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They’re Not All at Home: Residential Placements of Early Adolescents in Special Education

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Abstract
Using an integrated administrative data set, out-of-home residential placements (i.e., child welfare, juvenile justice, mental health) were examined in a sample of early adolescents in a large urban school district. Out-of-home placements were tracked across Grades 7 to 9 in a population of 58,000 youth. This included 10,911 students identified for special education (7,028 with learning disabilities, 1,247 with serious emotional disturbance, 1,245 with intellectual disabilities, 804 with speech and language impairments, and 587 with other disabilities). Students who received special education were twice as likely to experience out-of-home placements. The rates and types of out-of-home placements were differentially related to specific special education classifications. In particular, youth with serious emotional disturbance were more likely to experience out-of-home placements and to be involved in multiple sectors. Findings are discussed in relation to the development of intensive emotional and behavioral interventions for early adolescents who receive special education services.

Keywords
disorders/disabilities, child welfare, mental health, juvenile justice, delinquency

In recent years, there has been a growing focus on the service needs of special education students who do not respond productively to universal (i.e., Tier 1) and selected (i.e., Tier 2) interventions (Danielson & Rosenquist, 2014; Ludlow, 2014). In many respects, the concept of intensive interventions has grown out of research on the instructional needs of youth who struggle academically and need special education supports (Fuchs, Fuchs, & Vaughn, 2014). However, academic problems tend to be only part of the equation for students who experience significant school adjustment difficulties. Academic, social, and behavioral problems are often linked, and chronic patterns of school maladjustment (e.g., low achievement, suspensions, grade repetition, school dropout) often reflect correlated constraints—the combination of academic, behavioral, and social difficulties in school along with related difficulties at home and in the community (Cairns & Cairns, 1994). The concept of correlated constraints suggests that as students with disabilities experience academic difficulties, it is necessary to monitor and support their behavioral and emotional adaptation in school, at home, and in the community and to develop comprehensive interventions that work across these related systems (T. W. Farmer & Farmer, 2001).

In a related vein, there is emerging work on intensive interventions that focuses on youth with disabilities who have significant social, emotional, and behavioral problems that are not adequately addressed by Tier 2 strategies within Schoolwide Positive Behavioral Interventions and Supports (SWPBIS) programs (Wehby & Kern, 2014). The purpose of intensive emotional and behavioral interventions is to extend universal (Tier 1) and selected (Tier 2) SWPBIS approaches by tailoring strategies to students’ specific circumstances and needs (Kern & Wehby, 2014). Typically, SWPBIS programs center on the context of the school and behavioral antecedents and consequences that support and sustain the target student’s problem behavior (Lewis, Jones, Horner, & Sugai, 2010). However, students who have intensive emotional and behavioral difficulties tend to experience problems in their broader developmental ecology that may require services both within and beyond the school settings (Atkins, Hoagwood, Kutash, & Seidman, 2010; Cappella, Frazier,
Atkins, Schoenwald, & Glisson, 2008; Farmer, Reinke, & Brooks, 2014; Kern et al., 2015).

On this score, ecological perspectives have had a long history in the field of emotional and behavioral disorders (T. W. Farmer, Farmer, & Brooks, 2010; Hobbs, 1966). In fact, efforts to clarify how factors outside of school contribute to students’ adjustment in school have been central to research on wraparound services and systems of care (Bruns et al., 2014; E. M. Z. Farmer, Mustillo, et al., 2010; Knitzer, 1982; Stroul & Friedman, 1986). Likewise, understanding and promoting more effective linkages between school and community services are core components of ecological interventions and systems of care services (Burns et al., 1995; Eber, Sugai, Smith, & Scott, 2002; Epstein, Kutash, & Duchnowski, 1998; Stroul, 1993). Thus, as special education research moves forward in the development of intensive interventions to address the emotional and behavioral needs of students with disabilities, there is a need to have an eye toward understanding and responding to the various services that students may receive outside of school.

Consequently, as the field works to develop educational services to help students succeed in the classroom, it is necessary to consider the entirety of their characteristics, background, and critical experiences in various social contexts that might affect their school adaptation and long-term adjustment (Wehby & Kern, 2014). We view out-of-home placements as a potential critical factor in understanding students’ in-school intensive intervention needs. The concept of out-of-home placements suggests that students may experience significant adjustment difficulties outside of school that affect their adaptation in school (Stone, 2007; Trout, Hagaman, Casey, Reid, & Epstein, 2008). Likewise, when students are in out-of-home placements, it is likely they are receiving a range of services that may need to be coordinated with intensive intervention efforts in school. Furthermore, although it is known that youth with emotional and behavioral disorders may experience a range of out-of-home placements, less is known about such placements for students with other disabilities. Clarifying differences in out-of-home services of students in relation to disability classifications may provide important insights for the development of intensive intervention supports for students in special education who experience emotional and behavioral difficulties.

Accordingly, the purpose of this study is to examine out-of-home placements of students identified for distinct special education services (e.g., learning disabilities [LD], serious emotional disturbance [SED], intellectual disabilities [ID], speech and language impairments [SLI], and other disabilities). As a first step in clarifying the experiences of students in the various categories, the out-of-home placements of interest include those in the child welfare, juvenile justice, and mental health systems. The patterns of multi-sector involvement identified in this study may help educational professionals in the field of special education understand the complexity of non-school-related services and students’ needs for intensive interventions in their broader ecological system. Such work may help inform future research aimed at developing systematic intensive interventions to support the school adjustment of students who receive special education services and who experience significant emotional and behavioral difficulties in school.

**Multi-Sector Involvement of Students Receiving Special Education Services**

Facilitating the positive adaptation and school adjustment of students in special education is challenging because they are at elevated risk for being placed in various systems, such as child welfare (Sullivan & Knutson, 2000), juvenile justice (Quinn, Osher, Poirier, Rutherford, & Leone, 2005), and mental health (Trout et al., 2009). In addressing students’ various needs, the Individuals With Disabilities Education Act (P.L. 94-142, 1997) emphasizes the importance of providing a continuum of services for youth with disabilities while ensuring that they receive quality educational services and services that are coordinated across agencies.

The extant work suggests that students with disabilities are disproportionately involved in various non-school-related services. For example, one study found that 37% of incarcerated youth are eligible for special education services compared with less than 9% of the overall public school population (Quinn et al., 2005). Students with SED, in particular, are more likely to be involved with the juvenile justice system than non-disabled students and students in other special education classifications (Chen, Symons, & Reynolds, 2011). Furthermore, recent work suggests that nearly one third of children placed in residential mental health care are youth with identified disabilities (Chmelka, Trout, Mason, & Wright, 2011; Trout et al., 2009). Similarly, more than 31% of children with disabilities have been shown to be involved with child welfare as compared with 9% of children without disabilities (Sullivan & Knutson, 2000). Other evidence has shown that youth engaged in child welfare (Berzin, 2010; Courtney & Dworsky, 2006), special education (Wagner, Newman, Cameo, Garza, & Levine, 2005), and juvenile justice (Bullis & Yovanoff, 2002) have poor adult outcomes related to educational and vocational attainment, involvement in criminality, and personal and family welfare.

Regardless of high disproportionality of involvement in various systems, relatively few studies have provided a comprehensive picture of involvement across multiple sectors for youth with distinct identified disabilities. Students with SED have been recognized as multi-sector users and have exhibited intensive needs and service use in mental health, child welfare, delinquency, school dropout, and
The Current Study

Research to advance knowledge on this topic has been hampered by methodological limitations. These limitations include the lack of integrated service data across agencies and reliance on cross-sectional studies with convenience samples (Culhane, Fantuzzo, Rouse, Tam, & Lukens, 2010). Furthermore, the longitudinal nature of system involvement by students with different types of disabilities has not been fully addressed in prior literature. Maschi, Hatcher, Schwab, and Rosato (2008) pointed to the importance of conducting longitudinal studies to determine the nature of system involvement and address pathways that youth navigated across systems. Even though the current body of cross-sectional studies provides insights into the service-related characteristics of students with disabilities in public service systems (Brookman-Frazee et al., 2009; Epstein et al., 1995; Malmgren & Meisel, 2002), a comprehensive picture is needed that examines services involvement and predictive patterns through systems over time of youth who are identified for special education.

Method

Participants

This longitudinal study consisted of an entire school district population, approximately 58,000 participants in an urban public school district in the northeast, who were enrolled in seventh, eighth, and ninth grades in school year 2004–2005. Approximately half of students were male (51.7%). There were 66.1% African American, 14.9% Latino, 13.8% White, and 5.3% Asian/Other students in the cohort. Nearly 46% of students were eligible for free/reduced lunch. In addition, 18.8% of students had school-identified disabilities and received special education services (n = 10,911), with 7,028 with LD, 1,247 with SED, 1,245 with ID, 804 with SLI, and 587 with other disabilities. More than 81% of students were without any school-identified disabilities (n = 47,118). Less than 10% of students had limited English proficiency.

Design and Procedure

This study used an integrated administrative data system that maintained administrative, child-level data for the
children and youth from the health and human services agencies and the school district in the focal city (Culhane et al., 2010). The administrative data, which allowed for child-level data integration, made it possible to identify a specific youth cohort of seventh-, eighth-, and ninth-grade students. This also enabled us to undertake a population-based examination of youth with multi-system involvement longitudinally in a 6-year window from the prior observation period (school year 2000–2001 through school year 2003–2004) to the index observation period (school year 2004–2005 through school year 2006–2007).

The integrated administrative data set linked comprehensive publicly monitored service information from the Department of Behavioral Health Services and Intellectual Disability Services (DBHIDS), the Department of Human Services (DHS), and the Public School District. To ensure the accuracy of the record linkage, Link King, an SAS application program designed to match relevant information through probabilistic integration, was employed to integrate data from multiple systems using a variety of common identifiers (e.g., names, sex, race/ethnicity, date of birth). Cases with potential false positive error comprised less than 1% of all matches in each data set and were manually cross-referenced to ensure accuracy. Identifying information was used solely for integrating records across systems. The final data set was stripped of all identifiers and contained information on mental health, child welfare, juvenile justice, and special education services.

Measures

Disability status. This variable included school-identified disabilities such as LD, SED, ID, SLI, and other disabilities (e.g., autism, other health impairments, etc.). Although students could be identified with multiple disability categories by school (e.g., primary, secondary disabilities), the current study only coded each student by his or her primary disabilities if he or she had more than one disability status.

Child welfare services. DHS provides services through its child welfare system for children and youth with substantiated neglect or abuse issues. Services include in-home preventive services and out-of-home placements. This study focused only on those youth with out-of-home placements, either in foster care, group homes, or other institutional settings.

Juvenile justice services. DHS provides services for delinquent children and youth through its juvenile justice system. Through its juvenile justice services, DHS operates the county juvenile detention center and manages juvenile justice services. The detention center provides temporary care, custody, and control for alleged and adjudicated delinquents age 13 and older, who are awaiting court action. Other placements are in group homes for youth with histories of truancy, other adjudications in Family Court, and others with a high risk of delinquency.

Mental health services. Mental health services information is based on Medicaid-funded behavioral health claims that are provided by DBHIDS from an administrative database that includes claims records maintained by the Community Behavioral Health, the publicly run managed care organization that funds behavioral health services for Medicaid recipients. Medicaid-funded behavioral health services provided by DBHIDS include inpatient psychiatric hospitalization, partial psychiatric hospitalization, community support services, outpatient psychiatric services, drug and alcohol services, and residential treatment services. This study focused only on those who experienced any episodes of residential treatment or inpatient psychiatric stays.

Any system involvement. This variable indicated whether students were involved in any out-of-home placements (as described above) in child welfare, juvenile justice, or mental health systems during the index observation period.

Number of system involvement. The number of types of system involvement (zero, one, two or more) was calculated by students’ involvement in out-of-home placements in child welfare, juvenile justice, and mental health systems during the index observation period.

Any prior system involvement. This variable indicated students’ involvement in any out-of-home placements in child welfare, juvenile justice, or mental health systems during the prior observation period (school year 2000–2001 through school year 2003–2004).

Demographic characteristics. Demographic characteristics were collected from records in the school district, which included sex, race/ethnicity, poverty status, and limited English proficiency. Coding of poverty was based on any participation in the free/reduced lunch program. Limited English proficiency status indicated that a student’s primary or home language was not English.

Data Analysis

Descriptive analysis was used to provide information on the prevalence of out-of-home placements in different types of service systems (i.e., child welfare, juvenile justice, and mental health) during the index observation period for the entire study sample (N = 58,029) and for the subsample students who had at least one system involvement in child welfare, juvenile justice, and mental health (n = 4,327), respectively. This study further examined the number of system involvement (zero, one, and two or more) among the
entire youth population in child welfare, juvenile justice, and mental health during the index observation period.

In addition, this study investigated the predictive patterns of multi-sector involvement among students with specific disabilities while controlling for demographics and prior system involvement (Models 1 and 2) for the subsample students. Logistic regression was used to analyze the extent to which disabilities were associated with any system involvement while controlling for demographic characteristics (Model 1). As prior system involvement might explain later system involvement in the index observation period (school year 2004–2005 through school year 2006–2007), the current study employed more rigorous models (Model 2) to identify the predictive patterns of multi-sector involvement while controlling for prior system involvement (school year 2000–2001 through school year 2003–2004).

Finally, logistic regression was used to analyze whether specific types of disabilities were associated with the number of multi-systems involvement (one vs. two or more), while controlling for demographic characteristics and prior system involvement for the subsample students. STATA was used to conduct the analyses.

### Results

#### Multi-System Involvement

Table 1 shows the distribution of students who were placed in out-of-home placements during the index observation period. More than 6% of students without disabilities were involved in any service systems in child welfare, juvenile justice, and/or mental health. For students with school-identified disabilities receiving special education services, 13% experienced placement in any additional service systems. Students with SED had the highest rates (32.1%) of any system involvement. Students with LD (12.3%) and ID (8.2%) were the groups with the second and third highest rates of any system involvement. Less than 5% of students with SLI and other disabilities were engaged in these systems.

When we specifically focused on the subsample students who had at least one system involvement in child welfare, juvenile justice, and mental health, approximately 5% of students without disabilities were engaged in one system and more than 1% experienced two or more service involvements. For students with disabilities receiving special education services, nearly 10% were involved in one system and more than 3% experienced two or more service systems. Specifically, students with SED had the highest rates of one system (21.2%) and two or more systems (10.9%) involved. Students with LD and ID were the groups with the second and third highest rates of service by one system (9.3% and 6.8%, respectively) and two or more systems (3% and 1.5%, respectively). Less than 3% of students with SLI and other disabilities were engaged in one system and nearly 1% of them experienced two or more systems.

### Disability Status Associated With the Type of Multi-System Involvement

Above results suggest that students with disabilities had higher rates of system involvement beyond school and that
this was particularly true for students with SED. The next analyses explained whether this remained true once demographic characteristics and prior system involvement were included in the analyses for the subsample students who had at least one system involvement. Table 3 presents the relationships between disabilities and system involvement in child welfare, juvenile justice, or mental health systems, respectively, during the index observation period.

Controlling for demographic characteristics, students with SED were more likely to be involved in mental health services compared with students without disabilities (odds ratio [OR] = 2.35, *p < .001). The predictive patterns were consistent when further controlling for prior system involvement (OR = 2.18, *p < .001). The odds of students with ID receiving child welfare services were greater than the odds of students without disabilities (OR = 1.61, *p < .05). When controlling for prior system involvement, no differences were found between students with ID and those without disabilities in receiving child welfare. Nevertheless, the odds of students with ID receiving juvenile justice services were lower than the odds of students without disabilities (OR = .49, *p < .001). Consistent predictive patterns were found while further controlling for prior system involvement (OR = .50, *p < .01).

Disability Status Associated With the Number of Multi-System Involvement

This study also examined whether disability status was associated with the number of multi-system involvements (one vs. two or more) during the index observation period for the subsample students who had at least one system involvement, as shown in Table 4. Logistic regression was used to predict the odds of students being involved in increasingly higher numbers of system services. In Model 1, students with SED had involvement in a higher number of service systems compared with students without

### Table 2. The Number of System(s) Involvement for Youth With and Without Disabilities (N = 58,029).

<table>
<thead>
<tr>
<th>Variable</th>
<th>0 (%)</th>
<th>1 (%)</th>
<th>2 or more (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No disabilities (n = 47,118)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any disabilities (n = 10,911)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious emotional disturbance (n = 1,247)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning disabilities (n = 7,028)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intellectual disabilities (n = 1,245)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech and language impairments (n = 804)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other disabilities (n = 587)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 3. Disability Status Associated With Any System Involvement in Child Welfare, Juvenile Justice, and Mental Health (n = 4,327; Subsample Students Who Had at Least One System Involvement).

<table>
<thead>
<tr>
<th>Variable/Odds ratios</th>
<th>Child welfare</th>
<th>Juvenile justice</th>
<th>Mental health</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 1</td>
</tr>
<tr>
<td>Male</td>
<td>0.24***</td>
<td>0.22***</td>
<td>3.75***</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>1.12</td>
<td>0.95</td>
<td>1.02</td>
</tr>
<tr>
<td>Latino/Hispanic</td>
<td>0.75</td>
<td>0.65*</td>
<td>1.35</td>
</tr>
<tr>
<td>Other</td>
<td>1.72</td>
<td>1.52</td>
<td>0.54*</td>
</tr>
<tr>
<td>Limited English proficiency</td>
<td>0.85</td>
<td>0.96</td>
<td>1.32</td>
</tr>
<tr>
<td>Free/reduced lunch</td>
<td>0.94</td>
<td>1.00</td>
<td>0.97</td>
</tr>
<tr>
<td>Any prior system involvement</td>
<td>2.13***</td>
<td>0.74***</td>
<td></td>
</tr>
<tr>
<td>Disability status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious emotional disturbance</td>
<td>1.06</td>
<td>0.85</td>
<td>0.85</td>
</tr>
<tr>
<td>Learning disabilities</td>
<td>0.97</td>
<td>0.92</td>
<td>1.02</td>
</tr>
<tr>
<td>Intellectual disabilities</td>
<td>1.61*</td>
<td>1.51</td>
<td>0.49***</td>
</tr>
<tr>
<td>Speech and language impairment</td>
<td>0.62</td>
<td>0.65</td>
<td>1.08</td>
</tr>
<tr>
<td>Other disabilities</td>
<td>0.77</td>
<td>0.71</td>
<td>1.56</td>
</tr>
</tbody>
</table>

Note. White students and students without disabilities as reference groups. *p < .05. **p < .01. ***p < .001.
disabilities (OR = 1.75, p < .001). As with earlier analyses, prior system involvement was controlled and patterns of involvement were still held in Model 2. Students with SED had an increased involvement in a higher number of services compared with students without disabilities (OR = 1.50, p < .001).

**Table 4.** Disability Status Associated With the Number of System Involvement (n = 4,327; Subsample Students Who Had at Least One System Involvement).

<table>
<thead>
<tr>
<th>Variable/Odds ratios</th>
<th>The number of system involvement (1 vs. 2 or more)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
</tr>
<tr>
<td>Male</td>
<td>0.91</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>1.39*</td>
</tr>
<tr>
<td>Latino/Hispanic</td>
<td>1.15</td>
</tr>
<tr>
<td>Other</td>
<td>1.02</td>
</tr>
<tr>
<td>Limited English proficiency</td>
<td>0.85</td>
</tr>
<tr>
<td>Free/reduced lunch</td>
<td>1.09</td>
</tr>
<tr>
<td>Any prior system involvement</td>
<td>2.35****</td>
</tr>
<tr>
<td>Disability status</td>
<td></td>
</tr>
<tr>
<td>Serious emotional disturbance</td>
<td>1.75****</td>
</tr>
<tr>
<td>Learning disabilities</td>
<td>1.08</td>
</tr>
<tr>
<td>Intellectual disabilities</td>
<td>0.72</td>
</tr>
<tr>
<td>Speech and language impairments</td>
<td>0.86</td>
</tr>
<tr>
<td>Other disabilities</td>
<td>1.34</td>
</tr>
</tbody>
</table>

Note. White students and students without disabilities as reference groups. 
*p < .05. **p < .01. ***p < .001.

This study paints a picture of multi-sector out-of-home placements among students with disabilities. Consistent with previous studies (Brookman-Frazee et al., 2009; Epstein et al., 1995; Malmgren & Meisel, 2002; Quinn et al., 2005; Sullivan & Knutson, 2000; Trout et al., 2009), this study highlights the elevated risks of students with disabilities to be placed across child welfare, juvenile justice, and mental health systems. Child abuse/neglect, juvenile delinquency, and mental health problems, coupled with student disabilities, might exacerbate students’ learning and behavioral challenges and school maladjustment. The associations between disability status and multi-sector involvement suggest correlated constraints (Cairns & Cairns, 1994; T. W. Farmer, Quinn, Hussey, & Holahan, 2001), which necessitate the development of comprehensive integrated interventions responding to correlated educational, behavioral, and mental health risks among youth with disabilities.

The current study differentiates students with disabilities’ multi-sector out-of-home placements. Consistent with previous findings (Epstein et al., 1995; Malmgren & Meisel, 2002), a substantial number of students with SED are found to be heavily engaged in health and human systems. Those with intensive emotional and behavioral difficulties experience problems in their broader ecological system might be in need of services both within and outside the school settings (Atkins et al., 2010; Cappella et al., 2008; Farmer et al., 2014; Kern et al., 2015). There is a growing focus on multi-tiered interventions to address students’ corresponding academic and behavioral needs in school contexts (Fuchs et al., 2014; Kern & Weinby, 2014; Lewis et al., 2010). This study enables practitioners to understand students’ intensive needs outside of school contexts and the importance of developing intensive emotional and behavioral interventions from a broader ecological perspective to divert youth with disabilities from being socially maladjusted.

Our findings provide further evidence for the importance of the school partnership with other service agencies. As education services have served as the first entry point to multi-sector placements for the majority of youth, it is critical to clarify connections between educational sectors and other agencies (Burns et al., 1995; E. M. Z. Farmer, Burns, Phillips, Angold, & Costello, 2003; T. W. Farmer & Farmer, 2001). The present study reveals multi-sector out-of-home placements from special education perspectives and raises a critical issue regarding the challenges youth with disabilities might face and how services work together to reduce potential risks and increase resiliency for youth with disabilities. Prior studies have shown that system deficits and fragmentation might increase vulnerability, leading to poor outcomes (Van Wingerden, Emerson, & Ichikawa, 2002). Research on wraparound services and systems of care has identified effective components promoting school and community services serving youth with complex needs and challenges (Burns et al., 1995; Eber et al., 2002; Epstein et al., 1998; Stroul, 1993).
Multi-system involvement reveals a potential complexity to these intersecting risks and areas for collaboration between systems. The variation of the services across placements comes with changes in schools and educational programs, which could indirectly affect and exacerbate the vulnerability of a student’s behavioral, mental health, and educational outcomes (Trout et al., 2009). Agencies should not only focus on behavioral and mental health challenges for youth with disabilities, but they will also need to address their educational needs. Within the context of special education, the Individualized Education Program (IEP) team could address these problems with other services personnel to support students who receive services outside of schools. The findings on out-of-home placements not only add to the knowledge of the continuum of educational services but also emphasize a positive, interconnected system that seamlessly provides services to students.

Finally, the findings point out the potential advancement of using administrative data integrated from multiple agencies to provide ongoing monitoring of multi-system youth and their gateways of entry into and out of these systems (Culhane et al., 2010). Having integrated data from different service sectors would allow practitioners to identify students’ academic and behavioral challenges in school contexts as well as recognize their experiences outside of schools such as child abuse/neglect, juvenile delinquency, and mental health problems. Future research could explore the effectiveness of using integrated administrative data as a surveillance system for specific subgroups, such as students with disabilities.

**Limitation and Implications for Future Research**

There are several recognized limitations to this research. The study sample, though sufficient in size, is from an urban school district that disproportionately serves minority, low-income students in the northeast. A more diverse sample representative of the U.S. population would further enhance the generalizability of study findings. In addition, because this study is limited to one urban area, it does not reveal potential variation in patterns or service systems across the country. The generalizability of these findings is highly dependent upon the resources available in communities.

This study unpacks the patterns of multi-sector out-of-home placements of students with different disabilities. However, the findings for multi-sector involvement for students with disabilities are limited to out-of-home placements. The majority of multi-sector services involve different types of placements but this study only provides a glimpse of the most restrictive services. In addition, this study does not explicate risk and protective factors associated with multi-sector involvement for youth with disabilities. Several studies have profiled the impact of individual factors (race/ethnicity, sex, previous histories of mental health, trauma, delinquency) and environmental factors (family conflicts, poverty, unmet service needs, and previous system involvement) on students’ system involvement in juvenile justice, mental health, and child welfare (Malmgren & Meisel, 2002; Maschi et al., 2008; Trout et al., 2008). Future research identifying malleable factors leading to multi-sector involvement for youth with disabilities will help us understand how to help these multi-system youth overcome school adjustment problems.

Future studies can also identify evidence-based practices that could support multi-system youth (Vinson, Brannan, Baughman, Wilce, & Gawron, 2001). Given the varying system involvement, future research can clarify how the school system and other system services can work together to address multi-system involvement experienced by students with disabilities, not just working within each service care (Nelson, 2000). In addition, this effort should include studies that follow students’ outcomes at the entry point or after exiting out of system(s) and evaluate the services that will be needed. Finally, as youth with specific disabilities face a spectrum of challenges in educational, behavioral, and mental health functioning, subgroup analysis is also suggested in the future. Identifying the specific characteristics of youth with disabilities involved in multi-system services will help service providers better determine student risks before program entry and serve the most in need group.

**Conclusion**

This study identifies the patterns of multi-sector out-of-home placements for students with different disabilities. Students with disabilities have heightened risks of being involved in juvenile delinquency, child abuse/neglect, and mental health issues. In particular, students with SED tend to be involved in a substantially higher number of services compared with students without disabilities. Overall, the patterns of multi-system involvement reveal the potentially complex nature of these intersecting problems. This study addresses the importance of the development of intensive intervention from a broader ecological perspective, possible areas for collaboration between systems, and opportunities for leveraging public service investment to better serve vulnerable youth with disabilities.

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