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Patterns of Maltreatment and Diagnosis Across Levels of Care in Group Homes

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Abstract

Patterns of Axis I psychiatric diagnosis and maltreatment history were explored among youth in group homes, including match of clinical need to level or restrictiveness of care. Data on demographics, diagnoses, maltreatment, and group home level of care (Level I, II, or III homes, representing lower to higher intensity of supervision and treatment) were obtained from 523 youth who participated in a quasi-experimental study of group homes. Three quarters of youth had a diagnosis and two thirds of youth had a maltreatment history. Youth in higher level homes had more diagnoses and higher rates of all disorders except adjustment disorders. Youth in Level I homes had a history of more maltreatment types, particularly high rates of neglect. Sexual abuse, physical abuse, and emotional abuse were most common among youth in higher level homes. Regardless of diagnosis history, comparable proportions of youth had a maltreatment history, and similar patterns were found across levels of care. Together, findings indicate that group homes with varying degrees of restrictiveness serve youth with different psychiatric diagnosis and maltreatment histories. Youth triaged to higher level homes had more diagnoses, while youth placed in the least restrictive homes had a history of more maltreatment subtypes. Further, distinct patterns of diagnosis types and maltreatment subtypes were seen across homes. Implications include the importance of assessing unique clinical needs of youth to promote an appropriate match to level of care and treatment plan.

Keywords

group homes; maltreatment; diagnosis; level; care

Over the past several decades in the United States, there has been a nationwide movement towards providing care for youth with severe emotional and behavioral disorders or maltreatment histories in the least restrictive, appropriate setting (Fields & Ogles, 2002; Marty & Chapin, 2000; Pumariega, 2006; Stroul & Friedman, 1986). This philosophy of care aims to minimize out-of-home placement; however, if necessary, youth are placed in

the setting that allows for participation in the most normative education, social, and familial environments possible, preferably a family- or community-based setting (e.g., treatment foster care). Despite those aims, in a given year, approximately one million youth with serious mental health disorders or maltreatment histories receive care in out-of-home placements, with many being placed in residential programs (Institute of Medicine [IOM], 2011; Substance Abuse and Mental Health Services Administration [SAMHSA],; Administration for Children, Youth, and Families [ACYF], 2013). For instance, the 2012 SAMHSA census (2013) indicated that approximately 588,000 youth had received specialty mental health services in an out-of-home placement in the last 12 months, with about half of these youth receiving care in residential treatment programs (SAMHSA, 2013). Further, the 2012 ACYF census (2013) indicated that 399,546 youth were in out-of-home placements due to involvement with Child Protective Services; of this group, there were 34,179 living in an institution and 23,822 living in group homes. A high number of youth are also in juvenile detention centers at any given point, with the most current census from the Office of Juvenile Justice and Delinquency Prevention in 2010 reporting 66,322 youth in such settings (OJJDP, 2013).

In general, youth may reside in out-of-home placements across multiple service settings that vary along a continuum from least to most restrictive care (e.g., foster care, treatment foster care, group homes, wilderness programs, residential treatment centers, psychiatric hospitals, and detention centers [Bruton, Blackmon, Wiford, Burns, & Maultsby, 2012; Hughes, Sullivan, Wiford, Burns, & Maultsby, 2011; Garland, Hough, Landsverk, & Brown, 2001; Lee & Barth, 2011]). It is important to note that the terminology and definitions of various types of residential programs vary across states or systems, and this lack of consensus has been a challenge for research in the field. Further, although programs may share certain common features, they vary in important ways including size, location, target population, level of restrictiveness, function, program structure, as well as treatment services and implementation (CWLA, 2004; Lee & Barth, 2011). Most studies of residential care have examined an aggregated array of settings with limited attention given to differences between settings and the youth population served. The lack of differentiation across residential care settings contributes to a loss of information about program effectiveness and the specific benefits each placement may offer youth (Lee, Bright, Svoboda, Fakunmoju, & Barth, 2011). To advance understanding about appropriate and effective care, studies should focus on specific types of residential care settings to better understand whether distinct characteristics and treatment needs vary systematically among the youth populations being served.

Among the types of residential programs, group homes are one of the most common placements for youth with significant clinical needs. This includes youth with comorbid psychiatric disorders and complex histories of maltreatment (Chow, Mettrick, Stephan, & Von Waldner, 2012; Lee & Thompson, 2009), which are associated with high costs to individuals, families, and society (Fang, Brown, Florence, & Mercy, 2012) and are likely to compound over time if appropriate intervention is not provided. It is therefore important for studies to continue investigating patterns of clinical needs, such as psychiatric disorders and maltreatment histories, and the match of such clinical needs with appropriate level or restrictiveness of care. The current paper provides an initial examination of clinical needs

(i.e., psychiatric disorders and maltreatment histories) among a large sample of youth in group homes, and the match between such needs and group home level of care.

Group homes and youth clinical needs

Most studies examining psychiatric diagnosis and maltreatment history among youth in residential programs have examined: (1) an amorphous designation that included both group homes and other types of residential programs; or (2) focused on one type of residential program that was not group homes (e.g., residential treatment center). Findings from this literature on residential programs, generally, indicate that the youth served experience a range of psychiatric disorders and high rates of comorbidity (Conner, Doerfler, Toscano, Volungis, & Steingard, 2004). Further, many youth in residential programs (50–70%) have experienced at least one type of trauma (e.g., physical abuse; sexual abuse; community violence) (Bettmann, Lundahl, Wright, Jaspersen, & McRoberts, 2011; Boyer, Hallion, Hammell, & Button, 2009; Jaycox, Ebener, Damesek, & Becker, 2004; Warner & Pottick, 2003), including high rates of maltreatment (Hussey & Guo, 2002; James, Zhang, & Landsverk, 2012). Studies also indicate that the greater complexity of maltreatment histories (i.e., more incidents and/or types of maltreatment experienced) seen among youth in residential programs as compared to the general population (e.g., Costello, Erkanli, Fairbank, & Angold, 2002) contributes to higher risk for multiple diagnoses (e.g., Copeland, Keeler, Angold, & Costello, 2007; D'Andrea, Ford, Stolbach, Spinazzola, & van der Kolk, 2012).

Although much is known about patterns of maltreatment and psychiatric diagnoses among youth in residential programs, in general, less is known about these patterns among youth in group homes, specifically (e.g., Brack, Huefner, & Handwerk, 2012; Chow et al., 2012; Hagaman, Trout, Chmelka, Thompson, & Reid, 2009). A number of studies with youth in group homes have examined emotional and behavioral problems (externalizing and internalizing symptoms) and academic problems (reading, math, academic knowledge), and improvement in these difficulties over time (e.g., Hagaman et al., 2009; Larzelere, Daly, Davis, Chmelka, & Handwerk, 2004). However, fewer studies have examined psychiatric diagnosis and maltreatment history within this population. What does exist suggests quite high rates of both diagnosis and maltreatment among youth in group homes. For example, in a recent study, Chow and colleagues (2012) found that 76% of youth in a single group home had at least one psychiatric diagnosis at admission, most commonly mood disorders (depressive and bipolar disorders; 55%) or disruptive behavior disorders (conduct disorder: 39% and attention deficit/hyperactivity disorder: 37%). Of these youth, most had multiple or comorbid diagnoses (68%; Chow et al., 2012). Another study of youth in a single group home documented high rates of behavior disorders (conduct disorder or oppositional defiant disorder: 38%), externalizing and internalizing behavior problems, and maltreatment (parental neglect: 40%; physical abuse: 25%; sexual abuse: 16%; Lee & Thompson, 2009). More recently, Brack and colleagues (2012) found high rates of physical abuse (30%), sexual abuse (14%), or both abuse types (21%) among youth in a single group home. Youth with both physical and sexual abuse had more symptoms of anxiety and affective disorders than those with only one abuse type or no maltreatment history (Brack et al., 2012). To advance the literature on group homes, more studies are needed that focus on multiple

homes rather than a single home and that further examine distinct characteristics and treatment needs across the youth populations being served.

Match between clinical needs and level of care

In light of complex clinical presentations among youth in group homes, one question of interest among researchers and clinicians alike is whether youth are being matched to appropriate level or restrictiveness of care based on their distinct needs (Barth, 2002). Placement restrictiveness is generally defined as the degree to which supervision, services, and other setting characteristics limit the choices and freedom of patients (Handwerk, Friman, Mott, & Stairs, 1998). Within a continuum of services framework, it is often assumed that a youth's emotional and behavioral needs correspond with the intensity of their treatment (Barth, 2002). Indeed, certain youth may present with greater needs that require a more restrictive placement that provides more intensive services than a lower level of care can provide (Huefner, James, Ringle, Thompson, & Daly, 2010; Lieberman, 2004). However, there are inconsistent findings on the match between youth needs and level of care.

In the literature on out-of-home placements, some studies report similar characteristics or needs among youth in more restrictive residential programs, such as group homes, and those in less restrictive community- or family-based settings, such as foster care (Farmer, Mustillo, Burns, & Holden, 2008; James, Roesch, & Zhang, 2012; Lyons, Libman-Mintzer, Kisiel, & Shallcross, 1998). Other investigators indicate that youth served by more restrictive residential programs have greater emotional and behavioral needs than youth receiving less restrictive community- or family-based care (Briggs et al., 2012; Handwerk et al., 1998; Nash, Thompson, & Kim, 2006; Pottick, Warner, & Yoder, 2005). The preceding studies report that youth across various residential programs (e.g., acute care shelter, group homes, wilderness program, or residential treatment center) have high rates of externalizing and internalizing behavior problems, academic problems, comorbid diagnoses, substance use problems, suicidal or self-injurious behavior, and trauma, including abuse or neglect.

Similarly, studies focused on residential programs have examined youth clinical needs across settings with varying levels of restrictiveness. Some findings indicate that a youth's movement from more to less restrictive residential programs is related to a decreasing level of clinical needs or the stabilization of behavior (e.g., Larzelere et al., 2001). Alternatively, youth may also move between residential programs with different levels of care for reasons other than clinical need, including changes in local or federal policies (James, Landsverk, & Slymen, 2004). As such, concerns remain about the match between the needs of youth and specific types of residential programs, such as group homes, with different levels or restrictiveness of care.

Current paper

The current study seeks to supplement the literature about patterns of clinical need (i.e., psychiatric diagnosis and maltreatment history) and match of need to level or restrictiveness of care in group homes. Due to high rates of psychiatric disorders and complex maltreatment histories among youth in group homes (Chow et al., 2012; Lee & Thompson, 2009), the

prevalence of psychiatric disorders and maltreatment history are the focus of this investigation. Specifically, this study explores whether patterns of demographics, Axis I psychiatric disorders (DSM-IV-TR; American Psychological Association [APA], 2000), and maltreatment histories among youth vary systematically by group home level of care. Each level of care corresponded with Medicaid eligibility criteria (North Carolina Department of Health and Human Services [N.C. DHHS], 2014), with the assumption that successively higher levels of care would serve youth with greater clinical need (i.e., more psychiatric diagnoses and/or experience of more maltreatment subtypes).

By exploring the profiles of youth in group homes with differing levels of service intensity or restrictiveness, this study examines the match between clinical need and level of care. This study will also expand upon previous investigations on group homes (Larzelere et al., 2004; Chow et al., 2012; Hagaman et al., 2009) by using a larger sample of youth in multiple group homes.

Method

Data source

Data used in the current study were collected as part of a quasi-experimental study of group homes in the same geographic catchment areas within a southeastern state (Farmer, Wagner, Burns, & Murray, 2015). Sampling frame for the study included homes that implemented the Teaching Family Model (Kirigin, 2001; Wolf et al., 1976) as well as homes that utilized a variety of other treatment approaches and models (Farmer, et al., 2015). Homes were distributed across the state in urban, suburban, and rural areas, included both campus-based and community-based homes, and were all part of agencies that operated multiple homes and provided some continuum of other types of services (Farmer, Murray, Ballentine, Morris, & Burns, 2011). Homes were licensed according to Medicaid eligibility criteria and represented a range of levels of care/restrictiveness (N.C. DHHS, 2014). Overall, the sample included fourteen agencies that operated a total of 54 homes. All homes contained 10 or fewer beds (median of 5–6 per home). Similar to a broad definition of group homes cited by James and colleagues (2006), the homes in this study were small residential programs.

Youth participants ranged in age from 3 to 20 years old ($M = 14.7$, $SD = 2.0$) and included those living in the group home when the study began as well as those entering the home during the two-year data collection period between August 2011 and July 2013. Informed consent was obtained from the legal guardian for each youth participant and written assent was obtained from each youth prior to data collection. Group home level of care was documented for each youth based on the home in which they were living at the time of data collection. Data on youth history prior to admission, including demographics, Axis I psychiatric diagnoses, and maltreatment history, were collected from a review of youth records.

Sample

From the larger study sample of 554 youth, the current study excluded youth whose data from the baseline record review were missing ($n = 31$). Among the final sample ($N = 523$),

143 (resident) youth were living in the group homes at the time the study began; the remaining 380 (admissions cohort) youth were recruited upon admission to each participating group home. Both cohorts were followed for as long as they were in the home and up to 8-months post-discharge.

Variables and measures

Data for the current study were collected within four domains: youth demographics, maltreatment history, Axis I psychiatric diagnoses, and group home level of care. All variables and measures used from each domain are described below.

Demographic and prior placement information—For current analyses, background information on the youth included sex, race, age, and type of residential location immediately prior to the current group home placement.

Maltreatment history—Youth history of maltreatment (i.e., type(s) of maltreatment experienced) was collected through the record review conducted when a youth entered the study. Data were extracted to include all available information on maltreatment history that was present in the youth's record. Such data may represent lifetime rather than recent maltreatment history since many youth had been in these group homes and/or other out-of-home placements for extended periods of time. Based on data in their record, youth were documented as having no recorded maltreatment history or a history of one, two, three, or four types. Interviewers extracted information from the record to code whether or not the youth had experienced each of the following maltreatment types: sexual abuse, physical abuse, emotional abuse, and neglect.

Psychiatric diagnoses—Axis I psychiatric diagnoses were obtained from the record review conducted when a youth entered the study. Information was gathered on number and type(s) of diagnoses. Data include all available information on diagnoses that was included in the youth's chart. Based on data in their record, youth were documented as having no recorded diagnosis or having one, two, or three diagnoses. For analyses, youth with two or three diagnoses were combined to allow for examination of youth with comorbid diagnoses as compared to youth with zero or one diagnosis. Specific types of diagnoses included Attention-Deficit/Hyperactivity Disorder (ADHD), other disruptive behavior disorders (Conduct Disorder [CD] and Oppositional Defiant Disorder [ODD]), substance abuse, depressive, bipolar, anxiety (including PTSD, OCD, GAD, and other anxiety disorders), adjustment disorders, and 'other' diagnoses. 'Other' diagnoses included Reactive Attachment Disorder, Impulse Control Disorder, Learning Disorder, Enuresis, Schizophrenia, Psychotic Disorder Not Otherwise Specified, any Eating Disorder, Selective Mutism, and Tic Disorder.

Group home level of care—Group homes were defined as residential placements licensed by the state DHHS Division of Health Service Regulation (DHSR) or the Division of Social Services (DSS) as Level I, II, or III, with increasing level of restrictiveness based on state-level Medicaid eligibility criteria (N.C. DHHS, 2013; N.C. DHHS, 2014). Level I homes (residential treatment – family type) were licensed by the DSS as child care

institutions with overnight staff available when necessary and with interventions targeted to specific youth functional problems. Level II homes (residential treatment – family/program type) were licensed by the DHSR with staff constantly available to respond to youth needs; also, interventions extended beyond that provided in Level I homes with assistance provided to youth for improving their relationships across settings. Level III homes (residential treatment) included all Level II elements and in addition had continuous supervision or awake staff at all times of day and night; further, interventions were broader than lower level homes with support for intensive skill acquisition and “structure, supervision, and containment of frequent and highly inappropriate behavior” (N.C. DHHS, 2014, p. 22). Also, a psychiatric diagnosis by an M.D. is required for Level III homes. Of note, higher level homes had higher cost for each youth per day (e.g., in September 2009, ranging from \$90.39 in Level I homes to \$237.63 in Level III homes; Hughes et al., unpublished results).

Analytic approach

All analyses were conducted in SAS Version 9.2 (2008, Cary, NC). Descriptive statistics were calculated for youth demographic characteristics among the total sample and then across group home levels of care. Chi-square and t-test analyses were run, as appropriate, to test differences in youth characteristics across levels of care.

Proportions were calculated for youth with and without: (1) a diagnosis or (2) maltreatment history, respectively, within the total sample and across levels of care. Chi-square analyses were then run to compare patterns of diagnostic and maltreatment histories across levels of care. To further examine youth histories within each level of care, proportions were used to describe: (1) differing diagnosis histories (number of types—none, one, or two/three; and types of diagnoses documented); and (2) differing maltreatment histories (number of types—none, one, two, and three/four; and types experienced – sexual, physical, and emotional abuse, and neglect). Chi-square analyses were then conducted to test differences in number of maltreatment types and diagnoses experienced, respectively, among youth in different levels of care. Due to small sample sizes, specific types of diagnoses and maltreatment across levels of care were only described (without significance tests conducted). With the total sample and across each level of care, proportions were used to describe youth with: (1) a diagnosis, (2) a maltreatment history, (3) both a diagnosis and maltreatment history, or (4) neither a diagnosis nor maltreatment history. Differences in patterns of diagnosis and maltreatment history were examined using chi-square analyses.

Missing data

No significant differences were found for gender, age, or group home level of care between youth included in ($N = 523$) or excluded from ($n = 31$) the study due to missing a preadmission record review. However, differences were found by race ($X^2[2, N=554] = 12.10, p = .004$), with a significantly larger proportion of African American youth missing a record review than White youth ($p = .008$).

Results

Youth Characteristics

Table 1 presents youth demographic characteristics for the total sample ($N = 523$) and within each group home level of care. This study included youth ages 3 to 20 years ($M = 14.7$, $SD = 2.0$) at the first interview. Of this sample, approximately one-half were male and one-half were White. Among youth who were identified as a racial minority, most were African American (31.2% of sample), while a smaller proportion indicated their race as ‘Other’ (including 6.5% multi-racial, 4% American Indian, 3.1% Hispanic, 0.2% Asian, and 0.4% ‘Other’). Of the 483 youth with prior placement data recorded, most youth had been previously living at home with parent(s), a relative, or a friend (60.3%), less than a fifth in a foster home (15.7%), and a quarter in another setting (24%) [which included another group home (12.8%), a residential treatment facility (5.6%), or jail (4.4%), or the youth was a runaway (1.2%)]. Information regarding the youth’s level of care (I, II, or III) in their group home indicated that about half of youth were in Level I group homes, and the rest were equally split between Level II and III group homes. Of note, youth in TF and non-TF homes did not differ significantly on likelihood of having a diagnosis or maltreatment history.

Analyses of demographic differences across group home levels of care indicated that the proportion of male and female youth living in each level of care differed ($X^2[2, N=523] = 16.06$, $p = .0003$). Specifically, a greater proportion of males than females were living in Level III homes as compared to Level II ($p = .0018$) or Level I ($p = .0007$) homes. Racial composition also differed across levels of care ($X^2[4, N=523] = 36.16$, $p < .0001$). There was a higher proportion of White youth as compared to African American and ‘other’ youth living in Level I and II homes, and more White and African American youth than ‘other’ youth living in Level III homes. No differences were found by age ($F[2,522] = 1.72$, $p = .18$). With regard to prior placement ($n = 483$), youth previously living in foster care were more likely to be in Level I homes (21.5%) as compared to Level II (12.9%) or III (6.4%) homes. Youth previously living in residential treatment centers or jail, respectively, were more likely to be in Level III homes (12.8% or 8.3%) as compared to Level II (3.8% or 0.8%) or Level I (3.3% or 4.6%) homes. Levels I, II, and III group homes had similar proportions of youth who were previously living at home (with parent(s), a relative, or a friend), in another group home, or who were runaways.

Psychiatric Diagnoses and Maltreatment History

Overall, 93.9% of youth had a psychiatric diagnosis and/or history of maltreatment. When examining the patterns across these two domains, about half of the youth had a diagnosis and a history of maltreatment, 27.0% had a diagnosis and no record of maltreatment, 17.6% had a history of maltreatment and no record of diagnosis, and 6.1% had no record of maltreatment or diagnosis.

Psychiatric diagnosis—The proportions of youth with and without at least one diagnosis (yes/no) were examined in the total sample ($n = 523$) and within each group home level of care. About three quarters of the total sample had at least one diagnosis (76.3%). Differences in diagnostic status across levels of care indicated that youth in higher levels of care, Levels

II and III, were more likely to have at least one diagnosis as compared to those in Level I ($\chi^2[2, N=523] = 115.59, p < .0001$). At least one diagnosis was indicated among approximately 57% of youth in Level I homes, 94% of youth in Level II homes, and 100% in Level III homes.

In Table 2, the number of diagnoses was examined in the total sample and within each level of care. Youth with two ($n = 144$) or three ($n = 141$) diagnoses were combined for analyses to allow for examination of youth with comorbid diagnoses. Among the total sample, about half had comorbid diagnoses (two or three) while about one quarter had a single diagnosis and one quarter had no diagnosis recorded. The number of diagnoses differed among youth across levels of care, ($\chi^2[4, N=523] = 152.65, p < .0001$). A greater proportion of youth in Level I homes had no diagnosis (43%) as compared to Level II (5.9%) or III (0%) homes. Similar proportions of youth in Levels I (25.6%) or II (22.8%) homes had one diagnosis while fewer youth in Level III (12%) had one diagnosis. A greater proportion of youth in Level III as compared to Level II or I homes had multiple or comorbid diagnoses (88% versus 71.3% and 31.5%).

For descriptive purposes, the proportions of each diagnosis type was examined among youth with one diagnosis ($n = 399$) and within each level of care. Among youth with one diagnosis, about a third of youth had ADHD, almost half had another disruptive behavior disorder (CD and/or ODD), and a quarter had a depressive disorder. About 10% of youth had a bipolar, anxiety, or substance use disorder, respectively. Adjustment and ‘Other’ disorders were less prevalent, with less than one tenth of youth experiencing each type. ‘Other’ diagnoses included Reactive Attachment Disorder (3.6%), Impulse Control Disorder (1.3%), any Learning Disorder (1.1%), Enuresis (0.8%), Schizophrenia (0.4%), Psychotic Disorder Not Otherwise Specified (0.2%), any Eating Disorder (0.2%), Selective Mutism (0.2%), and Tic Disorder (0.2%).

As seen in Table 2, depressive disorders, substance use disorders, and CD/ODD were more prevalent in higher levels of care (II and III) than in Level I homes. Youth in Level III homes had higher rates of ADHD, bipolar disorders, and anxiety disorders than youth in Levels I and II homes. Adjustment disorders were more prevalent among youth in Level I and II as compared to Level III homes. ‘Other’ disorders were highest in Level III homes, followed by Level II, then Level I homes.

Due to potential concerns about accuracy and completeness of diagnostic data, analyses were rerun post-hoc using a measure of overall psychosocial difficulties or symptoms from the Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001; Goodman, Ford, Simmons, Gatwald, & Meltzer, 2003) in place of diagnosis. In support of diagnostic validity, results for the SDQ were consistent with the patterns seen in the chart-based diagnosis results.

Maltreatment history—Proportions of youth with and without a maltreatment history (yes/no) were examined among the total subsample ($n = 523$) and across levels of care. Approximately two-thirds of the youth were documented as having a history of at least one type of maltreatment. Differences in maltreatment history across levels of care indicated that

more youth in Level I homes had a maltreatment history than those in higher levels of care (Levels II or III) ($X^2[2, N=523] = 19.25, p < .0001$). Maltreatment history was reported for approximately 76% of youth in Level I homes, 60% of youth in Level II homes, and 56% in Level III homes.

The number of maltreatment types was then examined for the total sample and within each level of care. Due to small sample size for youth with three ($n = 51$) and four ($n = 10$) maltreatment types, respectively, these two groups were combined for analyses.

Approximately one third of the youth had no maltreatment type recorded, one third had a history of one maltreatment type, one quarter had two types, and one tenth of youth had three or four types. The number of maltreatment types differed across levels of care, ($X^2[6, N=523] = 22.75, p = .0009$). A greater proportion of youth in Level I as compared to Level II or III homes had a history of one maltreatment type (38.5% versus 30.9% and 24.8%) or two maltreatment types (25.9% versus 17.7% and 17.1%). Twice as many youth in Level II or III as compared to Level I homes had no maltreatment history (40.4% or 44.4% versus 24.4%). Across Levels I, II, and III homes, a similar proportion of youth had a record of three or four maltreatment types (11.1%, 11.0%, and 13.7%).

The proportions of each maltreatment type were also examined among youth with a maltreatment history ($n = 350$) and within each group home level of care. Three quarters of these youth had a history of neglect, over one-third had a history of physical abuse, about one-third had a history of sexual abuse, and approximately one fifth had a history of emotional abuse. Sexual and emotional abuse were more prevalent in higher levels of care (II and III) as compared to Level I homes. Physical abuse was more prevalent among youth in Level III as compared to both Levels I and II homes. Youth in Level I homes had higher rates of neglect than youth in higher level homes.

Co-occurrence of psychiatric diagnoses and maltreatment history—Using the total sample of youth ($n = 523$), proportions were calculated for youth who had a diagnosis and/or maltreatment in the total subsample and across each level of care. Youth with and without a diagnosis did not differ in their likelihood of having a history of maltreatment ($X^2[1, N=523] = 3.88, p = .05$). No significant differences were found within Level I homes ($X^2[1, N=270] = 0.01, p = .91$) or Level II homes ($X^2[1, N=136] = 0.32$, Fisher's Test: $p = .71$). Of note, only eight of 136 youth in Level II homes had no diagnosis recorded. Since all youth in Level III homes ($n = 117$) had a diagnosis, differences could not be tested. Of note, one half of these youth had both a diagnosis and maltreatment history while less than one third had only a diagnosis.

Discussion

Even with the nationwide movement towards providing care in the “least restrictive” setting (e.g., Pumariega, 2006; Stroul & Friedman, 1986), group homes remain one of the most common out-of-home placements for youth with serious clinical needs (Pottick et al., 2005). A related controversy in the literature surrounds whether youth are appropriately matched to level or restrictiveness of care based on clinical need (e.g., Farmer et al., 2008; Huefner et al., 2010). Although youth in group homes have high rates of maltreatment and psychiatric

disorders (Chow et al., 2012; Lee & Thompson, 2009), little is known about patterns of such characteristics, including their co-occurrence, among youth in group homes and variation across levels or restrictiveness of care. To advance appropriate and effective care in group homes, it is crucial to better understand youth profiles which may promote refinement of clinical or functional criteria for appropriate placement. As an initial step towards these goals, the current study used data from youth in multiple group homes across a southeastern state to explore patterns of demographic characteristics, psychiatric disorders, and maltreatment history at admission and variations of these patterns across levels of care.

Results indicated that youth were demographically similar to populations described in previous literature on group homes (e.g., Lee & Thompson, 2009). Approximately half of the youth were male, half were White, and most of the youth were teenagers. More male youth were living in homes with the highest level of care. A greater proportion of White youth were living in Level I and II homes than youth of other backgrounds, and more White and African American youth were living in the highest level homes (III).

With regard to psychiatric disorders, the majority of youth had at least one diagnosis and more than half had comorbid disorders. Behavioral disorders (CD/ODD and ADHD) were most prevalent, followed by depressive disorders, and lower rates of bipolar, anxiety, substance abuse, adjustment, and other disorders. These findings align with patterns of diagnoses found in previous group home studies (Chow et al., 2012; Lee & Thompson, 2009) and other residential programs (e.g., Conner et al., 2004).

The finding of increased number of diagnoses among youth in higher level homes is aligned with the continuum of care assumption that youth with more complex diagnostic presentations are placed in settings with a higher level of care (Barth, 2002). In other words, youth appeared to be appropriately triaged by complexity of diagnoses, where youth in higher levels of care had more diagnoses or severe clinical presentations than youth in lower levels of care. Such findings seem appropriate since the higher level group homes required a diagnosis for youth to be admitted.

Differential patterns of specific disorders were seen across levels. The youth in homes with higher levels of care (II or III) had similar rates of depressive disorders, substance abuse disorders, and CD/ODD as youth in the lowest level homes. The highest level homes were differentiated from other homes with higher rates of ADHD, bipolar disorder, and anxiety disorders. Since ADHD and bipolar disorders often include significant externalizing symptoms, the match of youth with these diagnoses into the most restrictive homes appears appropriate due to the greater supervision and behaviorally-focused approaches. The additional high prevalence of anxiety disorders in Level III homes and depressive disorders in both Levels II and III homes suggests the importance of comprehensive assessment and individualized treatment planning at intake to ensure that providers address differences in diagnosis-specific needs, particularly internalizing symptoms that may be comorbid with behavioral disorders.

The current study also found that the majority of youth had a history of at least one maltreatment type and more than one-third had experienced multiple types of maltreatment.

Neglect was most prevalent, followed by physical abuse and sexual abuse, and lower rates of emotional abuse. These findings align with patterns of maltreatment found in previous studies on group homes (Brack et al., 2012; Lee & Thompson, 2009), other residential programs (e.g., James, Zhang, et al., 2012), and youth involved with the child welfare system (Burns et al., 2004). The high prevalence of maltreatment supports the need for trauma-informed assessment and services for youth in residential programs (Briggs et al., 2012).

Youth in the lowest level of care were more likely to have a maltreatment history and a history of more types of maltreatment than youth in homes with higher levels of care. In part, these patterns of maltreatment are not surprising when considering the primary reasons for referral into group homes – either maltreatment or psychiatric disorders. Specifically, youth removed from their home due to maltreatment may initially be placed in the lowest level homes if psychiatric problems are not evident or significant. On the other hand, youth referred for psychiatric disorders are more likely to be triaged into higher level homes, whether or not they had a maltreatment history. This pattern of fewer types of maltreatment and more diagnoses among youth in higher levels of care may appear inconsistent with prior study findings that youth with greater psychiatric impairment have often experienced higher rates of maltreatment (Boyer et al., 2009; Copeland, et al., 2007; D’Andrea et al., 2012). However, other details about the maltreatment history of youth were not measured in this study and may be helpful in explaining this pattern; for example, age of first maltreatment incident, severity of maltreatment (e.g., chronicity or multiple incidents of each type of maltreatment; intensity of each maltreatment incident; relational proximity of perpetrator) and other types of traumatic experiences or major stressors (e.g., community violence; multiple out-of-home placements). Future studies should examine the role of these and other potentially influential factors that may differentiate maltreatment histories of youth and promote greater understanding of the relationship between maltreatment and diagnoses.

Differential patterns emerged for specific maltreatment types across levels. It appeared that youth in the lowest level of care were more likely to experience neglect, whereas youth in higher levels of care had higher rates of sexual and emotional abuse. Further, youth in the highest level of care were almost twice as likely to have a history of physical abuse. In certain studies, experience of sexual and/or physical abuse have been considered more severe or having a greater threat of harm and have been linked with higher level of psychiatric problems as compared to neglect (e.g., English et al., 2005; Petrenko, Friend, Garrido, Taussig, & Culhane, 2012). These findings align with the current study’s finding of higher rates of multiple diagnoses among youth in higher levels of care who also had higher rates of sexual and physical abuse (while rates of neglect was highest in the lowest level of care where youth had fewer diagnoses).

When examining the co-occurrence of psychiatric diagnoses and maltreatment history, youth with and without a history of maltreatment were equally likely to have a diagnosis. In homes with lower levels of care, a similar pattern was found. In the highest level of care homes, all youth had a diagnosis regardless of maltreatment history, which is consistent with the admission requirement that youth have a diagnosis. Overall, an important finding was that

youth across levels of care had high rates of maltreatment, regardless of having a diagnosis or not.

Taken together, these findings support previous investigations that indicate the need for thorough assessment of both maltreatment history and psychiatric disorders among youth in order to better understand patterns of co-occurring clinical needs. For instance, a history of certain maltreatment types may be associated with different constellations of psychiatric symptoms or disorders (e.g., more externalizing symptoms following sexual or physical abuse; Fergusson, Boden, & Horwood, 2008; Petrenko et al., 2012) and increasingly complex maltreatment histories (e.g., more types of maltreatment) may be related to more psychiatric symptoms or disorders (e.g., Brack et al., 2012). In efforts to build a more comprehensive picture of youth clinical needs in group homes and to inform treatment efforts, future studies should examine relationships between specific types of maltreatment and diagnoses, and the complexity of such profiles (e.g., number of maltreatment types and diagnoses; maltreatment severity).

Limitations

Several limitations are acknowledged for the current study. First, it is possible that rates of maltreatment and diagnoses are underestimated, not current, or otherwise incomplete. Incomplete information is a limitation often seen in studies that utilize data from records, and the current authors used the best available data for this investigation. Further, as noted in the methods section, because there may be concerns about accuracy and completeness of diagnostic data (particularly for Level I homes, where a youth's diagnosis is not a primary criterion for placement), analyses were rerun using the Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001; Goodman, Ford, Simmons, Gatwald, & Meltzer, 2003) in place of diagnosis. Results using this additional measure of symptoms were consistent with the findings from the diagnosis-based results, suggesting that complexity of recorded diagnoses was similar to reported severity of youth symptoms. However, future studies of such youth would benefit from a standardized diagnostic interview to increase confidence for specific diagnoses. With regard to maltreatment history, additional youth-, caregiver-, and clinician-reports may also help to supplement recorded data. However, data obtained from other sources (e.g., Department of Social Services [DSS]) will remain important for source of data about maltreatment, particularly for children with more complex maltreatment histories including multiple types or incidents of maltreatment and/or whose caregivers have often changed (e.g., many youth served by residential placements, including group homes).

Another limitation of this study is that certain findings may not be generalizable to other cities or states due to differences in local and/or Medicaid policies. While acknowledging the potential limits on generalizability, this study is the first to our knowledge to examine defined levels of care using Medicaid eligibility criteria within a specific type of residential program – group homes. A final limitation is that differences related to specific treatment models or services were not examined. In light of advances in evidence-based interventions and their widespread training and dissemination, future studies should explore the availability of such treatments across levels of care for youth with psychiatric disorders and

trauma, including the feasibility of matching diagnostic-specific interventions with trauma treatments.

Conclusion and Implications

Overall, the current study provides evidence for distinct patterns of demographic characteristics, psychiatric disorders, and maltreatment histories among youth in group homes with varying restrictiveness. Findings support a continuum of care perspective (Barth, 2002) within group homes, with youth being appropriately triaged into higher level homes based on severity. Importantly, the emergence of differential patterns of psychiatric diagnosis and maltreatment history across levels of care indicates the importance of considering each youth's specific diagnoses and maltreatment history when assessing clinical need and match to level of care. A comprehensive assessment of clinical need could also guide treatment plans tailored to the youth's unique clinical needs (e.g., need for services in higher level homes to address co-occurring disruptive behavior and anxiety disorders and physical abuse for certain youth). Towards this end, the findings from this study should be replicated and considered in future efforts to refine intake assessment and support appropriate placement for youth in group homes.

By building more effective intake guidelines for group homes based on the current study and future research, it will become increasingly possible to support positive youth outcomes within the least restrictive setting while also ensuring youth clinical needs are being met. Refined assessments may thereby increase treatment effectiveness for youth by properly assessing and placing youth into appropriate levels of care at intake, which will support their readiness for transition into less restrictive placements and back into the community over time. As such, greater emphasis on matching youth to specific group home levels of care based on clinical needs (e.g., consideration of specific types of treatment and staffing provided in each level of care), rather than for a myriad other reasons (e.g., policy mandates, administration purposes, resource availability; James et al., 2004), has the potential to reduce high costs associated with higher level group homes by deterring prolonged treatment related to inappropriate placement or insufficient care (Lyons, Terry, Martinovich, Peterson, & Bouska, 2001; Sunseri, 2005).

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Figure 1.
Distribution of Youth with Psychiatric Diagnosis and Maltreatment

Table 1

Demographic Characteristics by Level of Care

Characteristic	Total Sample N = 523		Level of Care						F-ratio / X ²
			I		II		III		
	n	%	n	%	n	%	n	%	
Age (Mean ± S.D.)	14.7	± 2	14.70	± 2.2	14.90	± 1.6	14.39	± 2.2	1.7
Gender									16.1***
Male	268	51.2	127	47.0	62	45.6	79	67.5	
Female	255	48.8	143	53.0	74	54.4	38	32.5	
Race									36.2***
White	286	54.7	131	48.5	98	72.1	57	48.7	
African American	163	31.2	91	33.7	20	14.7	52	44.4	
Other	74	14.2	48	17.8	18	13.2	8	6.8	

* $p < .05$;

**

$p < .01$;

$p < .001$

Table 2

Number and Type of Diagnosis by Level of Care

Number of Diagnoses	Total Sample N = 523			Level of Care						χ ²
	n	%	n	I		II		III		
				n	%	n	%	n	%	
None	124	23.7	116	43.0	8	5.9	0	0	152.7***	
One	114	21.8	69	25.6	31	22.8	14	12.0		
Two or Three	285	54.5	85	31.5	97	71.3	103	88.0		

Diagnosis Type [†]	Total Sample n = 399			Level of Care					
	n	%	n	I		II		III	
				n	%	n	%	n	%
ADHD	182	34.8	83	30.7	42	30.9	57	48.7	
Other behavior disorder (CD/ODD)	244	46.7	64	23.7	93	68.4	87	74.4	
Depression	133	25.4	43	15.9	53	39.0	37	31.6	
Bipolar	57	10.9	18	6.7	8	5.9	31	26.5	
Anxiety	72	13.8	18	25.0	21	29.2	33	45.8	
Substance use	52	9.9	12	4.4	21	15.4	19	16.2	
Adjustment	37	7.1	19	7.0	17	12.5	1	0.9	
Other	41	7.8	11	4.1	12	8.8	18	15.4	

[†] Due to diagnostic comorbidity among some youth, total of diagnosis types adds to more than 100%.

* $p < .05$;

** $p < .01$;

*** $p < .001$

Table 3

Number and Types of Maltreatment by Level of Care

Number of Maltreatment Types	Total Sample N = 523		Level of Care						X ²
			I		II		III		
	n	%	n	%	n	%	n	%	
None	173	33.1	66	24.4	55	40.4	52	44.4	22.75****
One	175	33.4	104	38.5	42	30.9	29	24.8	
Two	114	21.8	70	25.9	24	17.7	20	17.1	
Three or Four	61	11.6	30	11.1	15	11.0	16	13.7	

Maltreatment Type [†]	Total Sample n = 350		Level of Care					
			I		II		III	
	n	%	n	%	n	%	n	%
Neglect	266	76.0	180	88.2	50	61.7	36	55.4
Physical abuse	143	40.9	73	35.8	30	37.0	40	61.5
Sexual abuse	123	35.1	59	28.9	36	44.4	28	43.1
Emotional abuse	60	17.1	27	13.2	18	22.2	15	23.1

[†] Due to some youth having a history of multiple maltreatment types, total of types adds to more than 100%.

* $p < .05$;

** $p < .01$;

*** $p < .001$

Table 4

The Relationships Between Diagnosis and Maltreatment by Level of Care

		Level of Care															
		Total Sample <i>N</i> = 523				I				II				III			
		Diagnosis		Yes		Diagnosis		Yes		Diagnosis		Yes		Diagnosis		Yes	
Maltreatment	<i>n</i>	No	%	<i>n</i>	%	No	%	<i>n</i>	%	No	%	<i>n</i>	%	No	%	<i>n</i>	%
No	32	18.5	141	81.5	28	42.4	38	57.6	4	7.3	51	92.7	0	0	52	100.0	
Yes	92	26.3	258	73.7	88	43.1	116	56.9	4	4.9	77	95.1	0	0	65	100.0	
		$\chi^2(1, N=523) = 3.88, p = .05$ $\chi^2(1, N=270) = 0.01, p = .91$ $\chi^2(1, N=136)=0.32, p = .71$ Empty cells, no test.															

$\chi^2(1, N=523) = 3.88, p = .05$ $\chi^2(1, N=270) = 0.01, p = .91$ $\chi^2(1, N=136) = 0.32, p = .71$ Empty cells, no test.