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# Continuity of care for youth in foster care with serious emotional disturbances



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#### ABSTRACT

Continuity of mental health care has long been considered an essential component to the delivery of a high-quality mental health services, particularly for children with special needs. Unfortunately, discontinuities in care are common for children in foster care due in part to placement instability, disruptions in health coverage, and the fragmented health system. This retrospective cohort study examined factors associated with continuity of care for youth (aged 5–17 years) in foster care diagnosed with schizophrenia and bipolar disorder. Information on individual-level (demographic and clinical characteristics) and contextual-level variables (county sociodemographic and health care resources) were abstracted from Medicaid claim files and the Area Resource File. Continuity of care was defined as regularity of care—utilization of at least one outpatient mental health visit per month during the year. Multilevel modeling was used to assess the association between individual and contextual-level variables and continuity of care. Of the 952 youth in the study sample, 439 (46.1%) received regular monthly outpatient visits over the 1 year follow-up period. The odds of receipt of regular outpatient treatment were associated with prior outpatient care (odds ratio (OR): 7.43, 95% confidence interval (CI): 2.60-21.20), the presence of a chronic medical illness (OR: 1.45, 95% CI: 0.98–2.16), comorbid anxiety (Or: 1.76, 95% CI 1.22–2.53), or conduct disorder (OR: 1.57, 95% CI: 1.13–2.18), and the use of multiple psychotropic medications as compared to no medications (OR: 1.55, 95% CI: 1.08–2.23). The odds of receiving regular outpatient treatment were higher for youths who resided in suburban areas as compared to metropolitan areas (OR: 1.97, 95% CI: 1.04–3.73) and for those who resided in areas with greater supply of psychiatrists per capita (OR: 1.22, 95% CI: 1.02–1.45). Study findings underscore the need for quality improvement initiatives that improve access to care, care coordination, and continuity of care. © 2015 Elsevier Ltd. All rights reserved.

#### 1. Introduction

In 2011, about 400,540 children were in foster care in the United States, the vast majority placed as a result of neglect, physical abuse, parental substance abuse, and abandonment (Simms, Dubowitz, & Szilagyi, 2000; United States Department of Health & Human Services, 2013). Compared to children of similar socioeconomic backgrounds, children in foster care have much higher rates of serious emotional disturbances (SED) (Kerker & Dore, 2006). In fact, national and regional studies estimate that between 42% and 80% of children entering foster care will have emotional and behavioral problems that warrant mental health care (Burns et al., 2004; Clausen, Landsverk, Ganger, Chadwick, & Litrownik, 1998; dosReis et al., 2001; Garland et al., 2001; McMillen et al., 2005; Newton, Litrownik, & Landsverk, 2000). The most prevalent conditions include posttraumatic stress disorder (PTSD), abuse-related

trauma, and disruptive behavior disorders, including attention deficit hyperactivity disorder (ADHD), depression, and substance abuse (Landsverk, Burns, Stambaugh, & Rolls-Reutz, 2006). These conditions are often chronic, cause significant functional impairments, and are associated with numerous adverse outcomes (Horwitz, Simms, & Farrington, 1994; James, Landsverk, Slymen, & Leslie, 2004; Landsverk, Davis, Ganger, Newton, & Johnson, 1996).

Despite the high prevalence of mental health problems and associated consequences, many children in foster care do not receive any mental health services. According to a 1995 General Accounting Office (GAO) report, 12% of foster children under the age of three received no routine health care, 34% had no immunizations, and 32% had unmet needs (United States Government Accountability Office, Health Education, & Human Services Division, 1995). A more recent Administration for Children and Families (ACF) report based on the National Survey of Child and Adolescent Well Being found that 30% of foster children with potential mental health needs did not receive any services in a 12-month period (United States Government Accountability Office, 2012). Even when children in foster care are referred for mental health services, they often do not receive adequate care (Kerker & Dore, 2006).

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Continuity of mental health care has long been considered an essential component to the delivery of high-quality mental health services, particularly for children with special needs. In fact, the Institute of Medicine (2001) identified continuity of care as a primary aim in its call for national action to transform health care quality. Studies on both adults and children have shown that continuity of care is associated with improved health outcomes, including increased patient and provider satisfaction, medication adherence, improved receipt of preventive care, decreased hospitalization and emergency utilization, and lower costs (Adair et al., 2005; Nutting, Goodwin, Flocke, Zyzanski, & Stange, 2003; Saultz & Lochner, 2005). For children in foster care with SED, high-quality care requires access to comprehensive mental health assessment and an array of both acute and long-term care, and extensive coordination across funding sources, medical and non-medical providers, and service delivery systems.

Unfortunately, discontinuities in care are common for children in foster care due in part to placement instability, disruptions in health coverage, and the fragmented health system. Foster care children often move from one placement to another and typically experience 1-2 changes in placement per year (Newton et al., 2000). These placement changes are often accompanied by changes in physicians and other health providers. This shift in placements and providers often leads to a fragmented medical history as providers have incomplete information about children's mental health needs. As a result, children in foster care often receive incomplete or duplicate immunizations, lack adequate primary care, and fail to receive periodic developmental and mental health screenings (United States Government Accountability Office, 2012). Placement instability also contributes to high costs delivered to foster care children, combined with inadequate coordination and limited informationsharing between providers. For example, Rubin, Alessandrini, Feudtner, Localio, and Hadley (2004) found that emergency room visits spike within the first few days following a placement change-suggesting the need for better health management for youth in foster care. Discontinuities in care can also be attributed to disruptions in health coverage. A recent study found the majority (67%) of youths leaving the child welfare system lost their Medicaid coverage within three months of leaving foster care and those that eventually regained coverage did so after an inordinate period of time (Raghavan, Shi, Aarons, Roesch, & McMillen, 2009). Finally, care for foster children in the Medicaid fee-for-service is often extremely fragmented due in part to the disparate service sectors and settings that provide mental health care (Prince & Austin, 2005). Consequently, many foster parents and caregivers have difficulty navigating the complex system and are unable to access appropriate care.

Although continuity of care has been shown to be associated with positive health outcomes in children, little is known about what factors are associated with continuity of care for youth in foster care. The few existing studies that have examined continuity of care have focused exclusively on examination of visit continuity for physical health conditions (Christakis, Mell, Koepsell, Zimmerman, & Connell, 2001; DiGiuseppe & Christakis, 2003). The current study addresses this gap in knowledge by combining several data sources to examine a wide range of factors associated with continuity of care in a large population-based sample of foster children with SED. Consistent with prior research (Burns et al., 2009; Greenberg, Rosenheck, & Fontana, 2003), we define continuity of care as regularity of care as indicated by the evenness of services over time and absence of gaps or breaks in care. A greater understanding of factors associated with continuity of care for youth with SED may inform clinician interventions and programmatic reforms aimed at improving continuity of care for children in foster care.

#### 2. Methods

#### 2.1. Design and data sources

A retrospective longitudinal cohort design was used to examine factors associated with continuity of care for youth in foster care. Data were extracted from three sources: Medicaid claims, the Area Resource File, and the Ohio State Psychology and Social Work Licensure Boards. Individual-level data were abstracted from Medicaid eligibility and claims files. Medicaid eligibility files provided information on the child's demographic and enrollment history. Claims data files provided information on encounters for inpatient and outpatient services provided in physicians' offices, institutional settings, and community health clinics; the files also included dates of service, principal and secondary ICD-9-CM diagnosis codes, and Healthcare Common Procedure (HCPCS) codes. Community-level data were abstracted from the Area Resource File and the Ohio State Licensure Boards. The 2010 Area Resource File (United States Department of Health & Human Services, 2010) provided information on health care system characteristics for Ohio's 88 counties. The Ohio State Board of Psychology and Social Work provided information on the number of psychologists and social workers within each county. Medicaid claims and eligibility files were linked to the other data using county identifiers. All procedures were approved by The Ohio State University Institutional Review Board.

#### 2.2. Study cohort

The study population included all youths (aged 5–17 years) in foster care who had two or more claims for a primary diagnosis of SED and were continuously enrolled in Ohio's Medicaid program for an 18-month period during 2007-2010 (6 months prior to the index diagnosis claim [referred to as the prestudy period] and 12 months after the index claim [referred to as the study period]). For the purposes of this study, we defined SED as an International Classification of Disease (ICD-9-CM) diagnosis of schizophrenia (295, 297, 298), psychosis (297, 298), and bipolar disorder (296.00-296.1, 296.4-296.9, 296.99, 293.83). We focus here on a subset of youths with severe mental illness, primarily with affective and psychotic disorders because these disorders are often chronic, associated with complex needs, and require ongoing maintenance treatment over a long-term period to facilitate recovery and prevent relapse. Because we were interested in continuity of outpatient treatment, we excluded youths who received any services in an institutional placement (e.g., residential treatment center) or hospitalizations for 30 days or longer.

#### 2.3. Measures

#### 2.3.1. Dependent variable

Continuity of care was defined as receipt of at least monthly outpatient mental health visits during the 1 year study period. An outpatient visit was defined as any encounter with a mental health professional and included the following: (1) evaluation and management (Current Procedural Terminology (CPT) codes: 99201–99215, 99241–99245, and 99354,99355 and 99241–99245); (2) pharmacological management (state Medicaid codes and CPT code 90862); (3) psychiatric assessment (state Medicaid codes and CPT code 90801 and 90802); (4) psychotherapy (state Medicaid codes and CPT codes: 90804– 90815,9, 90821–90824, 90826–90829, 90846, 90847, 90849, 90853, 90857, 90889); and (5) other outpatient mental health services (state Medicaid codes for crisis intervention and partial hospitalization).

#### 2.3.2. Independent variables

2.3.2.1. Individual-level variables. Demographic variables included child's age (5–9 versus 10–17 years), sex (male versus female), and race/ethnicity (white versus non-white). Clinical factors were identified based on medical claims submitted during the 6-month prestudy period and included comorbid psychiatric and medical conditions, prior hospitalizations and outpatient mental health visits, and use of psychotropic medication classes (0, 1, 2, or more classes). We included four commonly co-occurring psychiatric disorders, which were considered present if two or more claims were associated with the diagnosis: (1) anxiety Download English Version:

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