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REPORT TO THE DELAWARE TASK FORCE ON THE HEALTH OF CHILDREN IN FOSTER CARE



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Contents

Acknowledgments.....	2
List of Figures	4
Abstract.....	5
Introduction	7
Background	7
Methodology.....	8
Review of the Literature	9
Children in Foster Care.....	9
Preventive Care.....	10
Emergency Department Care.....	12
Continuity of Care	12
Special Health Concerns.....	13
Summary of Empirical Findings.....	16
Demographic Description of Delaware’s Children in Foster Care	16
Healthcare Utilization of Delaware’s Children in Foster Care	19
Overall Utilization	19
Healthcare Costs	20
Special Concerns and Issues Confronting Children in Foster Care	22
Conclusion.....	27
Glossary of Terms and Abbreviations	29
References	32

List of Figures

Figure 1. Total number of children in foster care in Delaware, 2004-2013.....	16
Figure 2. Total number of children in foster care in Delaware and in neighboring states, 2004-2013 (Table A-2).....	17
Figure 3. Children in foster care in Delaware by age group, FY13-FY14 (Table A-7).	17
Figure 4. Average number of years that children spend in foster care in Delaware, FY13-14 (Table A-13).	18
Figure 5. Average number of placements of children in foster care in Delaware, FY13-FY14 (Table A-18).	18
Figure 6. Percentages of children in foster care who received selected services compared with other children in Medicaid, FY13-FY14 (Table A-28 and Table A-57).....	19
Figure 7. The relative cost of selected services provided to children in foster care as represented by percentages of the total billed amount, FY13-FY14	20
Figure 8. Average billed amount of selected services for children in foster care compared with other children in Medicaid, FY13-FY14 (Table A-58).	21
Figure 9. Average per-child cost of prescription drugs among children in foster care and other children in Medicaid, FY13-FY14 (Table A-85).	21
Figure 10. Most common behavioral health diagnoses among children in foster care in Delaware, FY13- FY14 (Table A-41).	22
Figure 11. Percentages of children in foster care receiving well visits within 30, 90 and 180 days of entry into foster care, FY13-FY14 (Table A-46).	23
Figure 12. Percent of children receiving selected services before and after entry into foster care, FY13- FY14 (Table A-50).	25
Figure 13. Most common classes of psychotropic drug prescriptions among children in foster care and among other children in Medicaid, FY13-FY14 (Tables A- 68 through A-72).	26
Figure 15. Average number of psychotropic prescription drugs by number of foster care placements among children in foster care, FY13-FY14 (Table A-79).....	27

Abstract

According to the American Academy of Pediatrics, children in foster care have poorer health than any other group of children. Their higher prevalence of a range of physical, mental and behavioral health problems can lead to greater healthcare utilization and higher costs. However, many children in foster care have undiagnosed and under-treated medical conditions, and persistent unmet health needs.

In June 2014, the Delaware General Assembly established a Task Force on the Health of Children in Foster Care. The Task Force was charged with studying the health and receipt of healthcare services of children in the custody of the State of Delaware. This report contributes to the work of the Task Force by providing an analysis of the healthcare services provided to children in foster care through the State's Medicaid program. Medicaid claims data supplied by the Delaware Division of Medicaid and Medical Assistance (DMMA) and data supplied by the Delaware Department of Services for Children, Youth and Their Families (DSCYF) on foster care placements provide the basis for this analysis. The study provides aggregate information about selected diagnoses, prescription drug utilization and healthcare services billed for the 1,458 children in foster care during fiscal years 2013 and 2014. In order to better understand the health and healthcare utilization of children in foster care in context, we also present a comparison between the cohort of children in foster care and a comparable cohort of 124,667 non-foster care children participating in Medicaid during this time period. Key findings include:

- ❖ Among the 1,458 total children in foster care in Delaware in FY13 and FY14, 59% percent resided in New Castle County; 51% were male; and a majority (50-55%) were African American.
- ❖ Almost three-quarters of children in foster care in Delaware were in foster care for more than one year, and more than one-third experienced five or more placements during a given episode of foster care.
- ❖ Ninety-one percent of children in foster care received at least one type of healthcare service during FY13 and FY14. Compared with other children in Medicaid, children in foster care had similar rates of visits to the emergency department but relatively high rates of behavioral health visits.
- ❖ Sixty-one percent of children in foster care had some kind of behavioral or mental health diagnosis during the study period, and Attention Deficit Hyperactivity Disorder (ADHD) was the most frequent behavioral health diagnosis.
- ❖ Forty percent of children in foster care in Delaware had at least one claim for a psychotropic prescription drug during FY13-FY14, and nearly one-quarter (22%) had claims for three or more psychotropic drugs. Psychotropic drug utilization appears to be positively correlated with the number of foster care placements and length of time in foster care.

- ❖ Among a subsample of children who were new to foster care during FY13 or FY14, just 31% met the recommended guidelines for a preventive screening in their first 30 days in foster care.
- ❖ Among children who were new to foster care in FY14 and had at least one claim during the prior year (n=127), utilization went up for every type of service, and the percent of children that received a well or preventive visit increased from 36% to 72% after entry into foster care.

An understanding of the health status, healthcare utilization and potential unmet health needs of children in foster care is critical to our ability to promote their health and well-being. This study is a first step to better understanding the health-related needs of children in foster care in Delaware and a point of departure for future research. It provides important information to assist providers and policymakers in developing interventions, making meaningful changes in existing practice, and adapting policy to better serve this vulnerable population.

Introduction

In June 2014, the Delaware General Assembly established a Task Force on the Health of Children in Foster Care. The Task Force was charged with studying the health and receipt of healthcare services of children in foster care. This report contributes to the work of the Task Force by providing an analysis of the healthcare services utilized by children in foster care in Delaware, between July 1st, 2012 and June 30th, 2014.

Specifically, this report presents an analysis of the healthcare services provided to children in foster care through the State's Medicaid program, and compares utilization of healthcare services between children in foster care and all other children participating in the Medicaid program. Medicaid claims data supplied by the Delaware Division of Medicaid and Medical Assistance (DMMA) and data supplied by the Delaware Department of Services for Children, Youth and Their Families (DSCYF) on foster care placements provide the basis for this analysis. This combined database resulted in a rich source of information on the health needs and healthcare utilization patterns of children in foster care. While we believe this report offers valuable findings for providers and policymakers, and is the first of its kind in the state of Delaware, the study was necessarily limited in scope. Our analysis revealed many additional questions that could be explored in more detail in future studies. Similarly, the complexity of the healthcare system, coupled with the richness of the database, that there are other findings that could be derived from the data. We offer the following as a first step in better understanding the health-related needs of children in foster care.

In addition to this data analysis, the report contains a review of the relevant literature on the health status, health needs and healthcare service utilization of children in foster care. This summary is not meant to be exhaustive, but rather presents the field's current understanding of the health needs, patterns of healthcare utilization and related costs of children in foster care. It highlights special issues confronting children in foster care, including challenges associated with continuity of care, and priority health conditions, such as asthma and mental health problems. Understanding this broader landscape allows the Task Force and other stakeholders to consider the needs of Delaware's children within the context of the overall healthcare system and the needs of children in foster care more generally.

Background

Foster care refers to the system within a state that cares for minor children when it has been deemed by the court and a child protection agency that the minor's parents are unable to properly care for them. A child in the foster care system has often been removed from his or her home as a result of abuse, neglect or a guardian's dependency on drugs or alcohol. Children in foster care include those placed in non-relative family homes, group homes, institutions (including juvenile justice and intensive behavioral health treatment facilities), as well as those placed with relatives beyond the child's immediate family. In Delaware, the Division of Family Services within the Department of Services for Children, Youth and Their Families (DSCYF) is the lead agency for maintaining the foster care system.

The state is generally responsible for ensuring access to healthcare services for all children in foster care. In Delaware, as in other states, this access is provided through the state's Medicaid program administered by the Delaware Division of Medicaid and Medical Assistance (DMMA). Medicaid is a program jointly financed by the state and federal government that provides healthcare coverage primarily for low income families and children. The program is administered at the state level within broad rules defined by the federal government. Among those rules are income eligibility thresholds, eligibility categories and mandatory covered services. Children in foster care are categorically eligible for Medicaid, which means that they do not need to meet income thresholds in order to participate. All children in Medicaid are entitled to a comprehensive set of covered healthcare services referred to as Early, Periodic Screening, Diagnosis and Treatment (EPSDT).

Methodology

Medicaid claims data provide the basis for this analysis of the health and healthcare utilization of children in foster care. The claims database includes billing information for every encounter that a Medicaid participant has with a covered provider. In addition, the database includes claims for prescription drugs covered under Medicaid. Data extracted for this report include diagnoses, types of services and providers, types of prescription drugs, and expenditures for fiscal years 2013 and 2014 (i.e. covering the time period from July 1, 2012 through June 30, 2014). Importantly, due to the nature of the claims database, most of the cost data in our analyses are based on the "billed amount" for services. The billed amount can vary substantially from the actual cost of services because most individuals who participate in Medicaid in Delaware are enrolled in managed care plans which pay for care using a capitated rate. This means that the billed amount is a somewhat artificial representation of cost. However, it is still useful for making comparisons, examining trends and understanding the relative distribution of costs.¹

Data provided by the DSCYF include demographic information on children in foster care, such as age, race/ethnicity and zip code², as well as characteristics associated with their tenure in the foster care system, such as number and type of foster placements. The DSCYF database includes a unique Medicaid identification number for each child, such that we are able to identify children in foster care within the Medicaid database and link the health-related data with characteristics of foster care.

After linking the Medicaid records with the DSCYF records, the resulting database used to produce this report includes 1,458 children in foster care during the time period FY2013 and FY2014. Our analysis provides aggregate information about selected diagnoses, prescription drug utilization and healthcare services billed for this cohort, broken down by age group and characteristics of foster care where appropriate. In order to better understand the health and healthcare utilization of children in foster care in context, this report presents a comparison between the cohort of children in foster care and a comparable cohort of 124,667 non-foster care children participating in Medicaid in Delaware during this time period.

¹ Note that cost data for prescription drug claims are actual costs (not billed amounts), as these claims are paid on a fee-for-service basis in Delaware.

² Zip code in the database indicates the zip code of most recent placement.

Note that services provided to children in foster care who are placed within certain institutions, such as a youth detention center (through the Division of Youth Rehabilitation Services) or an inpatient mental health facility (through the Division of Prevention and Behavioral Health Services), are generally not included in our analyses of healthcare utilization, unless specially indicated.³ Similarly, children eligible for Medicaid due to their disability status (i.e. SSI eligible) were removed from the database in order to have a more comparable cohort. It is important to remember that we examined a two-year cohort unless otherwise indicated, so this should be kept in mind when interpreting absolute numbers and making comparisons with data from other states.

The following section of this report, entitled “Review of the Literature”, presents a summary of relevant studies describing the health and healthcare utilization of children in foster care, including research describing this population in other states. It highlights special healthcare needs and other important issues, and forms a framework for the analyses of Delaware’s children in foster care. Following this literature review is the section entitled “Summary of Empirical Findings”. This part of the report presents an overview of the health of children in Delaware’s foster care system, and describes the healthcare services used by foster care children across the state. It also provides information on the special needs and priority concerns raised by the literature review and identified by the Task Force.

Review of the Literature

The following literature review includes peer-reviewed articles and technical reports from government agencies and nonprofit/research organizations that have a particular interest in the health and well-being of children in foster care. The review includes literature from 1992 through 2015, with an emphasis on the most recent work. We believe that, although this review is not comprehensive, it does contain the most relevant research to date and presents important context for understanding the health and healthcare needs of Delaware’s children in foster care.

Children in Foster Care

According to the U.S. Department of Health and Human Services, Administration on Children, Youth and Families, the numbers of children in foster care have declined over the last decade with the greatest reduction occurring between FY2008 and FY2009 (ACYF, 2014). This has generally been attributed to state and federal efforts aimed at increasing permanency for children in foster care. In FY2013, there was a slight increase over FY2012 to approximately 402,000 children (ACYF, 2014). Some stays in foster care are quite brief, but approximately half of the children in foster care experience a stay of a year or more, and the median length of time in foster care is approximately 13.4 months (Child Welfare Information Gateway, 2013). Slightly more boys than girls are in foster care, and the median age of

³ These services are not included in the Medicaid claims data because the Division of Prevention and Behavioral Health Services (PBH) provides more intensive inpatient and outpatient services that are included in the State Medicaid Plan as a “carve out,” with PBH functioning as a separate managed care organization for those specific services. Similarly, healthcare services provided to children while in a detention centers are paid for outside of the traditional Medicaid program.

children in foster care is 8.5 years (Child Welfare Information Gateway, 2013). Approximately 42% of these children are White, 26% are Black or African American, and 21% are Hispanic (Child Welfare Information Gateway, 2013).

According to the American Academy of Pediatrics (AAP), foster children comprise a “uniquely disadvantaged group” with significantly worse health, including higher rates of physical, developmental, dental and behavioral health problems, compared with other children (AAP, 2005). Children in foster care are uniquely disadvantaged due to the myriad reasons for which they enter care, including abuse, neglect, and mental illness and/or substance abuse among family members. Further, many children in foster care were exposed to drugs and alcohol prenatally, and many come from impoverished neighborhoods and toxic environments (AAP, 2005). Chronic early stress and adversity, sometimes referred to as “toxic stress,” are thought to contribute to the biological differences that can result in higher rates of physical and mental illness observed among foster care children (Middlebrooks & Audage, 2008; Thompson & Haskins, 2014). Children often enter the foster care system with undiagnosed health problems and unmet health needs and, once in foster care, they can experience ongoing instability and other threats to their health and wellbeing (AAP, 2005). These unique and persistent disadvantages can have negative health impacts into adulthood (Villegas, Rosenthal, O’Brien, & Pecora, 2011).

Most children in foster care are enrolled in Medicaid, with an estimated one to three percent of Medicaid enrollees in foster care accounting for a disproportionate four to eight percent share of expenditures due to the greater healthcare needs of this population (Rosenbach, 2001). Research conducted in three states between 1993 and 1995 shows that while most children are enrolled in Medicaid prior to entry into foster care, many lose coverage when they leave foster care (Rosenbach, 2001), raising concerns about ongoing unmet needs and inappropriate and higher cost utilization, such as non-urgent care provided in the emergency department. The complex health and social needs of children in foster care can strain an already tenuous healthcare delivery system, such that the health needs of children in foster care are often under-treated or poorly managed (AAP, 2005). Similarly, the transient nature of the foster care population can be a barrier to coordination of care and often results in inaccessible or incomplete medical records. This, in turn, can exacerbate the challenges faced by the healthcare system in adequately responding to the health needs of children in foster care (AAP, 2005).

In the following sections, we summarize the most relevant literature on special health needs and disparities experienced by children in foster care, including concerns about well care and preventive screenings, emergency department utilization, continuity of care, mental health and psychotropic drug utilization, and other chronic health conditions.

Preventive Care

Accessible, high quality primary care is the cornerstone of an effective and efficient healthcare delivery system (Starfield, Shi, & Macinko, 2005). Primary care is provided by physicians specifically trained for and skilled in comprehensive, first contact and continuing care. Primary care includes health promotion, disease prevention, health maintenance, counseling, patient education, diagnosis and treatment of

acute and chronic illness (AAP, 2015). A “preventive health” or “well” visit is generally defined as a scheduled appointment with a primary care provider when a person is not sick. Preventive healthcare provides an opportunity for critical health and developmental screenings and early identification of health problems, leading to better disease management and better overall health and quality of life. The AAP has developed guidelines for routine health services for infants and children (AAP, 2014), for whom preventive health visits are critically important. Due to the unique needs of children in foster care, the AAP recommends a more rigorous schedule of preventive health visits for this population, including a screening visit within 72 hours of placement into foster care, a comprehensive examination within 30 days, and ongoing visits at least every six months (AAP, 2002).

Despite AAP guidelines and evidence that child well visits have the potential to improve overall health, many children do not receive the recommended preventive visits (Seldon, 2006). Children in foster care are more likely than other children in Medicaid to receive preventive health care (Bilaver, Jaudes, Koepke, & Goerge, 1999; Landers, Snyder & Zhou, 2013). This finding is generally attributed to policies that focus greater attention on the needs of children in foster care; however, many children are still not receiving early and comprehensive health screenings. A recent (2015) study completed by the Office of the Inspector General (OIG) of the U.S. Department of Health and Human Services examined the receipt of preventive health screenings among children in foster care across four states with large foster care populations: California, Illinois, New York, and Texas. Twenty-nine percent of children in foster care who were enrolled in Medicaid in these states did not receive at least one required health screening. Furthermore, a similar percentage (28%) received at least one required screening late (OIG, 2015). The authors conclude that barriers to preventive care for children in foster care persist and more attention is needed.

The “medical home” is increasingly viewed as a model of delivering preventive and primary care that is comprehensive, patient- (or family-) centered, coordinated, accessible, and of a high quality. Growing attention to medical homes has resulted in a number of quality-oriented certifications for providers who implement medical home models. Similarly, the Patient Protection and Affordable Care Act of 2010 includes incentives to promote greater use of this approach to primary care. Medical homes have been found to improve the quality of care for vulnerable patients by, for example, promoting higher rates of routine preventive screening (Hernandez, Doty, Shea, Davis & Beal, 2007). Medical homes can also promote linkages to social supports needed to address related social needs among low-income and other vulnerable populations (Bachrach, Pfister, Wallis & Lipson, 2014). For these reasons, the medical home has been identified as a model for addressing the health needs of children in foster care. Only one state (Illinois) has systematically incorporated the medical home model for children in foster care. Jaudes and colleagues (2013) examined the medical home experience of Illinois’ children in foster care compared with other children in Illinois’ Medicaid program. The study found that children in foster care served by a medical home received significantly more primary, preventive and dental care, and that care was deemed more efficient and cost effective as reflected in lower utilization of emergency departments for chronic conditions (Jaudes, Champagne, Harden, Masterson, & Bilaver, 2012).

Emergency Department Care

Emergency departments (ED) are commonly used as inefficient alternatives for outpatient care. Inappropriate use of ED care is problematic because patients can be better served through primary care leading to better health outcomes, and emergency services tend to be particularly costly. Individuals in Medicaid, including children, tend to use the ED at higher rates than privately insured individuals, and this is generally attributed to barriers to primary care (Cheung, Wiler, Lowe, & Ginde, 2012). While research suggests that children in foster care do not utilize the ED more than other children in Medicaid (Jaudes, Bilaver, Goerge, Masterson, & Catania, 2004; Rubin, Alessandrini, Feudtner, Localio, & Hadley, 2004), the poorer health and greater unmet healthcare needs experienced by this population suggest that this is an area of particular concern.

Rubin and colleagues (2004) hypothesized that placement changes cause disruptions in continuity of care resulting in higher ED utilization. Their study compared rates of ED utilization among children in foster care to rates among other children in Medicaid in a large municipal area. They found that 28% of children in foster care had at least one visit to the ED during the previous year and that utilization of ED care increased as the number of placements increased (Rubin et al., 2004). The results also revealed higher rates of ED utilization among non-foster care children. However, the study found that children in foster care underutilized other sources of outpatient care compared with children in Medicaid generally, who already utilized outpatient services at lower rates than privately insured children, despite evidence of greater health needs. The authors highlight the need for more attention to continuity of care and suggest that models such as the medical home could ameliorate many of the challenges faced by children foster care.

Jee and colleagues (2005) also examined ED utilization using a nationally representative sample of children in foster care between October 1999 and December 2000. Consistent with Rubin and colleagues (2004), this study found that 31% of children in foster care had visited the ED or an urgent care facility in the past 12 months, and among those children, 45% had more than one visit. Younger children (two years old and younger) and children with chronic conditions were significantly more likely to visit the ED or an urgent care facility (Jee, Aida, Szilagyi, & Szilagyi, 2005).

Continuity of Care

Continuity of care (COC) is a positive attribute of the healthcare delivery system often described in terms of a continuous relationship between a patient and a provider and/or the integration of information and services across providers for a given patient. COC is important for all patients, but particularly for diagnosing and maintaining appropriate care for individuals with chronic conditions. In a summary of the literature on COC, DiGiuseppe and Christakis (2003) note that COC is associated with increased immunization rates, decreased ED use and inpatient hospitalization, and increased perceptions of healthcare quality.

As mentioned above, the inherent instability in the lives of children in foster care, and changes in foster care placements, can act as barriers to continuity of care. More specifically, each change in placement

may be associated with a change in healthcare provider (DiGiuseppe & Christakis, 2003). Similarly, entry into and exits from the foster care system can be associated with changes in insurance coverage which can contribute to discontinuity of care. This is of particular concern for children aging out of the foster care system (AAP, 2012).

According to research conducted by Rosenbach (2001), while most children in their study were enrolled in Medicaid before entering foster care, many (between one-third and one-half) lost their Medicaid coverage when they left foster care. Similarly, in a nationally representative study of children in families who come into contact with the child welfare system, researchers found that children in foster care were more likely to gain Medicaid coverage, but that those children who transitioned back to their own homes were more likely to lose that coverage (Raghaven, Shi, James, Aarons, Roesch, & Leslie, 2009). More recently, researchers have found that children in foster care experience relatively consistent Medicaid coverage before and after their time in foster care (Cosgrove, Frost, Chown, & Anam, 2013). However, Cosgrove and colleagues (2013) point out that even with continuous coverage, this population may not necessarily receive COC due to the variation on placements.

DiGiuseppe and Christakis (2003) examined COC among children in foster care compared with other children in Medicaid using an index which takes into account the number of encounters with the healthcare system and the number of different providers visited by each patient. This index is generally considered a better measure of COC than merely examining insurance coverage, as it can be considered a reflection of the patient-provider relationship. DiGiuseppe and Christakis (2003) found that children in foster care were more likely than other children in Medicaid to experience decreased COC. However, the researchers were not able to study COC in relation to the number of foster placements, which may provide additional insights into the challenges associated with COC. Given the instability associated with foster care placements, and the complex needs of children in foster care, COC is an important area for future research.

Special Health Concerns

Since the 1980s, observed health outcomes among children in foster care have included a higher rate of chronic illness compared with other children. It should be noted that isolating the root cause of the observed inequities is complex due to the many individual, family, neighborhood and societal effects that may contribute to the disadvantages experienced by children in foster care, and researchers have chosen different metrics to quantify service utilization and explanatory variables (Garcia, Palinkas, Snowden, & Landsverk, 2013). The net result, however, is a body of literature that points to a large disparity in the prevalence of diagnosed chronic physical and mental health conditions among children in foster care.

Mental Health & Psychotropic Drug Utilization - Among the most prevalent concerns for children in foster care are psychiatric disorders and mental health conditions. dosReis and colleagues (2001) observed that although only 6.5% of Medicaid-enrolled children required mental health services, 62% of Medicaid-enrolled children in foster care required mental health services. Others have found similar rates of mental health diagnoses (Steele & Buchi, 2008). With a high rate of both need and utilization,

there is still a potential for unmet needs, especially among African-American children and children who have experienced physical abuse (Leslie et al., 2004).

Children in foster care have a significantly higher rate of psychotropic medication use, and the appropriateness of the rate of prescriptions has been questioned (dosReis et al., 2011). Medicaid-enrolled children in foster care were observed to use psychotropic medication such as stimulants, antipsychotics, antidepressants and anxiety medications at significantly higher rates than non-fostered children. Libby (2014) observed that, among children on Medicaid in Colorado, 25% of those in foster care had a prescription for psychotropic medicine, versus 5% of other children. Research suggests that use of multiple antipsychotics for a long period of time is observed in Medicaid-enrolled children in foster care to address conduct disorders, “despite the lack of evidence to support such regimens,” and that Black youths in foster care were more likely than White youths to be prescribed antipsychotics (dosReis et al., 2011).

The rate of increase in the prescription of antipsychotic drugs to Medicaid-enrolled children in foster care varied by state from 2002-2007 (Rubin et al., 2012). Delaware increased from 12.2% of children on antipsychotic medications in 2002 to 17.8% in 2007, a 45.9% increase. This was the 13th largest increase in the nation. Delaware also had a higher rate of children on antipsychotic medications than the national average (11.8% of children in foster care). The rate of children in foster care in Delaware taking more than one prescription for psychiatric issues was 8.1%, which is also higher than the national average of 5.3%. Others have also found polypharmacy—taking more than one prescription for emotional or behavioral health problems—to be significantly more prevalent among children in foster care compared with other children in Medicaid (Fontanella, Warner, Phillips, Bridge, & Campo, 2014). Among the concerns regarding the high utilization of antipsychotic drugs and polypharmacy, is emerging evidence that certain combinations of these drugs may be linked to an increased risk of metabolic complications, including obesity and type 2 diabetes mellitus (Rubin, et al., 2015).

Asthma - Preliminary research into the treatment of children in foster care with asthma suggests that prevalence of asthma is significantly higher, by as much as three times the national average (AAP, 2005; Jaudes, Bilaver, & Champagne, 2015). Further, 66.4% of children in foster care with asthma received appropriate medication, compared with 76.1% of other Medicaid-enrolled children (Jaudes et al., 2015).

Obesity and Overweight – Overweight and obesity is a growing problem among all children in the United States. While the 1990s saw underweight as a problem for children in foster care, more recent literature suggests that the incidence of overweight and obesity in children in foster care has dramatically increased since that time (Schneiderman, Smith, Arnold-Clark, Fuentes & Duan, 2013a). Using data on Hispanic children in foster care in California, Schneiderman and colleagues (2013b) found that children in foster care had a similar rate of obesity as their non-fostered peers. The authors noted that the location of the study was a particularly high-obesity area, with approximately 23-25% of children reported to be obese (Schneiderman, Smith, Arnold-Clark, Fuentes, Duan, & Palinkas, 2013b). Further analysis suggested that longer-term stays in foster care were associated with greater obesity—a result the authors cautiously interpret as obese children may be less likely to be adopted (Schneiderman, Arnold-Clark, Smith, Duan, & Fuentes, 2012). The authors also note a potential relationship between

obesity and the psychotropic medications taken by older foster children, as these medications can contribute to the development of obesity (Schneiderman et al., 2012). Others have found overweight and obesity rates among children in foster care to be at least as high as rates among other children (Steele & Buchi, 2008).

Dental health concerns - According to the AAP, dental problems, such as cavities, are observed at a higher rate among children in foster care than among other children (AAP, 2005). Encouragingly, at least one report noted that “foster care children were far more likely to receive dental care than other groups of Medicaid children” (Rosenbach, 2001, p.7). This result was recently observed by Helton (2013) as well. Nonetheless, disparities remain a concern. Melbye and colleagues (2012) conducted preliminary work into determining barriers to dental care experienced by children in foster care in Washington State, where the requirement that children in foster care undergo an oral health screening within 30 days of foster placement is “not routinely met.” Identified barriers included language barriers, availability of dentists to serve Medicaid patients, lack of systematic record-keeping and transience of stays in foster care (Melbye, Huebner, Chi, Hinderberger, & Milgrom, 2012). The authors note that these issues may be exacerbated for children *without* chronic health conditions who enter foster care, because those children may be less connected to the healthcare system and less likely to have their oral health needs examined or met. Upon leaving foster care, young “alumni” of foster care are likely to have unmet needs as Medicaid coverage of dental care is not comprehensive (Carrellas & Day, 2014).

The above summary is not meant to be exhaustive. Rather our purpose was to highlight areas of most concern noted in the literature. Importantly, relatively little research has been done on the health needs of children in foster care, but the evidence that exists suggests that this population is “more susceptible to poor health outcomes than any other subpopulation of youth in the United States” (Leslie, Gordon, Meneken, Premji, Michelmore, & Ganger, 2005, p. 177).

Summary of Empirical Findings

This section presents highlights of our analysis of the health and healthcare utilization patterns of children in foster care in Delaware between FY13 and FY14. The data presented and discussed in this part of the report were selected based on the priorities identified by the members of the Task Force, as well as issues raised by our review of the literature. Figures and charts in this section are drawn from a more comprehensive set of data tables, which can be found in the Technical Appendix to this report. Please note that data tables are numbered according to their placement in the appendix for organizational purposes. Figures presented in this section also have the associated table number indicated in the figures' captions. Readers are directed to the appendix for technical notes and additional details.

Demographic Description of Delaware's Children in Foster Care

Nationwide, the number of children in foster care fell by almost a quarter between 2002 and 2012, from 523,616 to 399,546 (ACYF, 2013). More recent data show a slight increase in FY2013 to approximately

402,000 children (ACYF, 2014). As seen in Figure 1, Delaware has followed a similar pattern, with a 39% decrease in children in foster care from 1,157 in 2007 to 702 in 2013 (Table A-1).

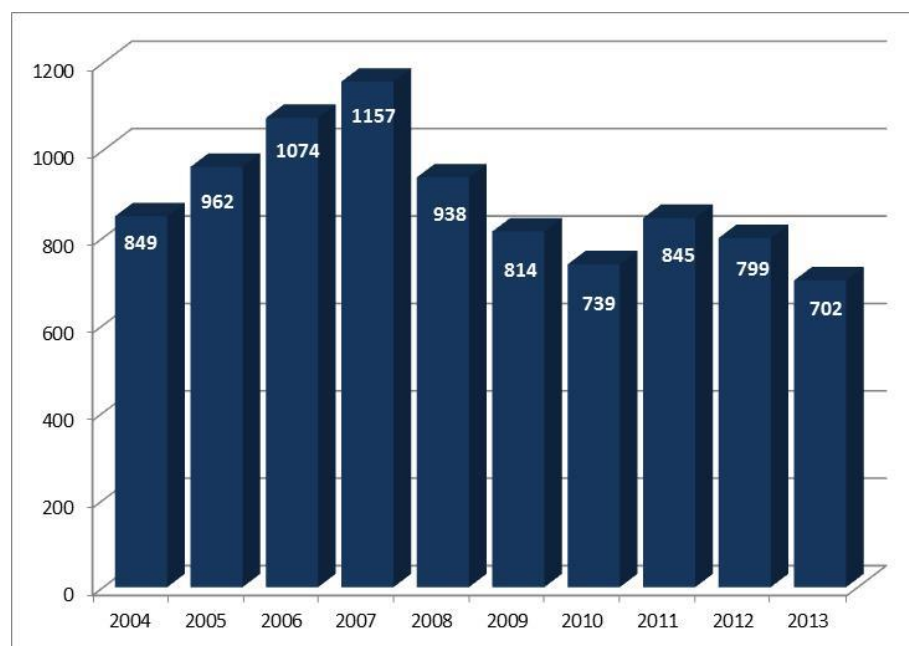


Figure 1. Total number of children in foster care in Delaware, 2004-2013 (Table A-1).

Figure 2 shows the number of children entering foster care in Delaware between 2004 and 2013, in comparison with neighboring states and the nation as a whole. The number of children entering care is substantially smaller than numbers found in

neighboring states due to the relative size of Delaware's population. However, the percent of children entering foster care is comparable with neighboring states and the U.S. as a whole. In addition, the national trend of decreasing numbers of children in the foster care system is mirrored in neighboring states.

Among the 1,458 total children in foster care in Delaware in FY13 and FY14, 320 were new to foster care in 2013 and 222 were new to foster care in 2014 (Table A-22). Figure 3 shows the total cohort of children in foster care during FY13 and FY14 according to age groups. The median age of children in foster care in Delaware is 9 years old (Table A-7), which is similar to the national median age of 8.5 years old (Child Welfare Information Gateway, 2013).

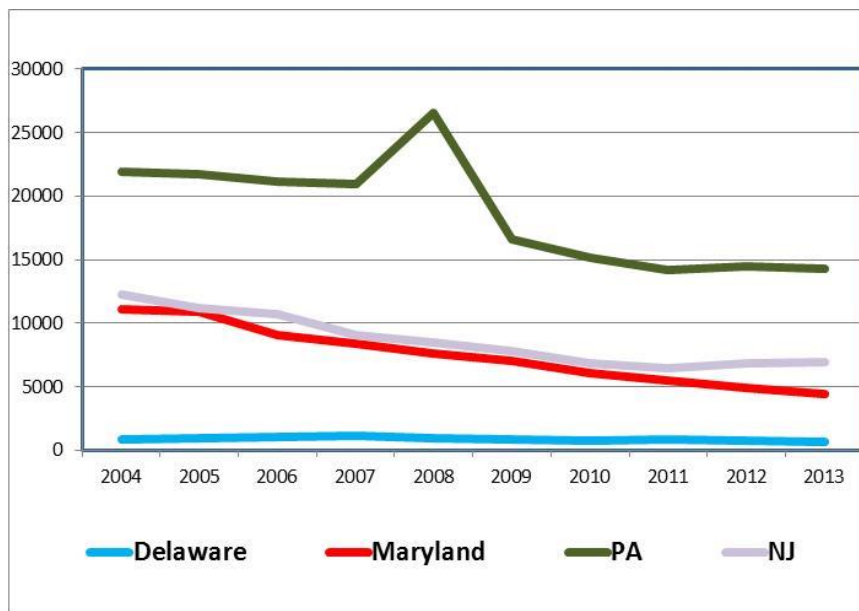


Figure 2. Total number of children in foster care in Delaware and in neighboring states, 2004-2013 (Table A-2).

Not surprisingly, the majority (59%) of children in foster care in Delaware resides in New Castle County (Table A-8) where 59% of the Delaware population is concentrated. Fifty-one percent are male (Table A-9), and a majority (50-55%) is African American (Table A-10).

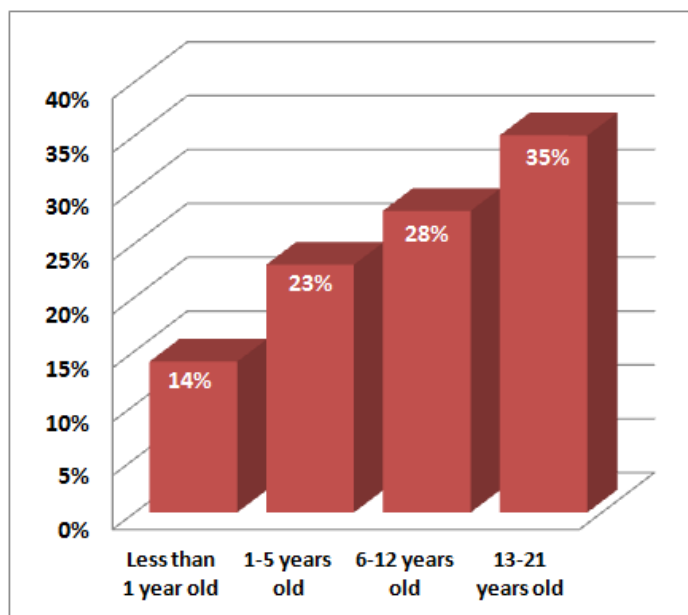


Figure 3. Children in foster care in Delaware by age group, FY13-FY14 (Table A-7).

Almost three-quarters of children in foster care in Delaware are in foster care for more than one year (Table A-13). Further, as seen in Figure 4, nearly one-quarter are in foster care for four or more years. The median length of time in foster care for children in Delaware is 1.6 years, slightly higher than the national rate of 13.4 months (Child Welfare Information Gateway, 2013), while the mean length of time is 2.3 years. This suggests that some children in Delaware are in foster care for particularly long periods of time which skews the average. In fact, 342 children in this cohort (23% of children in foster care during FY13 and FY14) have spent more than half of their lives in foster care (Table A-15).

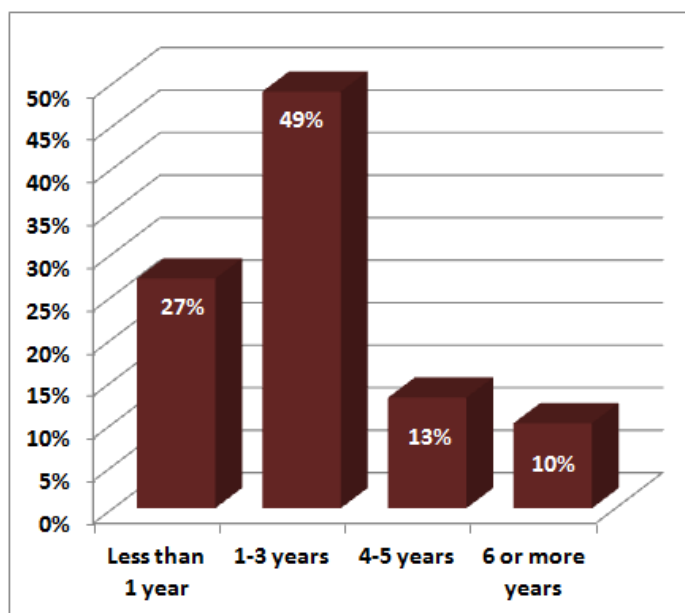


Figure 4. Average number of years that children spend in foster care in Delaware, FY13-14 (Table A-13).

Episodes and Placements – An episode is a length of time during which a child is placed in foster care through the Delaware Department of Services for Children, Youth, and their Families. Episodes end when a child is reunited with his or her family, is adopted, or ages out of the foster care system. Sometimes children experience more than one episode if they have been reunited or adopted and then must return to foster care for some reason.

Within an episode, a child may experience more than one placement. Placements in Delaware include relative and non-relative family homes, residential treatment, respite care, detention, mental health facilities and inpatient hospital stays. As seen in Figure 5,

more than one-third of children in foster care in Delaware experience five or more placements during a given episode. The mean number of placements is 5.3, while the median is 3, again showing that some children experience particularly high numbers of placements. It is difficult to make comparisons regarding the number of episodes and placements between children in Delaware and children in foster care in other states, as there is a great deal of variation in how these are defined and counted. For instance, some states do not include respite stays in their calculations. Respite stays are generally very short placements (e.g. between 4 hours and 5 days). In Delaware, the mean number of placements drops to 4.2 if we eliminate respite from the calculation (Table A-19). While it is difficult to interpret these findings in comparison with other states, we have included data on episodes and placements to illustrate that the children in foster care often experience instability in their lives according to the number and type of placements and episodes.

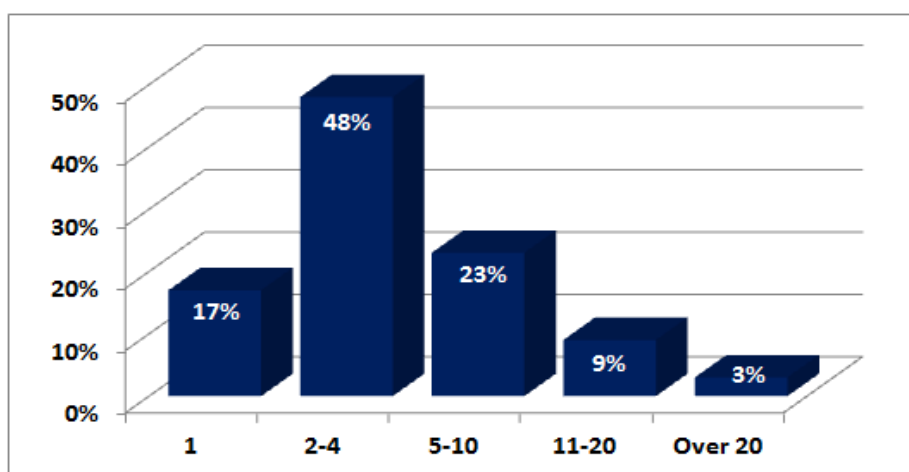


Figure 5. Average number of placements of children in foster care in Delaware, FY13-FY14 (Table A-18).

Healthcare Utilization of Delaware's Children in Foster Care

As we report our findings on the health status and healthcare utilization of children in foster care, it is important to keep in mind that our database only includes information on services billed to Medicaid. As such, this analysis does not include information on services provided to children in foster care during their placements within certain institutions, such as youth detention facilities through the Division of Youth Rehabilitation Services (YRS), or healthcare facilities providing intensive outpatient or inpatient care through the Division of Prevention and Behavioral Health Services (PBH). Eighty-two percent of children in our cohort do not have any YRS placements and 78% do not have any PBH placements (Table A-21).

Overall Utilization

Ninety-one percent of children in foster care received at least one type of healthcare service during FY13 or FY14 and 87% had a physician visit during this period. Physician visits can include well-child visits, preventive screenings, as well as other kinds of services provided at physician offices. Over three-quarters of children ages six and over in foster care had a behavioral health visit⁴ and 43% of children under one year old had visited the emergency department during FY13-FY14 (Table A-29). Figure 6 shows the percentages of children in foster care who received selected healthcare services compared with other children in Medicaid.

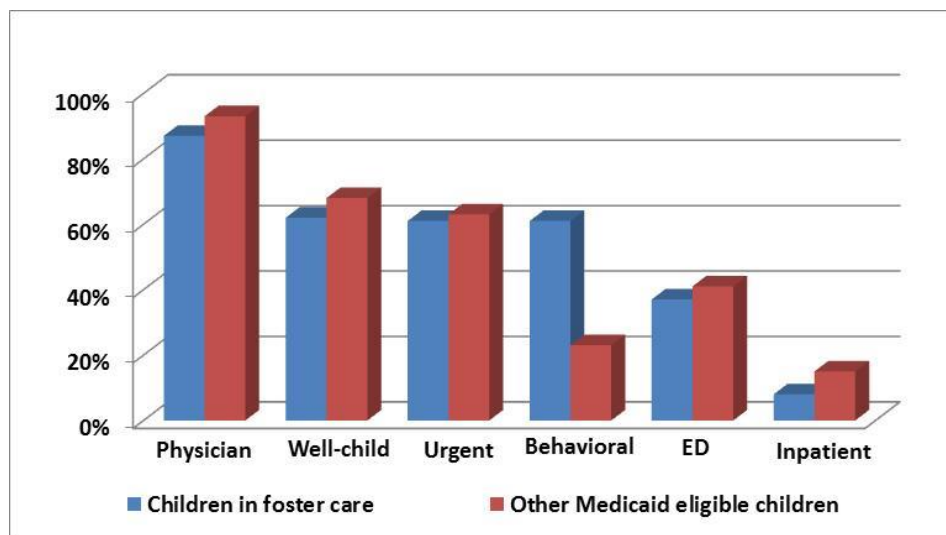


Figure 6. Percentages of children in foster care who received selected services compared with other children in Medicaid, FY13-FY14 (Table A-28 and Table A-57).

Compared with other children in Medicaid, children in foster care had relatively high rates of behavioral health visits⁵ (Table A-57). However, visits to the emergency department were similar across the two cohorts. Both of these findings are consistent with patterns of utilization in other states.

⁴ Behavioral health visits include any medical claim with an ICD9 code of 290-319. Specific definitions of ICD9 codes can be found at: <http://www.cms.gov/medicare-coverage-database/staticpages/icd-9-code-lookup.aspx>.

⁵ While 61% of children in foster care had a behavioral health visit, this figure drops to 56% when visits to the emergency department and inpatient hospitalizations for behavioral health services are excluded.

Healthcare Costs

The total amount billed for children in foster care exceeded \$30 million across FY13 and FY14 (Tables 31 & 32)⁶. Given that most individuals who participate in Medicaid in Delaware are enrolled in managed care plans which pay for care using a capitated rate, the billed amount is a somewhat artificial representation of cost. However, it is useful to consider the relative billed amounts (or claims) for different services provided to children in foster care, as this is an indication of children's health needs, as well as an indication of the potential burden on the healthcare system. Figure 7 shows the breakdown in percentages of the billed amount for selected services provided to children in foster care.

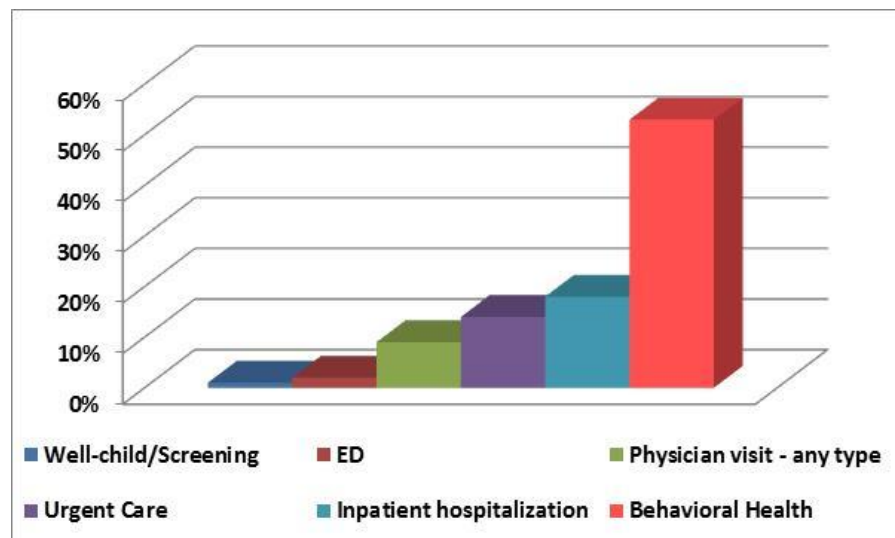


Figure 7. The relative cost of selected services provided to children in foster care as represented by percentages of the total billed amount, FY13-FY14 (Table A-31).

As seen in this figure, more than half of the total claims for this population are for behavioral health services. Additionally, while 87% of children in foster care had a physician visit in FY13-FY14, the relative cost of physician visits is low compared to other types of services, such as urgent or emergency care. Average billed amounts for children in foster care were similar among different age groups with the exception of

children ages one to five years old, who had relatively lower average claims (Table A-36). The higher claims among very young children may be attributed to relatively high inpatient hospitalization and urgent or emergency care for this age group; while higher claims among children six years and older are likely due to the increased utilization of behavioral health services as the children age.

Figure 8 shows average billed amount for children foster care compared with other children in Medicaid, for selected types of services. Again, it is useful to consider these data according to the relative distribution rather than the actual billed amount. As seen in this figure, children in foster care in Delaware have considerably higher average claims than other children in Medicaid, and the disparity is largely attributed to differences in behavioral health claims⁷ (Table A-58). This finding is consistent with research that shows that states spend on average 3.3 times as much for children in foster care, compared with spending for other non-disabled children in Medicaid (Green, Sommers & Cohen, 2005).

⁶ Total amount billed is based on all Medicaid medical claims, excluding dental, vision, and nursing homes and other costs incurred within PBH that are not billed to Medicaid.

⁷ As seen in Table 58, the average claim for behavioral health visits drops from \$11,082 to \$7,544 when visits to the emergency department and inpatient hospitalization services for behavioral health are excluded.

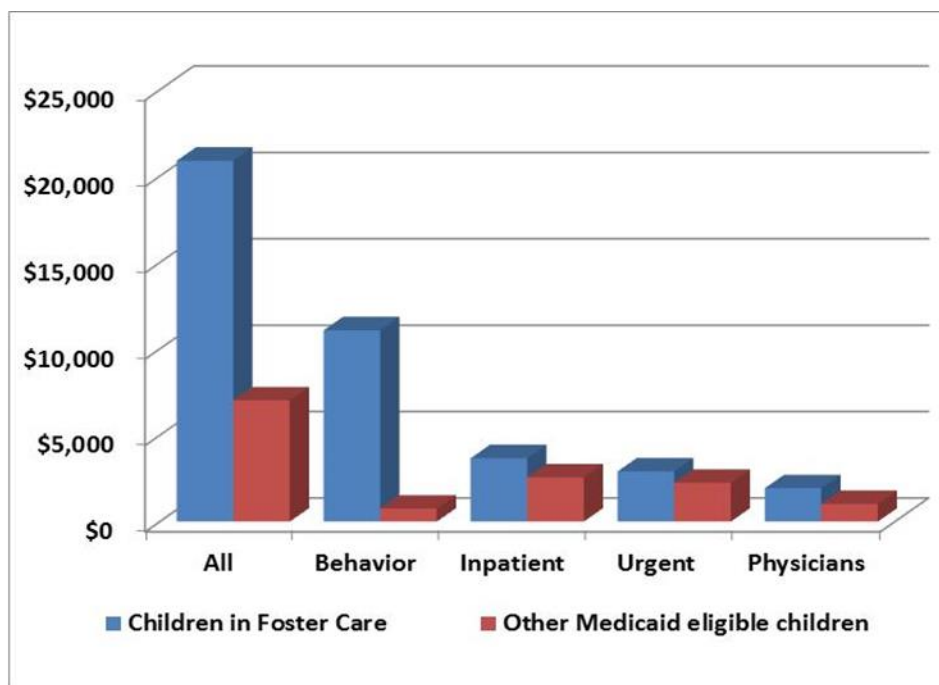


Figure 8. Average billed amount of selected services for children in foster care compared with other children in Medicaid, FY13-FY14 (Table A-58).

The average prescription drug cost was also approximately three times as high for children in foster care compared with other children in Medicaid in Delaware in FY13-FY14 (Table A-85). (Note that, for prescription drugs, the cost is the actual cost, as prescriptions in Delaware are paid on a fee-for-service basis.) This difference is largely attributable to higher costs associated with psychotropic drugs among the foster

care population. Figure 9 shows the average per-child prescription drug cost for psychotropic and non-psychotropic prescription drugs during the study period.

For children in foster care that had at least one prescription, the average cost of psychotropic drugs was highest among children in the 5-12 year old age group (Table A-77). Not surprisingly, psychotropic drug costs for younger children were considerably less. Note that these data include only Medicaid incurred costs; medicines prescribed to a child while in the juvenile justice system are not included.

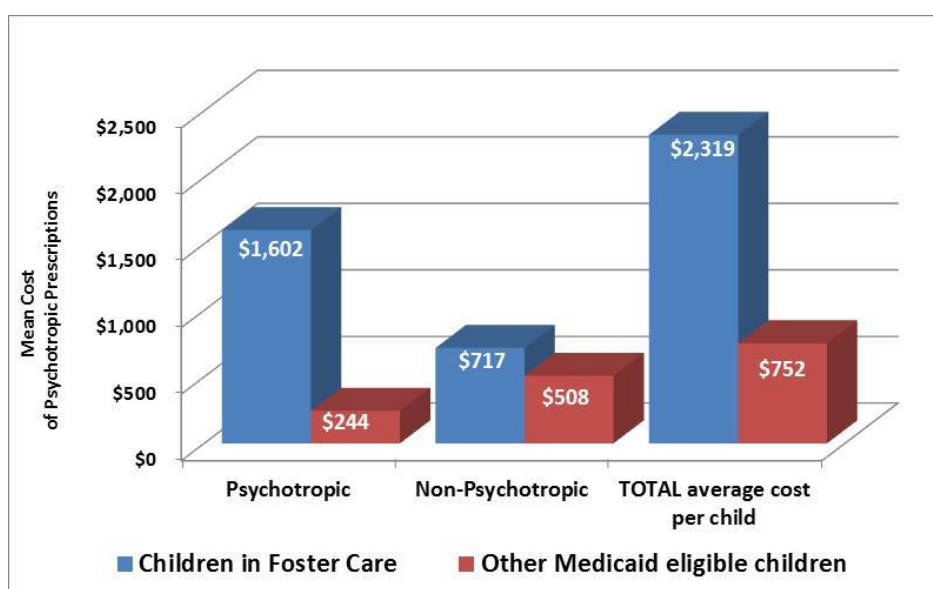


Figure 9. Average per-child cost of prescription drugs among children in foster care and other children in Medicaid, FY13-FY14 (Table A-85).

Special Concerns and Issues Confronting Children in Foster Care

As discussed in our review of the literature, children in foster care tend to have poorer health and greater healthcare needs than other children in Medicaid. However, when we compared the rates of selected diagnoses among children in foster care with rates among other Medicaid children, we found relatively small differences between the groups with the exception of behavioral health diagnoses (Table A-56). Specifically, 61% of children in foster care had some kind of behavioral or mental health diagnosis compared with just 23% of other children in Medicaid. Within the population of children that had a claim for behavioral health, five diagnoses were responsible for almost half (46%) of all claims. As seen in Figure 10, the most frequent behavioral diagnosis among children in foster care in Delaware is Attention Deficit Hyperactivity Disorder (ADHD), and this is consistent with the literature.

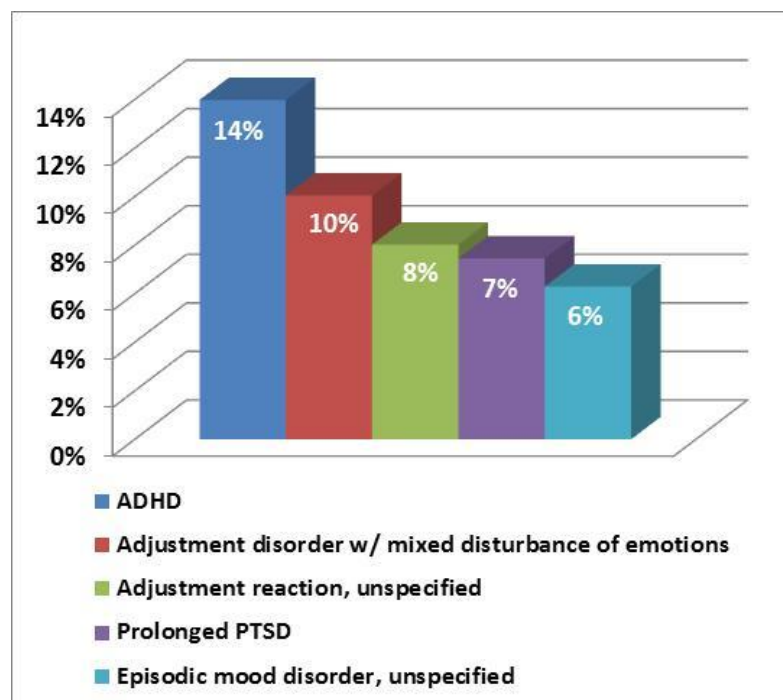


Figure 10. Most common behavioral health diagnoses among children in foster care in Delaware, FY13-FY14 (Table A-41).

Tables 59-61 in the appendix show the most frequent diagnoses for inpatient hospitalizations, emergency department visits and office visits among children in foster care and other children in Medicaid. While the extent to which diagnoses (and diagnostic codes used in the claims database) reflect health status has been debated in the literature, our analyses reveal important comparisons between the two cohorts of children. For instance, 11% of children in foster care were admitted to the hospital during FY13-FY14 for “failure to thrive”. Among other children in Medicaid, this diagnosis was indicated in just 0.1% of children (Table A-60).

Well/Preventive Visits – As discussed earlier, preventive visits are important for early identification of problems and maintaining good health among all children. Because early screenings are particularly important for children in foster care, the American Academy of Pediatrics recommends an initial assessment upon entry into foster care and a more comprehensive assessment within 30 days (AAP, 2002). Figure 11 shows the percentages of children in foster care in Delaware receiving well visits within 30, 90 and 180 days of entry into foster care (according to age group). Importantly, this figure is based upon a subsample of the foster care cohort that entered foster care in FY2013 or FY2014 (n=542). Because some children’s first placement may be with YRS and PBH, this estimate of well-visits/screenings does not include the screenings that may have occurred within those agencies.

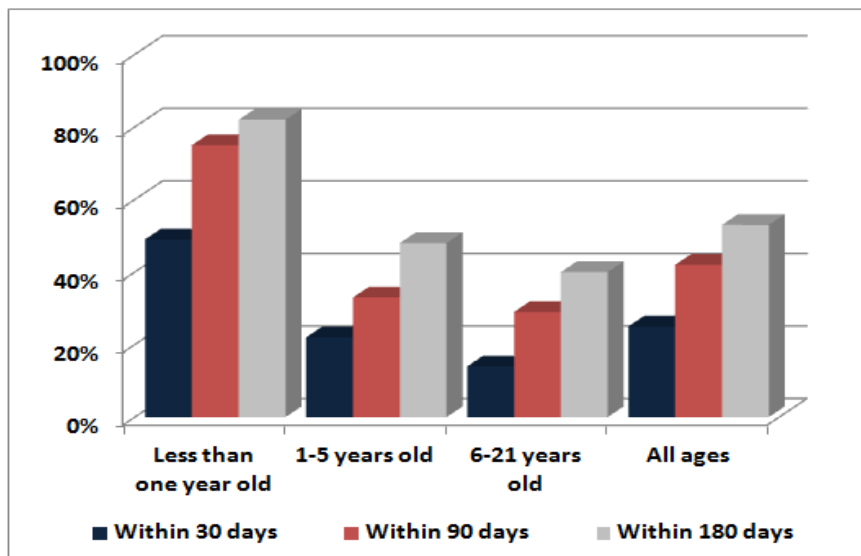


Figure 11. Percentages of children in foster care receiving well visits within 30, 90 and 180 days of entry into foster care, FY13-FY14 (Table A-46).

According to our analysis, only 31% of children new to foster care in FY13 or FY14 met the AAP recommendation and had a well visit within the first 30 days of entry into foster care. We further examined those without a well visit in the first 30 days and found that approximately 20% of this group were in placements for which we do not have claims data (Table A-47). If we assume that all children in these alternate placements received a well

children visit within 30 days, then the total percentage of children that meet the AAP recommendations goes up to 42%. While it is difficult to make comparisons, a recent report from the US DHHS Office of the Inspector General (2015) shows that 12% of children in four states with large numbers of children in foster care did not receive an initial screen and more than one-quarter received recommended screenings late. This shows that meeting the AAP recommendations is an ongoing challenge that is not unique to Delaware.

Continuity of Care – While there is a growing body of literature on the importance of continuity of care (COC) for all children, research on children in foster care is limited. Ideally, COC is assessed using a combination of qualitative methods, chart reviews and/or an index that considers numbers of visits, numbers of providers, and consistency of providers. Continuity of insurance coverage is a necessary prerequisite for COC. We explored continuity of coverage by analyzing Medicaid claims for children in foster care before and after entry into foster care in Delaware. More specifically, we looked at children who had their first foster care claim in 2014, to see if they had any prior claims, indicating Medicaid participation prior to entry into foster care. As seen in Table A-49, only 57% of children new to foster care in FY14 had a prior claim. This suggests that almost half (43%) did not have Medicaid coverage prior to entry into foster care. We also examined a cohort of children that appeared to leave foster care in FY13, to see if these children had any Medicaid claims during the following year, which would be an indication of continuous coverage. As seen in Table A-52, among children that made their last foster care claim in FY13, 77% had at least one additional Medicaid claim after exiting foster care. Almost one-quarter of children that left foster care in FY13 appeared to have lost their Medicaid coverage when they left foster care.

Table A-52: Medicaid Status Before and After Foster Care

Entering and Exiting	#	%
Children who made their first foster claim in FY2014	222	100%
made their first foster care claims, with no prior Medicaid claims in FY2013	95	43%
made a Medicaid claim in FY2013 before their first foster care	127	57%
Children who made their last foster care claim in FY2013	434	100%
made their last foster care claim in FY2013 and did not make any subsequent Medicaid claims in FY2014	100	23%
made Medicaid claims after their last foster care claims	334	77%
<i>Source: Center for Community Research & Service, University of Delaware, 2015. Compiled with data provided by the Delaware Division of Medicaid & Medical Assistance through a partnership with of the University's Colleges of Health Sciences and Arts & Sciences</i>		

This finding may be viewed in the context of a similar study in Wisconsin (Cosgrove et al., 2013) which found a higher percentage (82%) of children were covered by Medicaid before entry into foster care and just 15% appeared to have lost coverage after leaving foster care. Because we only examined claims and not actual insurance status, it is difficult to know if children in this cohort have lost insurance all together, if they simply had not had an encounter with Medicaid, or if they acquired private insurance.

Similarly, more analysis is needed to understand why children leave foster care, as there are different implications for those that reunite with their families, those that are adopted and those that age out of care. Table A-53 in the appendix shows the last placement of children in foster care before they left care, which may provide an indication of post-foster care status, but this should be interpreted with caution. We also explored the Medicaid status of children that appeared to age out of foster care during FY13 (Table A-54). Our analyses showed that almost one-quarter of children that appeared to age out of care remained connected to Medicaid. Again, more analysis is needed to better understand continuity of Medicaid coverage before and after children's time in foster care.

To explore the relationship between foster care status and healthcare utilization, we also examined patterns of selected service utilization prior to entry into foster care compared with children's utilization while in foster care. Among children who were new to foster care in FY14 and had at least one claim during the prior year (n=127), utilization went up for every type of service. As seen in Figure 12, entry into foster care appears to be associated with better access to healthcare services. Further, the percent of children that received a well or preventive visit increased from 36% to 72% (Table A-50).

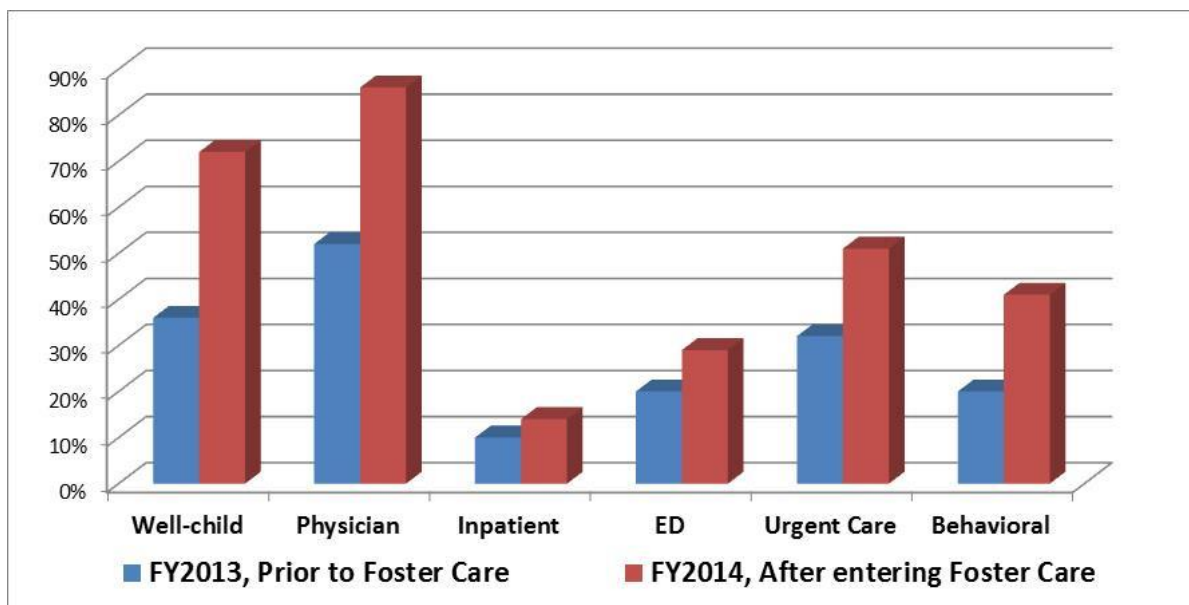


Figure 12. Percent of children receiving selected services before and after entry into foster care, FY13-FY14 (Table A-50).

Psychotropic Drug Utilization – Given the behavioral health needs of children in foster care, and the literature which highlights concerns related to high utilization of psychotropic prescription drugs, we examined various aspects of psychotropic drug use among children in foster care in Delaware. Forty percent of children in foster care in Delaware had at least one claim for a psychotropic prescription drug during FY13-FY14, and nearly one-quarter (22%) had claims for three or more psychotropic prescriptions during this time period (Table A-63). Concerns have been raised in the literature regarding the inappropriate use of psychotropic drugs, so we examined prescription claims according to diagnosis. This analysis revealed that 90% of children receiving psychotropic drugs had, in fact, been diagnosed with a behavioral or mental health condition (Table A-64). Note that our analysis was only able to examine the existence of prescription drug claims and diagnoses during the study time period. It is acknowledged that children in the remaining ten percent that received psychotropic drugs might have had a behavioral diagnosis prior to the study period.

The literature also highlights concerns related to polypharmacy utilization with respect to psychotropic prescriptions. We categorized psychotropic prescription drug utilization according to six major classes: Behavioral health⁸, CNS Stimulants, CNS Depressants, Bipolar Therapy Prescriptions⁹, off-label analeptics, and off-label cardiovascular drugs¹⁰ (Tables 68, 70-75). Figure 13 shows the most common

⁸ Prescriptions in the “Behavioral Health Therapies” drug class, including Tricyclic Antidepressant Compounds (such as Bupropion); Antipsychotics, described above; select CNS stimulants (Atomoxetine HCl); Selective Serotonin Reuptake Inhibitors (SSRI) such as Fluoxetine HCl and Sertraline HCl; select antidepressants (including Trazodone); and Tetracyclic compounds (including Mirtazapine).

⁹ Bipolar therapy generally refers to Lithium.

¹⁰ The first four classes were provided by DMMA. The two additional classes were identified in consultation with members of the Task Force. Upon request from the Task Force, anti-psychotic drugs (which were included in the class of behavioral health drugs) were also examined separately. The rate of utilization is shown in Table 69.

classes of psychotropic drug prescriptions among children in foster care in FY13-FY14. As seen in this figure, approximately one-quarter of children in foster care had utilized behavioral health drugs (e.g. anti-psychotics and anti-depressants) and one-quarter had utilized drugs in the CNS stimulant class (used to treat ADHD). Our analysis also revealed that more than one-quarter of children in our foster care cohort had claims for two or more classes of psychotropic drugs in FY13-FY14 (Table A-75).

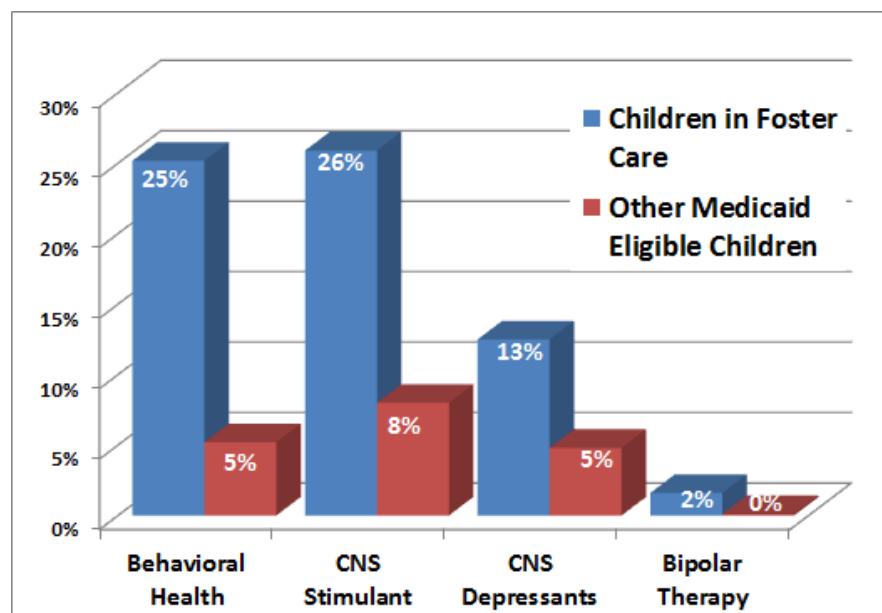


Figure 13. Most common classes of psychotropic drug prescriptions among children in foster care and among other children in Medicaid, FY13-FY14 (Tables A- 68 through A-72).

These findings are consistent with other research summarized in the literature review, which found that ADHD is among the most prevalent diagnoses and the corresponding observation that CNS stimulants are the most common class of psychotropic drugs. Also echoing the literature, the rate of psychotropic drug utilization was three to five times higher (depending on the class of drug) for children in foster care compared to rates among other children in Medicaid (Table A-82). Whereas 40%

of children in foster care utilized at least one psychotropic prescription during our study period, only 15% of other children in Medicaid had a psychotropic drug claim. As noted in the literature review, Rubin et al. (2012) included Delaware in a multi-state analysis of psychotropic drug use and polypharmacy. Methodological differences complicate direct comparisons to this earlier work, which had a more restrictive sample and followed a more stringent definition of polypharmacy (i.e. the use of three or more psychotropic medications concurrently for at least 30 days during a 12 month period.) Our analysis, which included all children (infants through age 19), a two-year time frame and a broader definition of polypharmacy (i.e. more than one class of drug at any time, not necessarily concurrently) led to higher estimates.

The instability faced by children in terms of the number and type of placements in foster care has been highlighted as a concern for the mental well-being of children. We examined psychotropic drug utilization according to the number of foster placements that children experience and found a strong correlation. As seen in Figure 14, as the average number of foster placements goes up, so too does the average number of psychotropic drug prescriptions ($r=.9$). We also found that a similar correlation exists between the number of years in foster care and psychotropic drug utilization (Table A-80). This is consistent with other research that found that, as the time in foster care and the number of placements

increased, so did the presence of behavioral health diagnoses (Sullivan & van Zyl, 2007). Importantly, it is not possible to determine from our analysis the nature of the relationship between number of placements and psychotropic drug utilization. The literature suggests a complicated one in which the instability of numerous placements puts children at risk for behavioral health problems and/or exacerbates existing problems; while at the same time, underlying behavioral health problems may contribute to multiple placements. Regardless of the precise nature of the relationship, this finding further emphasizes the need to understand and address the persistent emotional and behavioral health needs of children in foster care.

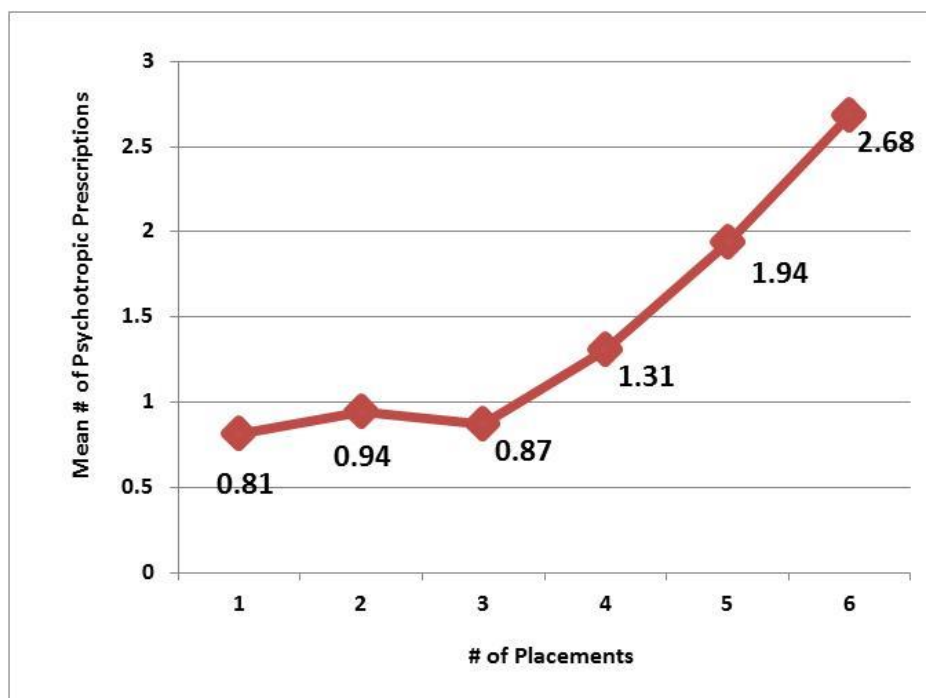


Figure 14. Average number of psychotropic prescription drugs by number of foster care placements among children in foster care, FY13-FY14 (Table A-79).

Conclusion

To promote the health and well-being of children in foster care, it is critical that we better understand their health status, current healthcare utilization, and potential unmet healthcare needs. This study contributes to our understanding of the health-related needs of children in foster care in Delaware. The results show that children in foster care in Delaware are connected to the healthcare system, with nearly all receiving at least one healthcare service during the study period. Further, children in our cohort received more services once they entered the foster care system than before being placed in foster care, suggesting that entry into foster care appears to promote healthcare utilization.

The results of this study also highlight areas of ongoing need and concerns related to the health of children in foster care in Delaware. For instance, similar to national trends, children in foster care in Delaware have more mental and behavioral health-related needs compared with other children in Medicaid. These behavioral health needs translate into higher utilization of psychotropic prescription drugs and lead to higher costs. Further, many children in foster care in Delaware do not appear to be receiving preventive health visits within their first 30 days in foster care, as recommended by the AAP. While this challenge is not unique to Delaware, it is an area that deserves ongoing attention due to the nature and scope of the health needs of this vulnerable population.

Our study was necessarily limited in scope by practical resource constraints (e.g. money and time), and the analysis revealed many additional questions that could be explored in more detail in future studies. For instance, it would be valuable to explore the health-related needs of children in foster care over a longer period of time. Our Medicaid database would allow for a longitudinal analysis dating back to 2008, which could provide a more detailed understanding of the foster care population and allow for potentially more meaningful comparisons. Similarly, it would be useful to explore relationships among different variables in our dataset in more detail and over a longer period of time. It may also be practical to compare the needs of children in foster care in Delaware to those in other states in our region, and use the existing database to help to evaluate new models of care or other kinds of interventions.

As mentioned earlier, the study was also constrained by the nature of the administrative data sets used in our analysis. A more complete picture of the health-related needs of children in foster care could be gained by access to additional information regarding YRS and PBH placements, for instance. Similarly, developing a continuity of care (COC) index to monitor children in foster care would enhance our understanding of their health utilization and may lead to better healthcare for this population. Finally, different analytical approaches, such as qualitative interviews or more detailed chart reviews, could complement the quantitative analyses and contribute to a more holistic understanding of the needs of children in foster care in Delaware.

In summary, we believe this study provides important information to assist providers and policymakers in understanding the health-related needs of children in foster care, as well as a point of departure for future research. By better understanding the needs of this vulnerable population, stakeholders are better equipped to develop interventions, make meaningful changes in existing practice, and adapt policy to better serve children in foster care. The literature can also support this effort by highlighting potential promising practices and areas for health system improvement, such as the further institutionalization of medical homes. Recommendations from the literature and expert opinion, however, should be considered within the context of an understanding of the unique needs of Delaware children in foster care, an understanding which this study has provided.

Glossary of Terms and Abbreviations

Anti-Psychotic Prescriptions - Prescriptions in the sub-classes of behavioral health that correspond to Anti-Psychotics: Phenothiazine Derivatives, Atypical Antipsychotics, Dibenzapine Derivatives and Phenylbutylpiperadine Derivatives. The Atypical Antipsychotics Risperidone and Aripiprazole (Abilify) and Quetiapine Fumarate (Seroquel) are the most prevalent prescriptions in this category.

Behavioral Health Prescriptions – Prescriptions in the “Behavioral Health Therapies” drug class, including Tricyclic Antidepressant Compounds (such as Bupropion); Antipsychotics, described above; select CNS stimulants (Atomoxetine HCl); Selective Serotonin Reuptake Inhibitors (SSRI) such as Fluoxetine HCl and Sertraline HCl; select antidepressants (including Trazodone); and Tetracyclic compounds (including Mirtazapine).

CMH – Child Mental Health, see DPBHS, the Division of Prevention and Behavioral Health Services.

CNS Depressant Prescriptions – Prescriptions in the Central Nervous System (CNS) Depressant class are typically used to treat anxiety and sleep disorders. CNS Depressants include select Benzodiazepines (Anticonvulsants such as Clonazepam, Sedatives and Hypnotics such as Diazepam), Barbiturates (such as Phenobarbital), and non-Barbiturate Sedatives and Hypnotics (including Hydroxyzine HCL and Hydroxyzine Pamoate).

CNS Stimulant Prescriptions – Prescriptions in the Central Nervous System (CNS) Stimulant class include drugs to treat Attention Deficit Hyperactivity Disorder (ADHD). Lisdexamfetamine (Vyvanse) and Methylphenidate (sold as Ritalin, Concerta and other brand names) are in this class of drugs.

Continuity of Care (COC) – A characteristic of a healthcare system in which a patient experiences a 'continuous caring relationship' with an identified health care professional. From the provider perspective, continuity of care is associated with the delivery of a 'seamless service' through integration, coordination and the sharing of information between different providers (Gulliford, Naithani, & Morgan, 2006).

DFS – Division of Family Services, a division of the Delaware Department of Services for Children, Youth, and their Families. This is the division in which the foster care program resides.

<http://kids.delaware.gov/fs/fostercare.shtml>

DMMA – Delaware Division of Medicaid and Medical Assistance, a division of Delaware Health and Social Services. This is the division in which the State's Medicaid program resides.

<http://dhss.delaware.gov/dhss/dmma/>

DPBHS - Division of Prevention and Behavioral Health Services, a division of the Delaware Department of Services for Children, Youth, and their Families. *“On July 1, 2010, the Division of Child Mental Health and the Office of Prevention and Early Intervention blended to become the new Division. DPBHS provides a statewide continuum of prevention services, early intervention services, and mental health and substance abuse (behavioral health) treatment programs for children and youth. These services have*

graduated levels of intensity and restrictiveness that are child-centered and family focused.”

<http://kids.delaware.gov/pbhs/pbhs.shtml>

DSCYF – Delaware Department of Services for Children, Youth, and their Families.

<http://kids.delaware.gov/>

Episode – An episode is a length of time during which a child is placed in foster care through the Delaware Department of Services for Children, Youth, and their Families, Division of Family Services. During each episode, children may experience time in foster care families, mental health facilities, treatment facilities, and detention. Episodes end due to a child reuniting with his or her family, adoption, or aging out of the system.

ICD9 - The International Classification of Diseases, 9th Revision. ICD9 codes were looked at to analyze diagnoses.

Length of Stay - Length of stay in foster care refers to the amount of time between entering and exiting foster care.

Medical home - A model of primary care that provides whole-person, accessible, comprehensive, ongoing and coordinated, patient-centered care. It is also referred to as a patient-centered medical home or primary care medical home (PCMH).

PBH - Prevention and Behavioral Health, see DPBHS, the Division of Prevention and Behavioral Health Services.

Placement – Within an episode, a child may experience more than one placement. Some of the different placements are: relative and non-relative family homes, residential treatment, respite care, or inpatient hospital stays.

Polypharmacy – Administration of more than one drug.

Prescription Classes -- Prescription drugs for children in foster care were grouped by Therapeutic Class Standard Code by DMMA. These codes are proprietary codes of the vendor Micromedex, the company from which DMMA's MMIS drug parameter data is obtained. These same groupings were applied to the non-foster Medicaid eligible children.

Preventive healthcare visit – A scheduled appointment with a primary care provider when a person is not sick. With respect to children, preventive care is also commonly referred to as well-baby or well-child care and includes routine immunizations and screenings.

Primary care – Healthcare provided by physicians specifically trained for and skilled in comprehensive, first contact, and continuing care for persons with any undiagnosed sign, symptom, or health concern not limited by problem origin (biological, behavioral, or social), organ system, or diagnosis. Primary care includes health promotion, disease prevention, health maintenance, counseling, patient education, diagnosis and treatment of acute and chronic illnesses in a variety of health care settings (e.g., office,

inpatient, critical care, long-term care, home care, day care, etc.).

<http://www.aafp.org/about/policies/all/primary-care.html>

Psychotropic drugs – Drugs for the treatment of behavioral or emotional conditions. Antipsychotics and other behavioral health therapies, Central Nervous System Stimulants and Depressants, Bipolar therapies, off-label use of cardiovascular drugs, and analeptic/anticonvulsants (in the absence of a diagnosis of epilepsy) are all considered psychotropic drugs.

Respite Care –Temporary care by a foster family to give the ongoing foster family a break; usually anywhere from four hours to one week. *“Respite care provides foster parents occasional relief from the daily demands of caring for children in foster care. This relief time affords foster parents the opportunity to attend to the needs of their own family.”* http://kids.delaware.gov/fs/fostercare_supports.shtml

Taxonomies – Physician taxonomies are codes that categorize the type and specialty of a physician. These Healthcare Provider Taxonomy Codes are required by the Centers for Medicaid and Medical Services for medical and prescription claims. <http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/MedicareProviderSupEnroll/Taxonomy.html>

YRS - Division of Youth Rehabilitative Services, a division of the Delaware Department of Services for Children, Youth, and their Families. *“The Division of Youth Rehabilitative Services (DYRS) provides services including detention, treatment, probation and aftercare services to youth in the State of Delaware who are ordered to its care by Family Court.”* <http://kids.delaware.gov/yrs/yrs.shtml>

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