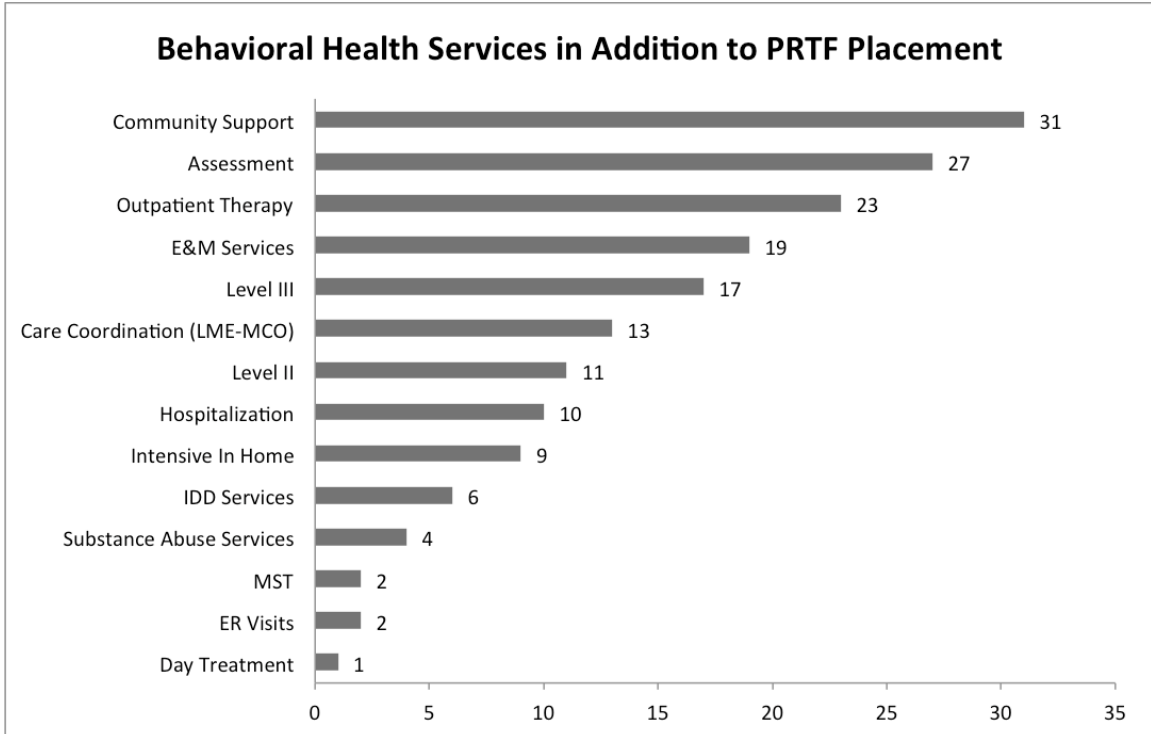
In relation to placement stability in DSS custody, as the number of DSS placements increases by 1, children are 9% more likely to go into a PRTF (significant at 1% level). Longer lengths of DSS custody are also significantly associated with residential placement, in particular Level II and PRTFs (significant at 5% level).

Figures 4 and 5 report on the frequency of various psychiatric diagnoses associated with cases that also had PRTF placement. All children placed in PRTFs met criteria for at least one conduct disorder category diagnosis in addition to any number of other diagnoses present in these cases. The behavioral health services most frequently associated with PRTF placement in Figure 5 could have occurred before PRTF placement or been utilized as a step-down from a PRTF. At the time of the data collection, Community Support Services were provided simultaneously with PRTF placement.

**Figure 4:** Relationship between psychiatric diagnosis and PRTF placement



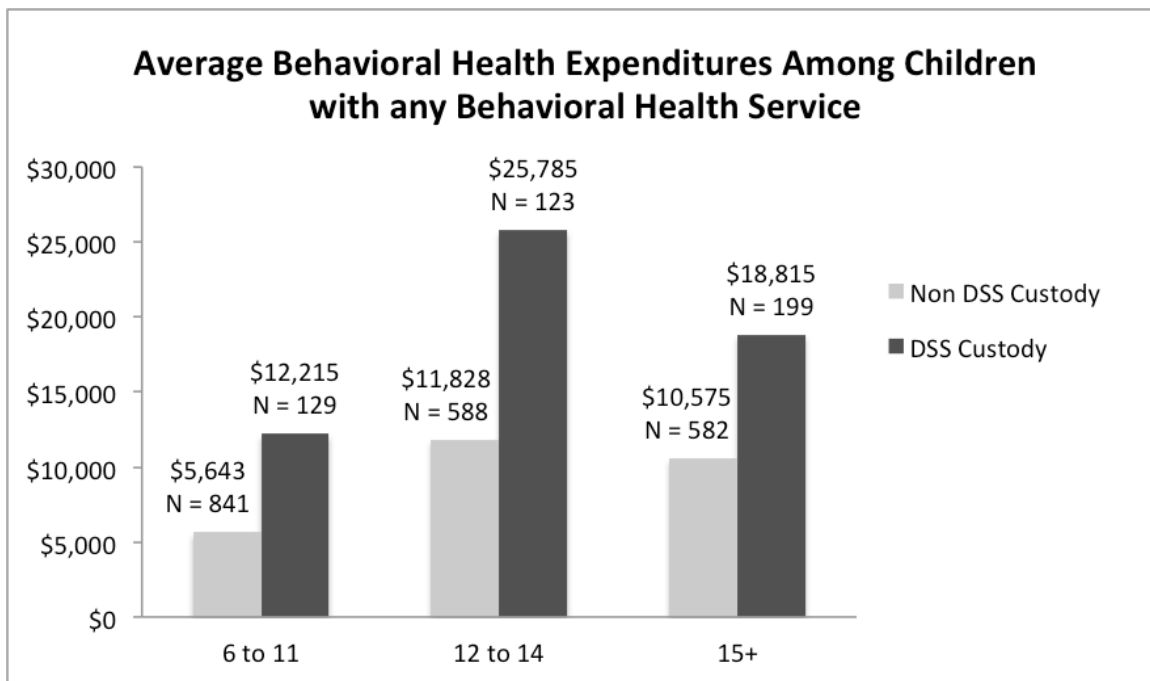
**Figure 5:** Relationship between other behavioral health services and PRTF placement



## Expenditures

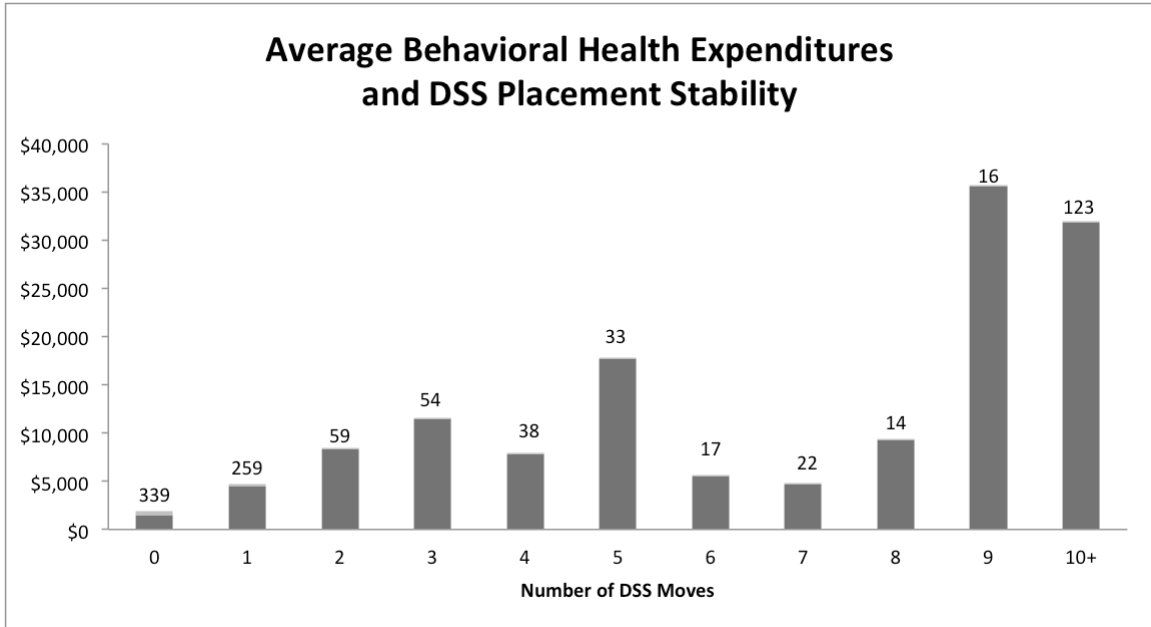
Average expenditures per CPS investigative assessment were calculated using Medicaid claims data. Figure 6 highlights that the average behavioral health expenditures for children in DSS custody consistently exceed those of similar peers also investigated by CPS who received any behavioral health service. Older children also tend to have greater behavioral health expenditures than the 6 to 11 year old category.

**Figure 6:** Average behavioral health expenditures by custody and age among children who received any behavioral health service



For children in DSS custody, placement instability is associated with increased average behavioral health expenditures (Figure 7).

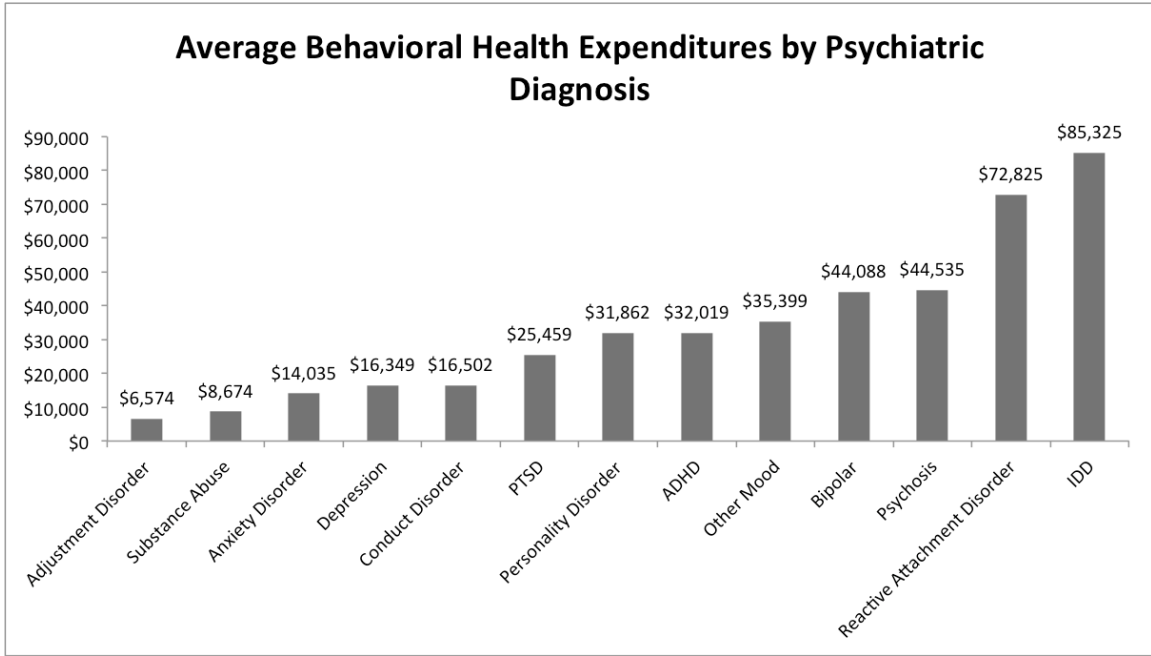
**Figure 7: Average behavioral health expenditures and DSS placement stability**



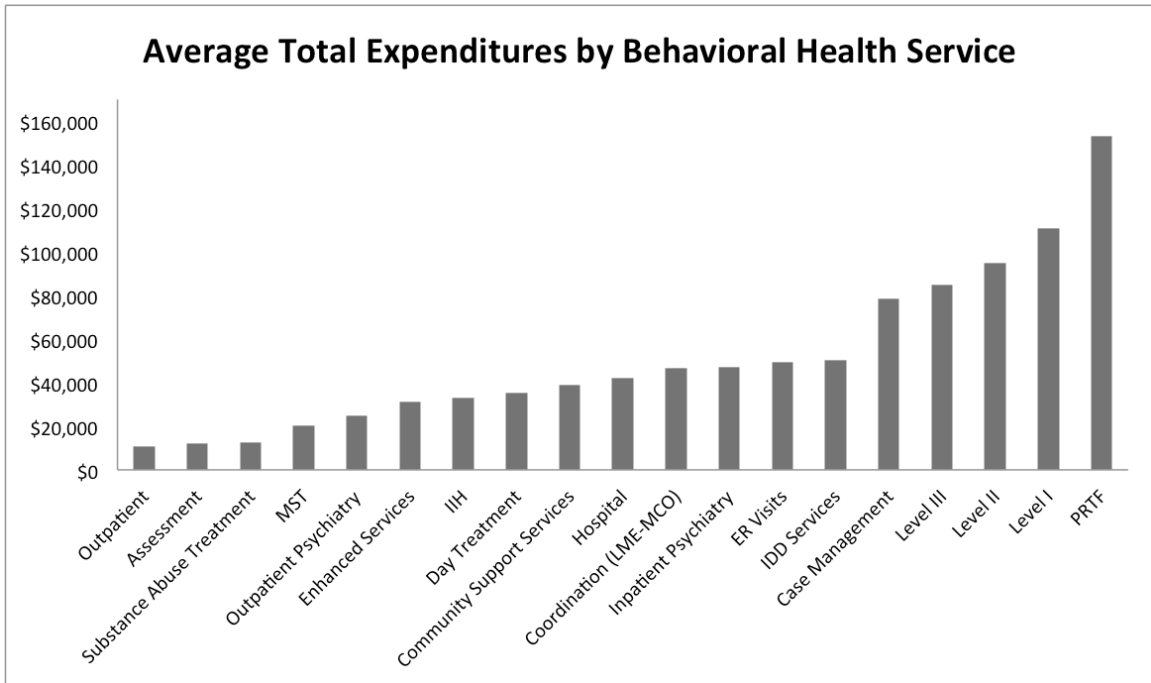
*\*Numbers on top of bars are counts of children with each number of moves*

Figures 8 and 9 highlight the average behavioral health expenditures associated with a particular psychiatric diagnosis or behavioral health service. These are not the actual costs associated with treating a particular condition or providing a behavioral health service per se, but rather are the average costs associated with a CPS investigative assessment in which a particular psychiatric diagnosis or behavioral health service was observed. Children can receive more than one psychiatric diagnosis and more than one behavioral health service.

**Figure 8:** Average behavioral health expenditures by psychiatric diagnosis



**Figure 9:** Average total expenditures by behavioral health service



In regards to PRTF placement exclusively, expenditures for CPS assessments associated with PRTF placement ranged from \$3,350 to \$410,769. Additionally, the top expenditures cases (> \$200,000) occurred in 11 CPS investigative assessments. Eight of

these had a mood disorder and six had a PTSD diagnosis. Five of these cases were in DSS custody. All of these cases received community support services, five had IIH, four had outpatient therapy, and one received MST.

## **VI. Discussion**

Children in foster care, by definition, have experienced trauma including the removal from their family and entry into foster care, and have likely experienced child abuse or neglect. We know from the research and experience that these foster children have increased mental health issues and psychiatric diagnoses. There may be barriers that delay or prevent foster children from receiving timely, comprehensive, and useful mental health assessments and further delays in entering evidence-based treatment to address their mental health issues.

The data analysis in this paper confirms what the literature on foster children across the United States has found: foster children have significantly greater behavioral health issues, utilize more services, and account for a disproportionate amount of behavioral health expenditures. The analysis presented in this paper highlights a concern that there may be inadequate and inconsistent behavioral health assessments of high-risk children who have contact with CPS, and particularly for children in DSS custody. There may be practical barriers or case coordination issues that are preventing timely and comprehensive clinical assessments of these children. For example, the decreased rates of assessment among Hispanic children may indicate linguistic, cultural, or insurance barriers for undocumented children. Prior to the development of

*Partnering for Excellence* the workforce in Rowan County was unable to accommodate the need for trauma-informed comprehensive clinical assessments. This may explain the use of developmentally inappropriate diagnostic labels or treatment services in the data. For example, it's concerning that twelve 6 to 11 year old children received substance abuse treatment services. While these children may have been experimenting with substances, substance abuse treatment models are developmentally inappropriate for young children and their issues may have been better addressed by behavioral health services. Additionally, diagnosis of personality disorders in children under 18 years old, MST with children under 12 (as was the case with 10 children), and bipolar diagnoses in young children are all concerning practices that may stem from a lack of experience or resources in the community.

It is well established in the literature and anecdotally that foster children's undiagnosed and untreated mental health issues can lead to challenging externalizing behaviors (tantrums, aggression, lying, etc.) that strain their relationships with their foster parents and can lead to placement disruption. Foster care placements also frequently disrupt for administrative or policy reasons. Either way, the effect and feelings of rejection and instability are the same for the foster child. Research has shown that placement disruptions, particularly in the first 100 days of care, exacerbate foster children's mental health issues and are associated with more frequent placement changes in the future. Placement disruption may also be associated with increased reliance on the Medicaid-funded residential treatment placements. Placement disruptions and entry into the residential treatment pipeline can delay reunification,

prevent adoption or guardianship, and may be correlated with re-entry into foster care. DSS placement disruptions create administrative costs for the Department, disrupt behavioral health service delivery, and can lead to expensive reliance on residential treatment. This entire chain of negative events fails to capture the real and intangible costs to the child's education and physical and emotional well-being, nor the increased costs associated with administrative procedures, school changes, court procedures, and informal case management.

The analysis presented in this paper highlights the concerns about placement stability for children in DSS custody. Children with short first placements (less than 100 days) and more than one placement go on to have more placements overall and these placements are short, indicating that these children are "bouncing around" through placements. Placement instability is also associated with increased average behavioral health expenditures. It follows then, that these children have likely received multiple psychiatric diagnoses and are receiving a wide spectrum of behavioral health services with limited success.

Finally, this paper emphasizes the value in utilizing wraparound services such as care coordination by the LME-MCO or Multisystemic Therapy (MST) prior to or following more expensive and intensive residential treatment options. Care coordination can improve the communication between providers, help ensure continuity of care during placement changes, and delay or prevent hospitalizations and other crises. MST has demonstrated effectiveness in preventing out-of-home placements and can effectively

address conduct disorder behaviors that can lead to placement disruption and later reliance on institutional care or criminal behavior.

## **VII. Policy Recommendations**

In order to address the systemic challenges to providing effective high quality behavioral health services to children in contact with child welfare this paper makes several recommendations.

### **1. Trauma Informed Comprehensive Clinical Assessments**

Stakeholders should focus on increasing the frequency and quality of trauma-informed comprehensive clinical assessments for children in contact with child welfare. As this is a major focus of the PFE pilot in Rowan County it won't be expounded on in detail. However, it is important to note that increased trauma-informed comprehensive clinical assessments will capture more children with internalizing behavioral health issues which will in turn lead to earlier identification and prevention of harmful behaviors including substance abuse, self-harm and suicidal ideation.

### **2. Evidence Based Practices**

Cardinal Innovations and behavioral health providers should continue to expand the service array of Evidence Based Practices available in Rowan County. As the volume of children screened and assessed increases, the service array available also needs to expand. PFE is primarily expanding the capacity of clinicians to provide Trauma Focused Cognitive Behavioral Therapy (TF-CBT) which is essential, but incomplete. A full spectrum of services will include interventions for younger children, in particular Parent

Child Interaction Therapy (PCIT) and Multisystemic Therapy (MST) for adolescents. MST in particular is warranted by evidence of frequent conduct disorder diagnoses and indications in the data that it may cost less than residential options and result in shorter stays in DSS custody.

### **3. Care Coordination**

Cardinal Innovations should expand their use of care coordination to all children in DSS custody. In order to effectively capture the highest utilizers of behavioral health services Cardinal should support the case management needs of children in foster care. This is particularly important for those with placement instability where changes in living arrangements can lead to inconsistent participation in behavioral health services, unreliable caregiver reports, and transition in behavioral health providers.

### **4. High Expenditure Warning Signs**

Cardinal Innovations and Rowan County DSS should identify high-cost and high utilization indicators in cases and target them with wraparound services like care coordination and additional case management at DSS. The data and literature on foster children indicates that certain case features are associated with high behavioral health utilization and expenditure. Attention should be paid in particular to children with a short first placement (less than 100 days), placement instability regardless of the reason, and serious or multiple psychiatric diagnoses.

### **5. Placement Instability**

DSS should implement data collection systems to monitor and track every placement change for children in DSS custody and note the specific reason. Options might include

administrative policy moves, relocation to a sibling or kinship placement, child disruptive behavior, poor foster family fit, higher level of supervision needed, agency closure, etc. The first placement a child enters in foster care must be equipped to handle any potential challenges and the foster family must have adequate supports from both DSS and behavioral health professionals to preserve the placement. It is essential that resources be provided at the first warning sign, rather than as a last resort before a placement disrupts. Measures should also be taken to prevent frequent and disruptive administrative placement changes, which may require creativity on the part of DSS and foster families.

## **6. Continuity of Care and Barriers**

DSS and Cardinal Innovations should encourage continuity of care with behavioral health providers and insist that barriers to treatment or placement stability be addressed. Cardinal, DSS, and behavioral health providers must work together to fund creative solutions to allow children to complete treatment and to encourage biological family participation. For example, many children in DSS custody may be placed in a Level II due to their conduct but once their behavioral issues subside they are returned home. Reunification with the biological family will likely restart the cycle of problematic behavior but MST, a family intervention, could be utilized to improve family functioning. Medicaid would preclude a child in a Level II from receiving MST, therefore DSS may have to pay for some services, or other funding mechanisms or policy changes may be necessary to allow this to occur. In order for foster children to receive appropriate, timely, and useful behavioral health services there must be an integrated system in

place among the Department of Social Services, the LME-MCO, community providers, schools, and families. This system must include a process to effectively identify, screen, and refer children who are at risk for mental health issues to trained, trauma-informed clinicians for a comprehensive clinical assessment. Barriers including Medicaid coverage, issues of consent, previous treatment records, and communication with collateral contacts must be worked out. Additionally, Hispanic children may experience cultural, linguistic, or financial barriers to accessing treatment which suggests further investigation and collaboration with advocacy groups and families served in the community.

## **7. DSS Training**

DSS workers should be trained to recognize the different types of evidence-based therapies available and how to access them in their community. DSS legal guardians have a right to make an informed decision about what behavioral health services will offer the most benefit to a child in their custody. Both DSS caseworkers and foster parents have a responsibility to participate in a child's therapeutic goal setting and treatment and to advocate for the appropriate use of psychiatric medication. For the best interests of the child, and the sustainability for the Medicaid system, it is important to use lower, less expensive and less institutional levels of care and to have supports in place to help children quickly return from higher levels of residential treatment back to a community setting. In a broad sense, it is beneficial to invest resources, services, time and energy early on in a child's stay in foster care to expedite reunification or

permanency, and prevent reliance on more expensive, ineffective and intensive treatments later on.

**For further information regarding this report please contact the author,**

**Susan Cohen Foonsness, MSW at [sd28@duke.edu](mailto:sd28@duke.edu).**

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## Appendix 1: Index of Psychiatric Diagnoses and DSM-IV Codes

DIAGNOSIS	DIAGNOSTIC LABEL	DIAGNOSIS TYPE - PRIMARY	DIAGNOSIS TYPE - SECONDARY
314.01	ADHD	ADHD	
314.10	Hyperkinesis with developmental delay	ADHD	
314.00	Hyperkinetic syndrome of childhood	ADHD	
314.90	Unspecified hyperkinetic syndrome	ADHD	
V62.82	Bereavement uncomplicated	Adjustment Disorder	Adjustment Disorder
308.30	Acute reaction to stress	Adjustment Disorder	
309.00	Adjustment reaction	Adjustment Disorder	
309.82	Adjustment reaction with physical symptoms	Adjustment Disorder	
310.10	Personality change due to other condition	Adjustment Disorder	
309.90	Unspecified adjustment reaction	Adjustment Disorder	
309.24	Adjustment disorder with anxiety	Anxiety Disorder	Adjustment Disorder
300.30	Obsessive Compulsive Disorder	Anxiety Disorder	Obsessive Compulsive Disorder
301.40	Obsessive compulsive personality disorder	Anxiety Disorder	Obsessive Compulsive Disorder
300.00	Anxiety disorder	Anxiety Disorder	
300.02	Generalized anxiety disorder	Anxiety Disorder	
301.30	Obsessive Compulsive Collecting Disorder	Anxiety Disorder	
300.01	Panic disorder	Anxiety Disorder	
300.21	Panic disorder with agoraphobia	Anxiety Disorder	
309.21	Separation anxiety	Anxiety Disorder	
300.23	Social phobia	Anxiety Disorder	
300.29	Specific phobia	Anxiety Disorder	
309.30	Adjustment disorder with disturbance of conduct	Conduct Disorder	Adjustment Disorder
309.40	Adjustment disorder with mixed disturbance of emotions and conduct	Conduct Disorder	Adjustment Disorder
V71.02	Child or adolescent antisocial behavior	Conduct Disorder	Conduct Disorder
312.82	Conduct disorder adolescent onset	Conduct Disorder	
312.81	Conduct disorder childhood onset	Conduct Disorder	

DIAGNOSIS	DIAGNOSTIC LABEL	DIAGNOSIS TYPE - PRIMARY	DIAGNOSIS TYPE - SECONDARY
312.00	Conduct disorder NOS	Conduct Disorder	
312.30	Disorder of impulse control	Conduct Disorder	
312.34	Intermittent explosive disorder	Conduct Disorder	
313.81	Oppositional Defiant Disorder	Conduct Disorder	
312.80	Other conduct disorder	Conduct Disorder	
312.89	Other conduct disorder	Conduct Disorder	
312.39	Other disorders of impulse control	Conduct Disorder	
312.31	Pathological gambling	Conduct Disorder	
312.20	Socialized conduct disorder	Conduct Disorder	
312.90	Unspecified disturbance of conduct	Conduct Disorder	
300.15	Dissociative disorder	Dissociative Disorder	
307.50	Unspecified eating disorder	Eating Disorder	
299.00	Autism	Intellectual and Developmental Disability	Autism
317.00	Mild intellectual disabilities	Intellectual and Developmental Disability	Mental Retardation
318.00	Moderate intellectual disabilities	Intellectual and Developmental Disability	Mental Retardation
318.20	Profound intellectual disabilities	Intellectual and Developmental Disability	Mental Retardation
318.10	Severe intellectual disabilities	Intellectual and Developmental Disability	Mental Retardation
319.00	Unspecified intellectual disabilities	Intellectual and Developmental Disability	Mental Retardation
299.80	Other PDD	Intellectual and Developmental Disability	Pervasive Developmental Disorder
315.90	Unspecified delay in development	Intellectual and Developmental Disability	Pervasive Developmental Disorder
309.28	Adjustment disorder with mixed anxiety and depression	Mood Disorder	Adjustment Disorder
309.10	Prolonged Depressive Reaction	Mood Disorder	Adjustment Disorder

DIAGNOSIS	DIAGNOSTIC LABEL	DIAGNOSIS TYPE - PRIMARY	DIAGNOSIS TYPE - SECONDARY
296.81	Atypical manic disorder	Mood Disorder	Bipolar
296.00	Bipolar I disorder	Mood Disorder	Bipolar
296.06	Bipolar I disorder in full remission	Mood Disorder	Bipolar
296.50	Bipolar I disorder most recent depressed	Mood Disorder	Bipolar
296.51	Bipolar I disorder most recent depressed - mild	Mood Disorder	Bipolar
296.52	Bipolar I disorder most recent depressed - moderate	Mood Disorder	Bipolar
296.55	Bipolar I disorder most recent depressed - partial remission	Mood Disorder	Bipolar
296.53	Bipolar I disorder most recent depressed - severe	Mood Disorder	Bipolar
296.40	Bipolar I disorder most recent manic	Mood Disorder	Bipolar
296.46	Bipolar I disorder most recent manic - full remission	Mood Disorder	Bipolar
296.42	Bipolar I disorder most recent manic - moderate	Mood Disorder	Bipolar
296.43	Bipolar I disorder most recent manic - severe	Mood Disorder	Bipolar
296.44	Bipolar I disorder most recent manic - severe with psychosis	Mood Disorder	Bipolar
296.60	Bipolar I disorder most recent mixed	Mood Disorder	Bipolar
296.62	Bipolar I disorder most recent mixed - moderate	Mood Disorder	Bipolar
296.63	Bipolar I disorder most recent mixed - severe	Mood Disorder	Bipolar
296.64	Bipolar I disorder most recent mixed - severe with psychosis	Mood Disorder	Bipolar
296.70	Bipolar I disorder unspecified	Mood Disorder	Bipolar
296.89	Bipolar II disorder	Mood Disorder	Bipolar
296.80	Other unspecified bipolar	Mood Disorder	Bipolar
311.00	Depressive disorder NOS	Mood Disorder	Depression
300.40	Dysthymic disorder	Mood Disorder	Depression
296.20	Major depressive disorder	Mood Disorder	Depression
296.25	Major depressive disorder in remission	Mood Disorder	Depression
296.30	Major depressive disorder recurrent	Mood Disorder	Depression
296.36	Major depressive disorder recurrent - full	Mood Disorder	Depression

DIAGNOSIS	DIAGNOSTIC LABEL	DIAGNOSIS TYPE - PRIMARY	DIAGNOSIS TYPE - SECONDARY
	remission		
296.31	Major depressive disorder recurrent - mild	Mood Disorder	Depression
296.32	Major depressive disorder recurrent - moderate	Mood Disorder	Depression
296.33	Major depressive disorder recurrent - severe	Mood Disorder	Depression
296.35	Major depressive disorder recurrent in remission	Mood Disorder	Depression
296.21	Major depressive disorder-mild	Mood Disorder	Depression
296.22	Major depressive disorder-moderate	Mood Disorder	Depression
296.23	Major depressive disorder-severe	Mood Disorder	Depression
301.13	Cyclothymic disorder	Mood Disorder	Other Mood Disorder
313.00	Disturbance of emotions specific to childhood and adolescence	Mood Disorder	Other Mood Disorder
313.80	Mixed emotional disturbance of childhood/adolescence	Mood Disorder	Other Mood Disorder
313.89	Other emotional disturbance of childhood/adolescence	Mood Disorder	Other Mood Disorder
293.83	Transient mood disorder due to another condition	Mood Disorder	Other Mood Disorder
313.90	Unspecified emotional disturbance of childhood/adolescence	Mood Disorder	Other Mood Disorder
296.90	Unspecified episodic mood disorder	Mood Disorder	Other Mood Disorder
315.20	Disorder of Written Expression	Other Disorder	Learning Disorders
315.39	Phonological Disorder	Other Disorder	Learning Disorders
315.00	Reading Disorder	Other Disorder	Learning Disorders
293.00	Delirium due to medical condition	Other Disorder	
307.70	Encopresis (not due to a medical condition)	Other Disorder	
307.60	Enuresis (not due to a medical condition)	Other Disorder	
313.82	Identity Problem	Other Disorder	
V40.00	Mental and behavioral problems	Other Disorder	
V40.3	Mental and behavioral problems	Other Disorder	
333.70	Neuroleptic-Induced Acute Dystonia	Other Disorder	
V40.30	Other behavioral problems	Other Disorder	

DIAGNOSIS	DIAGNOSTIC LABEL	DIAGNOSIS TYPE - PRIMARY	DIAGNOSIS TYPE - SECONDARY
293.89	Other transient mental disorder due to another condition	Other Disorder	
V11.9	Personal history of unspecified mental health disorder	Other Disorder	
293.82	Psychotic disorder due to medical condition	Other Disorder	
307.20	Tic Disorder NOS	Other Disorder	
307.23	Tourette's disorder	Other Disorder	
300.90	Unspecified mental disorder	Other Disorder	
V40.90	Unspecified mental or behavioral problem	Other Disorder	
V40.9	Unspecified mental or behavioral problem	Other Disorder	
294.90	Unspecified persistent mental disorder due to other condition	Other Disorder	
293.90	Unspecified transient mental disorder due to other condition	Other Disorder	
301.83	Borderline personality disorder	Personality Disorder	
301.81	Narcissistic Personality Disorder	Personality Disorder	
301.80	Other personality disorder	Personality Disorder	
301.90	Unspecified personality disorder	Personality Disorder	
296.54	Bipolar I disorder most recent depressed - severe with psychosis	Psychosis	
298.80	Brief psychotic disorder	Psychosis	
296.34	Major depressive disorder recurrent - severe with psychosis	Psychosis	
296.24	Major depressive disorder-severe with psychosis	Psychosis	
295.30	Paranoid schizophrenia	Psychosis	
V11	Personal history of schizophrenia	Psychosis	
295.70	Schizoaffective Disorder	Psychosis	
295.90	Schizophrenia, undifferentiated type	Psychosis	
295.40	Schizophreniform Disorder	Psychosis	
298.90	Unspecified psychosis	Psychosis	
309.81	Post Traumatic Stress Disorder	PTSD	

DIAGNOSIS	DIAGNOSTIC LABEL	DIAGNOSIS TYPE - PRIMARY	DIAGNOSIS TYPE - SECONDARY
309.89	Post Traumatic Stress Disorder	PTSD	
302.60	Gender identity disorder	Sexual Disorder	
302.90	Unspecified psychosexual disorder	Sexual Disorder	
303.90	Alcohol dependence	Substance Abuse/Dependence	
291.90	Alcohol-Related Disorder NOC	Substance Abuse/Dependence	
304.40	Amphetamine Dependence	Substance Abuse/Dependence	
305.23	Cannabis Abuse - remission	Substance Abuse/Dependence	
304.30	Cannabis dependence	Substance Abuse/Dependence	
304.20	Cocaine dependence	Substance Abuse/Dependence	
292.89	Cocaine Intoxication	Substance Abuse/Dependence	
304.80	Combo drug dependence	Substance Abuse/Dependence	
V65.42	Counseling on substance abuse	Substance Abuse/Dependence	
304.00	Drug dependence	Substance Abuse/Dependence	
292.81	Drug-induced delirium	Substance Abuse/Dependence	
305.20	Nondependent cannabis abuse	Substance Abuse/Dependence	
305.60	Nondependent cocaine abuse	Substance Abuse/Dependence	
305.00	Nondependent drug abuse	Substance Abuse/Dependence	

DIAGNOSIS	DIAGNOSTIC LABEL	DIAGNOSIS TYPE - PRIMARY	DIAGNOSIS TYPE - SECONDARY
305.90	Nondependent mixed drug abuse	Substance	
		Abuse/Dependence	
305.50	Opioid Abuse	Substance	
		Abuse/Dependence	
304.01	Opioid dependence	Substance	
		Abuse/Dependence	
304.90	Other (or unknown) Substance Dependence	Substance	
		Abuse/Dependence	
305.40	Sedative, Hypnotic, or Anxiolytic Abuse	Substance	
		Abuse/Dependence	
304.10	Sedative, Hypnotic, or Anxiolytic Dependence	Substance	
		Abuse/Dependence	
292.84	Substance-Induced Mood Disorder	Substance	
		Abuse/Dependence	
292.12	Substance-Induced psychotic disorder with hallucinations	Substance	
		Abuse/Dependence	
292.90	Unspecified drug-induced mental disorder	Substance	
		Abuse/Dependence	

## Appendix 2: Index of Behavioral Health Medicaid Service Codes

SERVICE CODE	SERVICE CODE LABEL	SERVICE TYPE - PRIMARY	SERVICE TYPE - SECONDARY
96110	Developmental testing	Assessment	IDD
90801	Clinical intake	Assessment	Intake
82055	Alcohol, any specimen except breath	Assessment	SA
H0001	Behavioral health assessment	Assessment	SA
H0002	Behavioral health screening	Assessment	SA
T1023	Diagnostic assessment	Assessment	
H0031	MH assessment	Assessment	
96101	Psychological testing	Assessment	
96100	Psychological testing	Assessment	
COORD	Care coordination (provided by LME-MCO)	Care coordination	
99285	ER visit for evaluation of patient (high complexity)	E&M	Inpatient Psychiatric
99284	ER visit for evaluation of patient (moderate complexity)	E&M	Inpatient Psychiatric
99238	Hospital discharge day management 30 min	E&M	Inpatient Psychiatric
99239	Hospital discharge day management over 30 min	E&M	Inpatient Psychiatric
99233	Hospital visit complex 35 min	E&M	Inpatient Psychiatric
99232	Hospital visit mod 25 min	E&M	Inpatient Psychiatric
99231	Hospital visit stable physician 15 min	E&M	Inpatient Psychiatric
90817	Individual therapy (30 minutes) - MD	E&M	Inpatient Psychiatric
90819	Individual therapy (50 minutes) - MD	E&M	Inpatient Psychiatric
99223	Initial hospital care severe physician 0 min	E&M	Inpatient Psychiatric
99356	Prolonged physician service inpatient	E&M	Inpatient Psychiatric
90862	Med check	E&M	Outpatient Psychiatric
99212	Office visit established patient minor physician 10 min	E&M	Outpatient Psychiatric
99213	Office visit established patient mod physician 15 min	E&M	Outpatient Psychiatric
99214	Office visit established patient severe physician 25 min	E&M	Outpatient Psychiatric
99215	Office visit established patient severe physician 40 min	E&M	Outpatient Psychiatric
99204	Office visit new patient complex physician 45 min	E&M	Outpatient Psychiatric
99205	Office visit new patient severe physician 60 min	E&M	Outpatient Psychiatric

SERVICE CODE	SERVICE CODE LABEL	SERVICE TYPE - PRIMARY	SERVICE TYPE - SECONDARY
T1016	Administrative Case Management	Enhanced	Case Management
H0032	Case management MH/SA	Enhanced	Case Management
H0036	Community support (before November 2011)	Enhanced	Community Support
H2012	Child and adolescent day treatment	Enhanced	Day Treatment
T1017	Case management developmental disability	Enhanced	IDD
T2041	Community guide	Enhanced	IDD
T2021	Day supports -- individual	Enhanced	IDD
T2027	Day supports – developmental day	Enhanced	IDD
T2013	In-home skill building	Enhanced	IDD
T2025	Specialized consultative services	Enhanced	IDD
H0040	ACTT - assertive community treatment program	Enhanced	Intensive (Adult)
H2015	Community support team	Enhanced	Intensive (Adult)
H2022	Intensive in-home	Enhanced	Intensive In Home
H2033	MST	Enhanced	Multisystemic Therapy
H0015	Substance abuse intensive outpatient	Enhanced	Substance Abuse
450	Emergency room - general	Hospital	ER
114	Room and board private psychiatric	Hospital	Hospitalization
124	Room and board semi private psychiatric	Hospital	Hospitalization
134	Semi private 3 or 4 beds psych	Hospital	Hospitalization
T1999	Individual goods and services	IDD	
S5125	Personal care	IDD	
T2029	Purchase of equipment and supplies	IDD	
T1005	Respite care - nursing	IDD	
90847	Family therapy w/ patient	Outpatient	Family therapy
90846	Family therapy w/o patient	Outpatient	Family therapy
90849	Group therapy multi-family	Outpatient	Family therapy
90853	Group therapy	Outpatient	Group therapy
90857	Interactive group	Outpatient	Group therapy
H2014	Developmental therapies	Outpatient	IDD
H0005	Alcohol/drug services – group	Outpatient	Substance Abuse

SERVICE CODE	SERVICE CODE LABEL	SERVICE TYPE - PRIMARY	SERVICE TYPE - SECONDARY
H0020	Opioid Treatment	Outpatient	Substance Abuse
H0004	Behavioral health counseling/therapy	Outpatient	
90804	Individual outpatient 20-30 min	Outpatient	
90805	Individual outpatient 20-30 w/med man	Outpatient	
90806	Individual outpatient 45-50 min	Outpatient	
90807	Individual outpatient 45-50 min	Outpatient	
90808	Individual outpatient 75-80 min	Outpatient	
90823	Interactive therapy 20-30	Outpatient	
90810	Interactive therapy 20-30	Outpatient	
90812	Interactive therapy 45-50	Outpatient	
90814	Interactive therapy 75-80	Outpatient	
900	Psych treatments general	Outpatient	
YA254	Therapeutic Foster Care Leave	Residential	IDD
H0046	High risk intervention – Level 1	Residential	Level I
H2020	High risk intervention – level 2 group homes	Residential	Level II
S5145	Therapeutic foster care	Residential	Level II
H0019	High risk intervention – level IV	Residential	Level IV
911	Psychiatric accommodation service (PRTF)	Residential	PRTF
183	Leave of absence therapeutic leave	Residential	Residential leave
H0045	Individual respite	Residential	Respite
S5150	Respite care- community individual	Residential	Respite
H2016	Residential supports	Residential	