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# A Retrospective Comparison of Adolescent Inpatients with Guardians Demonstrating Varied Levels of Involvement in Treatment

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Philadelphia College of Osteopathic Medicine

Department of Psychology

A RETROSPECTIVE COMPARISON OF ADOLESCENT  
INPATIENTS WITH GUARDIANS DEMONSTRATING VARIED  
LEVELS OF INVOLVEMENT IN TREATMENT

By Jacquelyn D'Amico

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Doctor of Psychology

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DEPARTMENT OF PSYCHOLOGY

Dissertation Approval

This is to certify that the thesis presented to us by Jacquelyn D'Amico  
on the 2<sup>nd</sup> day of May, 2016, in partial fulfillment of the  
requirements for the degree of Doctor of Psychology, has been examined and is  
acceptable in both scholarship and literary quality.

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## Abstract

This retrospective study investigated differences in engagement between adolescent inpatients aged 13 to 17 whose guardians were involved in their treatment to varying degrees. Specifically, this study examined differences between adolescents whose guardians were involved via in-person contact with staff versus communication with staff solely by telephone in percentage of groups attended, number of restraints, and number of prior hospitalizations. Additionally, unit privileges were examined qualitatively. Data were collected and analyzed from 51 charts at a Mid-Atlantic acute inpatient psychiatric facility. Hypotheses concerning guardian involvement were not supported. A significant relationship was found between number of restraints and percentage of groups attended. A simple regression analysis yielded significant results, with percentage of groups attended predicting number of restraints endured. A multiple linear regression analysis using number of restraints, number of prior hospitalizations, in-person involvement (coded yes/no), and length of stay as predictor variables, and percentage of groups attended as the criterion variable yielded significant results, indicating that using a combination of these predictors is better than using the means of each. This multiple regression also found that number of restraints was the only significant predictor of percentage of groups attended. The inverse relationship between number of restraints and percentage of groups attended has implications for inpatient treatment, highlighting the importance of increasing engagement in group therapy, as well as considering other ways to involve patients at greater risk of restraint in treatment programming. Results are discussed in consideration of the recovery movement.

## Table of Contents

List of Tables .....	x
Chapter 1: Introduction .....	1
Statement of the Problem.....	1
Purpose of the Study .....	5
Chapter 2: Literature Review.....	7
Prevalence of Adolescent Mental Disorders.....	7
Family context and mental disorder prevalence .....	11
Adolescent Mental Health Treatment Options .....	12
Level of care .....	13
Inpatient versus residential treatment .....	15
United States Inpatient Facility Prevalence Data.....	17
Inpatient Treatment Modalities.....	20
Cognitive behavior therapy.....	21
Inpatient group therapy .....	23
Inpatient group cognitive therapy .....	23
Obstacles to inpatient group therapy.....	24
The recovery model .....	25
Considerations with implementing recovery practices .....	28
Recovery-oriented CT/CBT.....	29
Youth Inpatient Treatment Outcomes.....	29
Youth Inpatient Treatment Satisfaction.....	30
Rehospitalization.....	31

Family involvement and rehospitalization.....	33
Restraint and Seclusion.....	34
Unit Privileges .....	36
Patient Engagement .....	38
Fluctuations in engagement .....	42
Barriers to engagement .....	43
Improving engagement .....	46
Family/Guardian Involvement.....	48
Barriers to family involvement.....	52
Rationale for the Present Study.....	55
Chapter 3: Method .....	56
Participants.....	56
Exclusion criteria .....	56
Design .....	56
Design justification .....	57
Design considerations .....	57
Measures .....	58
Setting and Apparatus .....	58
Procedure .....	61
Chapter 4: Hypotheses .....	63
Hypotheses.....	63
Rationale for Hypotheses.....	64
Chapter 5: Results.....	65

Demographic Analysis.....	65
Correlational Analysis .....	66
Analysis of Hypotheses.....	72
Additional Analyses.....	79
Qualitative Analysis.....	81
Chapter 6: Discussion .....	84
Implications of Findings .....	84
Study Limitations.....	87
Future Directions .....	91
Charting Strengths, Limitations, and Recommendations .....	92
Relevance of this Study to the Theory and Practice of Psychology .....	96
Conclusion .....	97
References.....	98

## List of Tables

Table 1. Frequency Table: Length of Stay.....	67
Table 2. Frequency Table: Number of Prior Hospitalizations.....	68
Table 3. Frequency Table: Percentage of Groups Attended.....	69
Table 4. Frequency Table: Number of Restraints.....	70
Table 5. Descriptive Statistics.....	70
Table 6. Pearson's Correlations.....	71
Table 7. Simple Regression: Model Summary.....	73
Table 8. Simple Regression: ANOVA.....	73
Table 9. Independent Samples T-Test (In-Person Contact [IV] and Percentage of Groups Attended).....	75
Table 10. T-Test Descriptive Statistics for In-Person Contact (IV) and Percentage of Groups Attended (DV).....	75
Table 11. Independent Samples T-Test (In-Person Contact [IV] and Number of Restraints [DV]).....	76
Table 12. T-Test Descriptive Statistics for In-Person Contact (IV) and Number of Restraints (DV).....	76
Table 13. T-Test Descriptive Statistics for In-Person Contact (IV) and Number of Prior Hospitalizations (DV).....	78
Table 14. Independent Samples T-Test (In-Person Contact [IV] and Number of Prior Hospitalizations [DV]).....	78
Table 15. Multiple Linear Regression Analysis: Model Summary.....	80
Table 16. Multiple Linear Regression: ANOVA.....	80

Table 17. Coefficients ..... 81

## **Chapter 1: Introduction**

### **Statement of the Problem**

Since the 1970s, inpatient psychiatric hospitalizations for children and adolescents have increased concurrently with knowledge and research about child and adolescent mental health issues (Blanz & Schmidt, 2000). In the approximately 40 years since child and adolescent inpatient hospitalization became a more common choice for treatment, there have been vast changes to the mental health care system in the United States (Brinkmeyer, Eyberg, Nguyen, & Adams, 2004). For instance, the length of stay in inpatient facilities has decreased significantly because of numerous factors, including but not limited to increasing costs of inpatient care and changes in healthcare insurance, such as the advent of health maintenance organizations (HMOs) and Medicaid (Blanz & Schmidt, 2000; Jemerin & Philips, 1988). As a result of these changes, the norm for inpatient treatment has shifted toward crisis stabilization and acute care, resulting in shorter lengths of hospitalization and subsequent referral recommendations to outpatient treatment facilities (Blanz & Schmidt, 2000). Studies have shown marked decreases in average lengths of hospital stays for youths since 1991, which continue to decline currently, though not as rapidly (Meagher, Rajan, Wyshak, & Goldstein, 2013). Additionally, those who enter into inpatient psychiatric care tend to have more severe mental health problems (Blanz & Schmidt, 2000), which may relate to rehospitalizations becoming a common theme among adolescents admitted into inpatient care (Pottick, Hansell, Gutterman, & White, 1995). With the prevalence of adolescent mental disorders

being as high as 20% of the United States adolescent population (World Health Organization [WHO], 2011), it is evident that a greater understanding of mental health treatment at all levels of care, including inpatient hospitalization, may allow services to evolve to become as helpful to adolescents as possible.

Studies have shown that family functioning and involvement relate to improved treatment outcomes for youths in inpatient psychiatric care. For instance, among 90 participants admitted to inpatient hospitalization for less than 30 days on average, the best predictors of successful treatment outcome were living with a family member at the time of hospitalization and having the family participate in treatment planning during the youth's hospitalization (Parmelee et al., 1995). Youths who did not live with a family member at the time of hospitalization or did not have family participate in treatment planning during hospitalization were less likely to have guardians engage in family therapy or parent training post-discharge, despite availability of these resources. These children had a higher risk for substance abuse and were less likely to engage in followed-up services after discharge (Parmelee et al., 1995).

Family involvement, also referred to as family participation or engagement, has been operationalized by researchers in various ways, such as being involved in a youth's treatment planning during hospitalization (e.g., Parmelee et al., 1995), being present for family therapy twice per week and attending treatment team meetings three hours per day for three days per week (e.g., Dickerson Mayes, Calhoun, Krecko, Vesell, & Hu, 2001), and family intervention as a component of youth inpatient treatment (e.g., Prentice-Dunn et al., 1981). In research on adolescent inpatient treatment, family involvement has referred to parental involvement (e.g., Prentice-Dunn et al., 1981) and as involvement of

parents or other unspecified family member or members (e.g., Parmelee et al., 1995). Research has found that family involvement during adolescent inpatient hospitalization, including family therapy sessions during hospitalization, improves treatment effectiveness (e.g., Dickerson-Mayes et al., 2001). Regardless, the status quo of many inpatient facilities continues to include minimal family involvement, despite some families wanting to be more included in treatment (Heru & Berman, 2008; Regan, Curtin, & Vorderer, 2006). One study indicated that only 3 of 12 families believed they were included in treatment planning during a family member's hospitalization, despite being expected to be involved in aftercare (Jubb & Shanley, 2002). Conversely, many inpatient staff members equate family involvement with family members expressing anger or distress rather than becoming involved in positive, treatment-focused ways (Heru & Berman, 2008). Examining the potentially positive influences of involvement of youths' legal guardians, including its possible effect on numbers of restraints endured, percentage of therapy groups attended, and number of prior hospitalizations experienced, may help clarify the benefits of involving families in inpatient care.

Overall, there have been mixed results in the research on the impact of family functioning and family involvement on adolescent inpatient treatment outcomes. For instance, in one review, it was found that several variables related to family functioning and involvement impacted children's and adolescents' responses to inpatient and residential treatment (Pfeiffer & Strzelecki, 1990). Family variables that related to treatment outcomes among 34 studies included overall family functioning, degree of marital conflict, frequency of separations from parents or guardians, family involvement in treatment, and the level of parental denial, whereas family variables found to be

unrelated to outcome included parent psychopathology, family participation in treatment, and intrafamilial stress (Pfeiffer & Strzelecki, 1990). It is interesting to note the inconsistency in the results of studies that have examined the effects of family involvement on treatment outcome. One of the studies reviewed by Pfeiffer & Strzelecki (1990) found family involvement in treatment improved treatment outcome (Prentice-Dunn, Wilson, & Lyman, 1981), whereas another study in the same review found no relationship between these variables (Davids & Salvatore, 1976, as cited in Pfeiffer & Strzelecki, 1990). Participants in both studies in the aforementioned review (Pfeiffer & Strzelecki, 1990) attended residential and day program treatment rather than inpatient treatment, with an average length of stay of one year, which is inconsistent with current trends in acute inpatient length of stay (Blanz & Schmidt, 2000). Conversely, a study that included a mean inpatient stay of 14 days found no effect of family functioning on treatment outcome (Dickerson Mayes et al., 2001). Further, another study that examined satisfaction and engagement in inpatient treatment among youths admitted in short-term inpatient care with a median stay of six days found that, overall, family engagement related to parental satisfaction with treatment; however, parental satisfaction related to parents' participation in treatment rather than youths' participation in treatment (Brinkmeyer et al., 2004).

Patient engagement has also been defined in numerous ways. Engagement may include attending sessions (e.g., McKay, Stoewe, McCadam, & Gonzales, 1998) or may involve more active participation, such as participating within and between sessions (e.g., Cunningham & Henggeler, 1999; Hansen & Warner, 1994). In addition, engagement has been proposed to include being invested emotionally in the process of treatment (e.g.,

Staudt, 2007). Group therapy is a common component of adolescent inpatient treatment, and patient engagement in group therapy is pivotal (e.g., Freeman, Schrod, Gilson, & Ludgate, 1993; Yalom & Leszcz, 2005). Family involvement may impact youths' willingness to be engaged in inpatient treatment, and appears important for successful treatment outcome (Kroll & Green, 1997). The relationship between adolescent treatment engagement and family involvement relates indirectly to the changing emphasis in mental health care on the recovery movement, which values patient autonomy in conjunction with family and community support (Le Boutilier et al., 2011).

### **Purpose of the Study**

Much of the literature on adolescent engagement in inpatient psychiatric treatment focuses on family functioning prior to hospitalization (e.g., Green et al., 2001) or family involvement as it relates to post-discharge outcome (e.g., Parmelee et al., 1995). Little research has examined engagement during inpatient treatment, operationalized in the present study as the percentage of group therapy sessions that an adolescent in an inpatient psychiatric hospital has attended without complete withdrawal from the group (e.g., sleeping or engaging in disruptive behaviors repeatedly). Moreover, the relationship between group therapy engagement and family involvement during treatment has not been explored. The primary purpose of this study is to gain a better understanding of the effect that family involvement has on adolescents' engagement in treatment. This study sought to explore whether the type of guardian involvement (i.e., in-person, telephone only, no contact) affects patient group therapy participation differently. Further, this study sought to examine whether guardian involvement also has an effect on adolescent inpatients' behaviors in ways that go beyond attendance in group

therapy but also relate to overall engagement, including the number of restraints or mandatory seclusions that adolescents experience and the number of unit privileges bestowed. Finally, this study sought to discern the relationship between different types of guardian involvement and the number of prior hospitalizations that adolescents have had. A better understanding of the effects of guardian involvement in consideration of the type of involvement (e.g., in-person, telephone only, none) may help inpatient facilities formulate treatment goals for adolescents that consider the most efficient but beneficial use of adolescents' and their families' time.

## Chapter 2: Literature Review

Psychiatric disorders in adolescence are a serious concern in the United States, as evidenced by prevalence data that suggest not only high percentages of adolescents experiencing mental illness (e.g., WHO, 2011), but also data that describe many adult disorders developing first in adolescence (e.g., Merikangas et al., 2010). Because of this, reviewing the literature on mental illness and treatment for adolescents is pivotal. Particularly, because managed care has changed the scope of adolescent inpatient treatment (e.g., Brinkmeyer et al., 2004), it is important to understand current treatment modalities (e.g., Bettmann & Jaspersen, 2004) and the milieu (e.g., Delaney & Fogg, 2005; Stern, 1970) within an inpatient setting. In addition, patient engagement (e.g., Staudt, 2007) and family involvement (e.g., Israel, Thomsen, Langeveld, & Stormark, 2004) are integral components in comprehending adolescent mental illness and its treatment. Understanding these components may serve as a tool for amending the current state of adolescent inpatient psychiatric treatment to become more effective and efficient.

### Prevalence of Adolescent Mental Disorders

Numerous mental illnesses prevalent in adulthood often begin developing during adolescence (Merikangas et al., 2010). Moreover, prevalence rates of mental disorders in adolescents closely approximate those of adults (Merikangas et al., 2010). As many as 20% of adolescents will experience a mental health problem in a given year (WHO, 2011), and approximately 5% will experience extreme functional impairment (Satcher, 2000). Thus, it is important to understand the prevalence, in adolescence, of disorders found in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)*; American Psychiatric Association [APA], 2000). Researchers in one

longitudinal, multi-cohort study composed of three cohorts of children aged 9, 11, and 13 in western North Carolina interviewed participants using the Child and Adolescent Psychiatric Assessment (CAPA) until age 16 (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003). This study found that the overall prevalence of any mental illness was highest among 9-year-olds, lowest among 12-year-olds, and then rose again as children became teenagers. During the course of the study, 36.7% of the 1,420 participants experienced at least one psychiatric disorder, and both homotypic continuity and heterotypic continuity were significant (Costello et al., 2003). Homotypic continuity, or having the same disorder over time, was significant for all disorders except specific phobia, whereas heterotypic continuity, or continuity from one diagnosis to a second diagnosis, was significant from depression to anxiety, anxiety to depression, attention-deficit-hyperactivity disorder (ADHD) to oppositional defiant disorder (ODD), and anxiety and conduct disorder to substance abuse. Additionally, heterotypic continuity was found more frequently in females (Costello et al., 2003). This study found that at least 66.67% of adolescents will experience one or more mental illness by age 16, and the risk of developing a mental illness by age 16 is exacerbated by having had a diagnosis previously, especially for females (Costello et al., 2003).

Between February 2001 and January 2004, researchers conducted a survey of *DSM-IV* (APA, 2000) disorders among a representative sample of adolescents aged 13 through 17, with some participants turning 18 before the interview, entitled the National Comorbidity Survey Replication Adolescent Supplement (NCS-A; Kessler et al., 2009). This sample consisted of 10,123 children from homes included in the 2001-2003 National Comorbidity Replication (NCS-R) survey of adult mental disorders as well as from a

diverse (i.e., public, private, gifted, therapeutic) school-based sample (Kessler et al., 2009; Merikangas et al., 2010). Prior to the NCS-A, epidemiological studies relied primarily on regional samples or examined a limited range of mental illnesses, both of which limited generalizability (e.g., Costello et al., 2003; Kessler et al., 2012).

Therefore, findings from the NCS-A represent the first prevalence data on mental illnesses based on a nationally representative American adolescent sample (Merikangas et al., 2010). Nevertheless, findings from the NCS-A should be interpreted with caution, as the retrospective, self-report methodology lends itself to recall bias (Nock et al., 2013). It should be noted that this study did not include all psychiatric diagnoses. For instance, it did not examine psychotic or personality disorders (Merikangas et al., 2010; Nock et al., 2013).

For the NCS-A, trained assessors used a modified version of the WHO Composite International Diagnostic Interview (CIDI; Merikangas et al., 2010). In addition, one guardian of each participant was asked to complete a self-administered survey regarding his or her adolescent's mental health. From the CIDI, it was gleaned that the lifetime prevalence of adolescents experiencing a mood disorder was 14.3%, with females being twice as likely as males to experience unipolar mood disorders and slightly more likely to experience bipolar disorders. The prevalence of mood disorders was found to increase with age. Additionally, 11.2% of the sample experienced severe mood disorders. High severity in the NCS-A was operationally defined as endorsing "a lot" or "extreme" impairment in daily activities, or "severe" or "very severe" distress. Being labeled as having a severe emotional disorder required severe distress and severe impairment, and being labeled as having a severe behavior disorder required symptom endorsement by

both the participant and his or her guardian (Merikangas et al., 2010). In addition to mood disorders, it was found that 31.9% of adolescents met criteria for an anxiety disorder, with females more likely to have experienced all anxiety disorder subtypes. The prevalence of posttraumatic stress disorder, panic disorder, social phobia, and generalized anxiety disorder increased modestly with age. Further, 8.3% of the sample experienced what was operationalized as severe anxiety. In addition, 8.7% of the sample met criteria for ADHD, which included three times as many males as females.

Approximately half of those ADHD endorsements were considered severe (4.2% of the sample). Other diagnoses represented in the sample included ODD (12.6% total, with 6.5% considered severe), conduct disorder (6.8% total, with 2.2% considered severe), and eating disorders (2.7% total, with diagnosis occurring twice as often in females and increasing modestly with age). Moreover, 11.4% of the sample experienced substance use disorders, with 8.9% meeting criteria for drug abuse or dependence and 6.4% meeting criteria for alcohol abuse or dependence. Substance use disorders were found to be more frequent in males and increased with age (Merikangas et al., 2010).

Altogether, nearly half (49.5%) of the sample was affected by at least one disorder, 27.6% of the sample had severe impairment, and 22.2% endorsed substance use disorders solely. Additionally, 40% of those who met criteria for one class of disorders also met criteria for an additional class of disorders, regardless of sex. The prevalence of comorbidity increased strongly with age. Slightly more than half (58%) of affected adolescents met criteria for disorders from only one class of disorders, most commonly anxiety disorders; nearly one-quarter (24%) of adolescents met criteria for disorders from two separate classes; 11% met criteria for three classes of disorders; and 7% met criteria

for four or five classes of disorders (Merikangas et al., 2010). Limitations of this study include the cross-sectional design, which does not allow for chronological ordering of mental disorders and does not include information on presumed risk or protective factors, and the retrospective adolescent self-report used in this study, which is susceptible to biases (Merikangas et al., 2010). Nonetheless, half of the disorders reported in the survey had an onset by age 6 for anxiety disorders, age 11 for behavior disorders, age 13 for mood disorders, and age 15 for substance use disorders (Merikangas et al., 2010). Aside from lifetime prevalence of acquiring a mental disorder, the NCS-A found that prevalence estimates are 40.3% at 12 months and 23.4% at one month, with 30-day and 12-month prevalence ratios being higher for anxiety and behavior disorders than for mood and substance disorders (Kessler et al., 2012). This suggests that anxiety and behavior disorders may be more chronic (Kessler et al., 2012).

In summary, it is evident that the lifetime and shorter-term prevalence rates of mental illnesses for adolescents are quite high (Kessler et al., 2012; Merikangas et al., 2010). For many disorders, prevalence increases with age (Merikangas et al., 2010). Moreover, many adolescents experience considerably severe mental disorders (Merikangas et al., 2010). The percentage of adolescents experiencing mental illness raises numerous questions, including questions about the family's role within the context of youth mental illness. Therefore, it is important to consider the role of family in the onset and maintenance of mental disorders in adolescents.

**Family context and mental disorder prevalence.** Family context has been found to relate to lifetime prevalence of mental disorders in a number of respects. The NCS-A found that lifetime prevalence rates of anxiety disorders, substance use disorders,

and behavior disorders were higher for participants whose parents were divorced or separated, and rates of mood disorders were lower for adolescents with never-married parents compared to currently married or cohabitating parents (Merikangas et al., 2010). Parental socioeconomic status (SES) and urbanicity were not associated with the lifetime prevalence of any class of mental disorder; however, parental education level was associated with adolescent mental illness prevalence, in that adolescents whose parents were not college graduates were more likely to be diagnosed with a mental illness from any of the disorder classes (Merikangas et al., 2010). Further, parental SES was found to be inversely related to 30-day and 12-month prevalence, but the NCS-A found no consistent effect of income when controlling for parental education level (Kessler et al., 2012). Finally, 30-day and 12-month prevalence was found to be inversely related to the number of biological parents or guardians living in the adolescents' household (Kessler et al., 2012). The specific ways in which family context may influence treatment are unclear, but it is evident that family functioning impacts treatment outcomes for youths in inpatient treatment (e.g., Parmelee et al., 1995).

### **Adolescent Mental Health Treatment Options**

When considering the treatment of psychiatric disorders in adolescence, there are a number of important parameters to consider. These include the necessary level of care, availability of treatment options, and the type of treatment. Generally, psychiatric inpatient care has been shown to be an effective treatment modality for adolescents (e.g., Sourander & Leijala, 2002). Nevertheless, numerous factors are important to consider in the context of inpatient care, including rehospitalizations (e.g., Arnold et al., 2003),

restraint and seclusion (e.g., Delaney & Fogg, 2005), and unit privileges (e.g., Bongar, 2002).

**Level of care.** Although level of care is not a variable being examined in the present study, it is important to understand inpatient care in the overarching context of mental health treatment. It has been long understood that the least restrictive level of care necessary to treat a patient should be the first line of treatment, with the option to increase level of care afforded as necessary (Tuma, 1989). It is commonly asserted that inpatient hospitalization is more restrictive than community-based outpatient treatment and should be considered an option for those who require a higher level of care than outpatient treatment facilities can provide (Pottick et al., 1995). For example, adolescents who are at a high risk of danger to self or others should, generally, be admitted into inpatient care (Mathai & Bourne, 2009), but the National Institute of Mental Health (NIMH) Child and Adolescent Service System Program has recommended that, when possible, adolescents live at home and attend outpatient treatment (Pottick et al., 1995). Nonetheless, in 1986, 30% of the 420,876 American adolescents aged 13 through 18 who received any type of mental health services received inpatient treatment specifically (Pottick et al., 1995).

Determining level of care has changed concurrently with societal changes. The introduction of psychotropic medications in the 1950s and 1960s, in addition to the advent of community-based treatment centers during the same time period, contributed to a reduced number of inpatient hospitals and hospital beds (Bowers, 1989). With these changes, the primary goal of inpatient treatment has evolved to encompass crisis stabilization and returning the patient to the community as quickly as possible (Bowers,

1989). Also during the 1950s and beyond, patients began to take a more active role in treatment, resulting in a more collaborative treatment atmosphere (Bowers, 1989).

Hospital stays were reduced further in the 1970s and 1980s, decades in which there were advances in antipsychotic medications (Bowers, 1989).

Today, numerous factors relate to level of care. Studies have shown that diagnosis is associated significantly with the level of care an adolescent receives (e.g., Pottick et al., 1995). Specifically, adolescents with internalizing disorders, including but not limited to mood disorders, have been found to be approximately three times more likely to receive inpatient care than those with externalizing disorders, such as conduct disorder or substance abuse, and approximately five times more likely to receive inpatient care than those with residual disorders, whereas those with externalizing or residual disorders have been found more likely to receive outpatient treatment (Pottick et al., 1995). It should be noted, however, that this study included only primary diagnoses in statistical analyses. Treatment history is also related to level of care. For example, fewer than 6% of youths who were in outpatient care in 1986 had received inpatient care previously (Pottick et al., 1995). Finally, insurance coverage has been found to relate strongly to type of treatment received, with as many as 65% of youths in inpatient care covered by private insurance, contrasted with 24% of youths in outpatient care who have private insurance (Pottick et al., 1995). Conversely, 6% of youths in inpatient care have been found to pay privately (i.e., out-of-pocket), whereas 33% of youths in outpatient treatment pay privately. Indeed, private insurance coverage was found to be a more important factor than diagnosis, treatment history, and social factors in determining level of care (Pottick et al., 1995).

Length of stay relates indirectly to level of care. One study found that, of 157 patients with a mean age of 15.12 years, the median length of stay was six days (Mathai & Bourne, 2009). Of these patients, 96.2% had voluntary admissions, but the Department of Human Services (DHS) was involved in 34.4% of patient admissions and police were involved in 2.6% of patient admissions. The most common reason for admission was parent-child relationship problems (82.5%), followed by suicidal ideation (68.3%), borderline personality disorder (30.7%), and substance use (28.2%; Mathai & Bourne, 2009). Patients who had the longest length of stay were diagnosed with psychotic disorders and those with the shortest length of stay were admitted for reasons related to an acute crisis. Those in a crisis state stayed for approximately 24 to 48 hours. Twenty percent of admissions were rehospitalizations, and patients who were readmitted were found to have worse outcomes than those experiencing first-time hospitalizations, as measured by the Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA; Mathai & Bourne, 2009). Although this Australian study may have limited generalizability to the United States, it is notable that this particular inpatient unit appeared to contain and stabilize crisis situations, and that inpatient stays led to significant symptom reduction (Mathai & Bourne, 2009). Of similar importance to being aware of factors that influence level of care, it is useful to consider the differences between inpatient and residential treatment.

**Inpatient versus residential treatment.** Because much of the research regarding adolescent treatment outcomes includes participants from residential treatment facilities (RTFs) in lieu of more acute inpatient treatment settings, it is worth noting the differences of these settings. Inpatient hospitalization is considered a more intensive

form of care, as the child or adolescent is often in an acute state of distress or impairment and, as such, is removed from his or her environment and placed in a 24-hour inpatient setting for treatment and care (Tuma, 1989). While in an acute inpatient facility, a youth will receive one or more therapeutic treatment interventions, such as individual, group, or family therapy (Tuma, 1989) in addition to other treatment interventions, including medication stabilization and connection to outpatient services and resources. An inpatient psychiatric hospital must be licensed as a hospital, and in many cases accredited, and may be publicly- or privately-owned and operated (Tuma, 1989). Inpatient treatment may be short-term for acute crises, intermediate-term (60 days to two years), or long-term (Tuma, 1989).

In contrast, RTFs are not licensed as hospitals, but provide mental health treatment on a 24-hour basis to those who need intensive, though less restrictive, care (Tuma, 1989). In residential treatment, custodial care and milieu therapy, which provide education and continuous support for patients to develop social and educational skills while also processing patients' emotions and relational patterns, are common (Tuma, 1989). Often, however, the definitions of RTFs vary from study to study, and RTFs and inpatient hospitals rely frequently on highly similar psychotherapeutic treatment modalities (Bettmann & Jaspersen, 2009). Generally, they are differentiated primarily by treatment length, with RTFs having a more extended duration (Bettmann & Jaspersen, 2009). One meta-analysis reviewed the outcome literature on inpatient and residential treatment concomitantly and found that both settings have been effective treatment options. For example, these settings have been shown to lead to positive behavioral changes and improved social and family functioning (Bettmann & Jaspersen, 2009).

Additionally, individual patient characteristics and family engagement have been shown to influence treatment outcome (Bettmann & Jaspersen, 2009). Nevertheless, nonspecific definitions of RTFs, as well as undetailed overviews of treatment modalities in RTFs and inpatient facilities, have made it difficult to replicate findings (Bettmann & Jaspersen, 2009). Moreover, what constitutes success has not been operationalized in numerous outcome studies (Bettmann & Jaspersen, 2009).

Because of the similarities between inpatient and RTF treatment, data that describe gains made during RTF treatment are often fairly applicable to inpatient treatment, with one caveat: As today's inpatient treatment tends to be short in duration and focused primarily on crisis stabilization (Blanz & Schmidt, 2000), benefits found in many empirical studies regarding RTFs and older inpatient treatments may not generalize to the acute care that is now prominent. For this reason, understanding acute inpatient facility prevalence data specifically is useful.

### **United States Inpatient Facility Prevalence Data**

In recent decades, there have been numerous changes in inpatient mental health services (Brinkmeyer et al., 2004; Foley et al., 2006; Jemerin & Philips, 1988). As a whole, the number of mental health organizations increased between 1970 and 1998, and private inpatient psychiatric hospitals doubled in prevalence between 1970 and 1998; however, between 1998 and 2002, the number of private inpatient psychiatric hospitals declined by 27% (Foley et al., 2006). In addition, although there has been an overall increase in inpatient and residential treatment facilities since 1970, the number of 24-hour treatment centers reached its peak in 1994 and has decreased by 21% since then (Foley et al., 2006). Furthermore, the number of beds in inpatient and residential treatment

facilities has decreased markedly, from 524,878 in 1970 to 211,199 in 2002 (Foley et al., 2006). The closings of numerous public state hospitals are the primary source of this drop, as their beds represented 80% of all beds in 1970 and 27% of all beds in 2002 (Foley et al., 2006). Private psychiatric hospitals, non-Federal general hospitals with psychiatric units, and residential settings saw an increase in the number of beds between 1970 and 1990, but the number of private psychiatric hospital beds declined between 1998 and 2002 (Foley et al., 2006). These decreases are attributed to struggling hospital budgets, shifting responsibilities to the state level rather than federal level, and the increased use of managed care (Foley et al., 2006). Indeed, in 1998, 66% of all mental health organizations were part of at least one managed care network. At that time, managed care recipients represented 92% of non-federal general hospitals, 81% of private psychiatric hospitals, and 14% of state mental hospitals (Foley et al., 2006). Additionally, rising healthcare costs and increased occurrence of HMOs and public-funded health programs, such as Medicaid, have contributed to a decreased length of stay in inpatient psychiatric hospitals (Jemerin & Philips, 1988). Through programs such as Medicaid, funding is typically provided for shorter periods of time (Jemerin & Philips, 1988).

The aforementioned prevalence data relate to mental health organizations that serve all populations. Similarly, there have been declines in the availability of child and adolescent inpatient hospital beds (Geller & Biebel, 2006), length of stay for children and adolescents (Jemerin & Philips, 1988; Pottick, McAlpine, & Andelman, 2000), and number of mental health service providers available to youths (Satcher, 2000). In the 1994-1995 academic year, the median length of inpatient stay for American adolescents

aged 13 through 18 was eight days (Pottick et al., 2000). Additionally, as of 2006, only 15 states operated more than 50 state hospital beds for patients 20 years old and younger (Geller & Biebel, 2006). In Pennsylvania specifically, many adolescent units in state hospitals have been closed and replaced by private community-based mental health programs (Twedt, 2005, as cited in Geller & Biebel, 2006). Because of these changes, insurance companies have placed more stringent criteria on who is eligible for inpatient hospitalization, and those who are allotted insurance-covered days in an inpatient hospital tend to have higher levels of illness severity (Jemerin & Philips, 1988). Because of the decline in adolescent units and beds available, Pennsylvanian adolescents who were at the highest risk had been commonly sent to out-of-state facilities or detention centers between 1998 and 2000 (Twedt, 2005, as cited in Geller & Biebel, 2006).

The evolving nature of child and adolescent inpatient care is illustrated in an examination of patient records over time. One study reviewed data extracted from the charts of 223 children and adolescents aged 4 to 18 admitted to inpatient units in a general hospital for acute care in the years 1991, 1998, and 2008 to compare lengths of stay, diagnoses, and prescribed medications (Meagher et al., 2013). It was found that the average length of stay and number of comorbid disorders diagnosed for one patient decreased over each sample year, psychotic disorder diagnoses decreased between 1991 and 1998, trauma-related disorder diagnoses decreased between 1998 and 2008, and unipolar mood disorder diagnoses decreased in each sample year. Conversely, bipolar disorder diagnoses increased with sample year, non-trauma-related anxiety diagnoses increased between 1998 and 2008, the number of patients prescribed one or more medications increased in each sample year (most notably between 1991 and 1998), and

the frequency of rehospitalizations was greater in 1998 and 2008 than in 1991 (Meagher et al., 2013). These data paint a picture of a youth in 2008 and beyond with at least one mental disorder diagnosis who is prescribed more than one psychotropic medication, receives a limited amount of inpatient psychotherapeutic treatment because of a decreased length of stay, and likely experiences at least one subsequent rehospitalization. One interpretation of this data is that short hospital stays may not provide enough time for truly effective treatment. Another interpretation is that youths in inpatient care may not be receiving effective treatment in outpatient settings upon discharge, which leads to subsequent rehospitalizations (Meagher et al., 2013).

It is evident that there have been numerous changes in mental health services over time. Because of the high prevalence of youths experiencing mental illness (Merikangas et al., 2010) and suicidal behaviors (Nock et al., 2013), it is important to understand the efficacious and effective treatment modalities used in inpatient care. Furthermore, changes in treatment protocol (Pottick et al., 1995) and reduced length of stay (Mathai & Bourne, 2009) make the use of short-term, efficacious treatment all the more essential.

### **Inpatient Treatment Modalities**

A large proportion of federal funding allotted to mental health treatment is used for psychiatric hospitalization (Stuart, Wright, Thase, & Beck, 1997). Without insurance, the cost of inpatient psychiatric hospitalization can be quite high (Blanz & Schmidt, 2000). Moreover, trends in inpatient psychotherapy have changed over the decades in conjunction with the advent of managed health care, which requires use of psychotherapy modalities with outcomes that have been supported empirically (Bettmann & Jaspersen, 2009). As such, it is often the case that many interventions used with children and

adolescents have been adapted from empirically supported procedures used with adults, including but not limited to individual therapy, family therapy, group therapy, milieu therapy, crisis intervention, and psychopharmacological treatment (Tuma, 1989).

**Cognitive behavior therapy.** Although there are many forms of psychotherapy employed in psychiatric inpatient settings, in recent years there has been an emphasis placed on cost-effective and empirically supported medical and mental health treatment (Stuart et al., 1997). Cognitive behavior therapy (CBT), which is an empirically supported form of therapy that is structured, goal-oriented, and present-focused (Beck, 2011), has been adapted for inpatient settings (e.g., Stuart et al., 1997). Generally, CBT aims to critically examine the validity and utility of thoughts and beliefs as a means of improving mood and behaviors (Beck, 2011). One review explained that shorter hospital stays, as a requirement to receive reimbursement by managed care organizations, has been a major factor in the shift of treatment modalities in inpatient settings toward CBT (Stuart et al., 1997), as it is applied commonly as a time-limited form of psychotherapy (Beck, 2011). Because inpatient care today tends to be limited in duration, therapeutic treatment goals in inpatient settings frequently focus on reduction in intensity of the most debilitating symptoms, with the intent of referring the patient to an outpatient facility for continued treatment in a lower-level care setting upon discharge (Stuart et al., 1997). As such, inpatient-based CBT has been adapted to include psychosocial treatment as well as with an added goal of helping increase medication adherence (Stuart et al., 1997). Further, many inpatient facilities rely on group, family, or adjunctive CBT (e.g., working with an occupational or recreational therapist) in addition to or in lieu of individual CBT (Stuart et al., 1997).

Behavioral treatment strategies, which are important components of CBT, have been found to be efficient and cost-effective for use with inpatients who are experiencing depression (Hopko, Lejuez, LePage, Hopko, & McNeil, 2003). One such example is brief behavioral activation, which attempts to increase activity as a means of presenting a patient with positive consequences, with the intention of reducing depressive symptoms (Hopko et al., 2003). A pilot study found participants receiving behavioral activation treatment demonstrated significant decreases in depressive symptoms as measured by the Beck Depression Inventory II (BDI-II; Beck, 1996) in contrast to control participants receiving only supportive psychotherapy (Hopko et al., 2003).

Cognitive interventions are another critical component of CBT. Bowers (1989) reviewed advantages of using cognitive therapy (CT) with adolescents in inpatient care by describing Schrodtt and Wright's (1987) use of Beck's version of CT on an adolescent psychiatric unit. Specifically, the active, goal-oriented, present-focused nature of CT is a good fit for adolescents, and the collaborative problem-solving manner in which CT is engaged allows adolescents to reduce oppositional or destructive behavior consequently. In inpatient cognitive treatment, adolescents learn to examine their thoughts critically and to become more readily aware of alternative explanations. Simultaneously, adolescents develop psychosocial skills through experiences with peers and staff on the unit (Schrodtt & Wright, 1987, as cited in Bowers, 1989). CT with inpatient adolescents is most successful when guardians are an active part of treatment, as many dysfunctional beliefs held by adolescents may reflect family stressors or difficulties (Bowers, 1989). In addition to individual CT, this treatment has been used in inpatient group settings (e.g., Freeman et al., 1993).

**Inpatient group therapy.** One meta-analysis discovered a decrease in recent decades in inpatient group outcome research in the United States (Kösters, Burlingame, Nachtigall, & Strauss, 2006). Nevertheless, many inpatient institutions utilize group therapy as the primary psychotherapy treatment modality, and patients are typically placed into treatment groups automatically upon admission (Freeman et al., 1993). Acute inpatient therapy groups are common, and differ from outpatient therapy groups in a number of ways (Yalom, 1983, as cited in Yalom & Leszcz, 2005). Inpatient group therapy often involves an open-ended group which meets multiple times per week (Freeman et al., 1993). Rather than being its own entity, an inpatient therapy group is a part of the larger inpatient milieu (Yalom, 1983, as cited in Yalom & Leszcz, 2005). Yalom and Leszcz (2005) propose that inpatient groups are not designed to reduce psychiatric symptoms necessarily; rather, their purpose is to engage patients in the process of treatment, model the utility of communication, discern problems that may be worked on in individual therapy in or out of the hospital setting, decrease isolation, increase prosocial behaviors through supporting others, and placate anxiety related to being hospitalized. Inpatient group therapy sets the stage for ongoing treatment thereafter, acting as a model to guide patients toward wanting to continue seeking treatment after inpatient discharge (Yalom, 1983, as cited in Yalom & Leszcz, 2005).

***Inpatient group cognitive therapy.*** Inpatient group cognitive therapy (GCT), like individual CBT, is short-term and problem-focused (Freeman et al., 1993). It also focuses on the here-and-now (Freeman et al., 1993; Yalom & Leszcz, 2005). Inpatient GCT contains numerous CT/CBT principles, including providing members with psychoeducation, designing behavioral experiments to test the validity of maladaptive

automatic thoughts, modeling, and social skills building (Freeman et al., 1993). GCT serves many functions in an inpatient setting. For example, it helps patients become engaged in treatment by promoting self-control of thoughts, emotions, and behaviors, thereby countering prior implicit training to receive treatment passively in hospital-like settings (Freeman et al., 1993). As a result of fostering collaboration, helplessness and hopelessness may decrease (Freeman et al., 1993). In addition, inpatient GCT offers an opportunity for hospital staff to assess patients in a group setting, as a means of better discerning accurate diagnoses and noting characteristics that may not present themselves in one-on-one scenarios, such as displays of empathy (Freeman et al., 1993). Moreover, patients in inpatient GCT are able to foster a sense of universality and support with each other (Freeman et al., 1993). Likewise, inpatient group members can provide constructive, accurate feedback to one another (Freeman et al., 1993). Although there are obstacles to inpatient group therapy, the benefits are apparent.

*Obstacles to inpatient group therapy.* There are numerous considerations to be made concerning inpatient therapy groups. For instance, because graduate school curricula rarely include inpatient group therapy courses, training is limited on the topic (Yalom, 1983, as cited in Yalom & Leszcz, 2005). Often, psychiatric nurses or mental health technicians (MHTs) lead inpatient therapy groups rather than psychological staff. Aside from the program- and profession-related problems associated with inpatient groups, there are intrinsic difficulties that most acute inpatient facilities face when conducting groups: rapid turnover of patients and heterogeneity of psychopathology (Yalom, 1983, as cited in Yalom & Leszcz, 2005). Many patients may attend only between one and five group sessions in an inpatient setting, and two consecutive sessions

rarely include identical compositions of group members; therefore, open-ended groups are found most commonly in inpatient settings (Freeman et al., 1993). In addition, unlike outpatient groups, where patients tend to disperse following a session, inpatient group members inevitably spend time together outside of the group setting within the milieu of the unit. Further, group therapists often collaborate with other staff on the unit, which leads to potential confidentiality breaches (Yalom, 1983, as cited in Yalom & Leszcz, 2005). All of these roadblocks make the goals of inpatient group therapy different from their outpatient counterparts (Yalom, 1983, as cited in Yalom & Leszcz, 2005). Despite these obstacles, group therapy in inpatient settings is common (Freeman et al., 1993) and can be quite useful.

**The recovery model.** The recovery model refers to patients' positive experiences of hope, healing, empowerment, and support, as well as the particular services provided by recovery-oriented mental health staff (Warner, 2009). Recovery models aim to reduce negative perceptions of mental illness, thereby reducing stigma (Warner, 2009). This model was founded through the work of consumer activists, who emphasize empowerment, collaboration, and human rights, as well as through rehabilitation initiatives, which have striven for people with mental health problems to regain a sense of independence and identity through work and community, while keeping environmental factors in mind (Warner, 2009). The primary goal of recovery-oriented models is to improve and maintain as high of a level of functioning as a person is able (Warner, 2009). Indeed, one study found that patients who have been engaged in collaborative recovery models have observed changes in service delivery, including that they were encouraged to take responsibility for recovery, that collaboration with staff was increased, and that

encouragement to complete homework was increased (Marshall, Oades, & Crowe, 2009). Not only did patients detect these changes, but they reported that they valued them (Marshall et al., 2009).

One qualitative analysis examined 30 international publications related to the recovery model and recovery-oriented practice in order to discern themes in recovery literature (Le Boutillier et al., 2011). This analysis denoted a change in terminology of patients, noting a shift from “service user” to “person” (Le Boutillier et al., 2011), which implies the importance of viewing each patient as an individual rather than as a composition of symptoms, diagnoses, or services sought. Similarly, patients’ and families’ rights are respected within this framework, and advocacy for patient rights is a core component of recovery-oriented models (Le Boutillier et al., 2011). Patient individuality, autonomy, informed consent, and treatment planning collaboration are valued greatly in recovery models (Le Boutillier et al., 2011). Moreover, patient strengths and supports are emphasized (Le Boutillier et al., 2011). Recovery models attempt to increase access to services by operating outside of normal working hours, allowing for broader continuums of care (e.g., allowing people to leave and return to treatment as needed), and not excluding potential patients because of their characteristics, such as symptom presentation, substance use, or nonadherence (Le Boutillier et al., 2011). In addition, patients are treated holistically, taking into account and attempting to meet medical, physical, social, occupational, psychological, emotional, spiritual, and religious needs, with a focus on overall wellness (Le Boutillier et al., 2011). Another important theme found within recovery-oriented models involves social inclusion, with the notion that encouraging patients to become involved within their communities helps

to improve quality of life (Le Boutillier et al., 2011). Related to this is the theme of supporting patients in participating in meaningful occupations that are within their potential ability levels and take place in environments that offer workplace support via policies and philosophies (Le Boutillier et al., 2011). Recovery models also assert that everyone involved in a patient's life, such as the patient, the family or caregivers, and practitioners, should be involved in the ongoing commitment to quality of life improvement by monitoring mental health service provision diligently, including by having practitioners encourage patients to be involved with service development and evaluation (Le Boutillier et al., 2011).

A major priority of recovery models includes staff training, as clinicians' competencies in recovery-oriented practices and philosophy are crucial for their success (Le Boutillier et al., 2011). Moreover, staff development, including in areas of growth, independence, and wellness, is crucial, because staff should represent the values of the recovery-oriented community (Le Boutillier et al., 2011). In addition to clinicians, peer supporters (i.e., certified peer specialists) who are currently in recovery are invaluable members of the recovery-oriented community and model empowerment and recovery outcomes to current patients (Le Boutillier et al., 2011). Finally, patients themselves are seen as experts in their own circumstances; treating them as such instills hope and optimism in their recovery (Le Boutillier et al., 2011).

Themes found in recovery-oriented models were analyzed and grouped into four conceptual practice domains: promoting citizenship, organizational commitment, supporting personally-defined recovery, and working relationships (Le Boutillier et al., 2011). Promoting citizenship entails supporting patients to reenter into society in a

functional and meaningful manner (Le Boutillier et al., 2011). Organizational commitment refers to encouraging and supporting the work environment to adhere to the recovery-oriented culture (Le Boutillier et al., 2011). Supporting personally-defined recovery involves patient autonomy, informed consent, and peer support, as well as working under a strengths-focused, holistic philosophy (Le Boutillier et al., 2011). Indeed, informed choice was the most common theme found in the literature (Le Boutillier et al., 2011). Finally, working relationships refer to fostering atmospheres of genuine support between clinicians, patients, and patients' families or caregivers (Le Boutillier et al., 2011).

*Considerations with implementing recovery practices.* Although recovery-based treatment is laudable, there are concerns with its implementation, especially in inpatient psychiatric treatment (Storm & Edwards, 2013). This may relate to difficulties that arise when recovery principles do not align with hospital guidelines, when there is a mismatch in goals between service providers and consumer, or when equality between clinicians and patients is difficult to maintain in the hospital setting (Oeye, Bjelland, Skorpen, & Anderssen, 2009). Indeed, many patients believe that opportunities to share opinions in the decision-making process of treatment are scarce, whereas clinicians have viewed patients as being unmotivated to be involved (Storm & Davidson, 2013). In order for patients to be involved in treatment decisions, they must be prepared for and engaged in treatment meetings with clinicians (Storm & Davidson, 2010). Therefore, skills in effective communication with clinicians may be taught and encouraged in patients in inpatient treatment, thereby reducing these concerns (Storm & Davidson, 2010).

***Recovery-oriented CT/CBT.*** The recovery-oriented practices described above have been melded with the use of evidence-based treatment with the advent of recovery-oriented cognitive therapy (CT-R; Grant, Reisweber, Luther, Brinen, & Beck, 2013). CT-R uses techniques and interventions that are common to CBT, such as cognitive restructuring and skills training, while also incorporating the values of recovery, such as promoting hope, empowerment, and engagement in meaningful activity (Grant et al., 2013). Researchers have applied CT-R when treating people with chronic mental illness, such as schizophrenia (Grant et al., 2013). A useful CT-R strategy is to collaborate with patients not only on formulating personal goals, but also on delineating potential obstacles to these goals (Grant et al., 2013). Using CT/CBT in the context of recovery principles has been shown to promote hope and commitment, foster support from caregivers and loved ones, increase involvement in the community, restructure beliefs about oneself, manage symptoms, and help the person regain control of daily functioning (Grant et al., 2013). In the context of inpatient treatment, costs are cut as a result of promoting these skills, and rehospitalizations may be reduced (Grant et al., 2013).

### **Youth Inpatient Treatment Outcomes**

Overall, inpatient treatment has been found to be beneficial in reducing symptomology and improving youths' levels of functioning, especially for those with internalizing disturbances (e.g., Sourander & Leijala, 2002). Specifically, one study of 46 youths who were in inpatient care for the first time in a 12-month period with a mean stay of 33 days (standard deviation = 13 days) found that many patients showed improvement in functioning from admission to five-month and three-year follow-up

assessments (Sourander & Leijala, 2002). Nevertheless, many youths, especially those with severe psychiatric disorders, conduct problems, or antisocial characteristics, continue to experience high levels of symptom severity at follow-up assessments (Sourander & Leijala, 2002). Altogether, this study found that approximately 40% of patients had good outcomes, 30-40% had somewhat positive outcomes, and 20-30% had poor outcomes (Sourander & Leijala, 2002). These results highlight the model of crisis stabilization found commonly in inpatient hospitalization (Blanz & Schmidt, 2000), as well as draw attention to the importance of follow-up care and monitoring post-discharge (Sourander & Leijala, 2002).

Preadmission factors have been found to relate to treatment outcome among youths in psychiatric inpatient treatment. For example, one study found that patients' IQ, age, parental involvement, and living situation predicted behavioral improvement, and parental involvement, race, and IQ predicted academic improvement while hospitalized (Prentice-Dunn et al., 1981). Understanding potential risk and protective factors that relate to inpatient treatment outcome may help work toward ensuring that patients are satisfied with the treatment they receive.

### **Youth Inpatient Treatment Satisfaction**

Satisfaction measures have been used increasingly in inpatient mental health treatment facilities as an indicator of positive outcome, which helps guide efforts to improve treatment (Biering, 2010; Knox, Carey, Kim, & Marciniak, 2004) as well as assuage insurance companies (Kaplan, Busner, Chibnall, & Kang, 2001). Despite this, little is known about adolescent treatment satisfaction and its relationship to treatment outcome (Biering, 2010; Knox et al., 2004). Rather, youths' guardians' satisfaction

ratings are often reported in lieu of youths' satisfaction (Knox et al., 2004). When youth satisfaction ratings have been measured following inpatient treatment, youths have generally reported being satisfied with services (e.g., Kaplan et al., 2001; Marriage, Petrie, & Worling, 2001). Researchers have found that relationships exist between adolescent consumer satisfaction ratings and improvement of problems, as well as between satisfaction and perceived usefulness of discharge recommendations (Kaplan et al., 2001; Marriage et al., 2001). Further, satisfied youths tend to believe that their mental health problems improved during hospitalization, and would return to the facility in which they were treated as needed (Kaplan et al., 2001). In one study, high satisfaction ratings were given despite 28% of youths reporting abuse by staff on the satisfaction measure, meaning that flaws in treatment can occur despite high satisfaction ratings (Kaplan et al., 2001). Another study found that adolescent treatment satisfaction related to improvements in aggression level, whereas guardians' satisfaction was correlated with higher levels of aggression, indicating that patients' level of satisfaction may relate to how much improvement in their problems they experience and guardians' level of satisfaction may relate to how much help they believe their adolescent needs (Knox et al., 2004).

### **Rehospitalization**

Adolescent psychiatric hospital readmission is quite common (e.g., Arnold et al., 2003; Brinkmeyer et al., 2004; Pottick et al., 1995). For example, one study that consisted of 2,160 youths found that 34% of youths who were hospitalized had prior hospitalizations and 48% of those hospitalized had received other kinds of mental health services prior to their current inpatient hospitalizations (Pottick et al., 1995). In other

words, a child or adolescent who has had a prior hospitalization is approximately 4.65 times more likely to be rehospitalized, and a child or adolescent who has had prior mental health services other than hospitalization is approximately 2.5 times more likely to be hospitalized (Pottick et al., 1995). Another study found that by a nine-month follow-up after inpatient care, 32% of participants had been rehospitalized regardless of whether guardians rated youths as improved or unimproved (Brinkmeyer et al., 2004). Of those rehospitalized, 75% had been hospitalized prior to the index hospitalization (Brinkmeyer et al., 2004). Further, another examination found that as many as 43.89% of adolescents aged 14 to 19 are rehospitalized following an index hospitalization (Arnold et al., 2003). Of 180 participants, 18.9% were rehospitalized by six months, 32.7% by two years, and 48.5% by 10 years post-discharge. Additionally, 9% of participants were rehospitalized twice, 7% were rehospitalized thrice, and 7% were hospitalized four or more times (Arnold et al., 2003). Of these participants, 73% received outpatient treatment within six months of the index hospitalization and 92% received outpatient treatment over the course of the entire longitudinal study (Arnold et al., 2003). Younger age and affective disorder diagnosis have been found to be predictive of rehospitalization (Arnold et al., 2003). It should be noted, however, that this study's data came from a primarily Caucasian sample (90%) in a single inpatient facility, which may limit the generalizability of these results (Arnold et al., 2003). Additionally, this study did not examine symptom severity or insurance coverage in relation to rehospitalization rate (Arnold et al., 2003). Finally, the rehospitalization data referenced came from youths hospitalized in the 1990s (e.g., Arnold et al., 2003; Brinkmeyer et al., 2004; Pottick et al., 1995). Changes have accrued in continuity of care, length of stay, and insurance

coverage since that decade (Arnold et al., 2003). Nevertheless, rehospitalizations are common (e.g., Brinkmeyer et al., 2004), and the family involvement plays a role in this (Russo et al., 1997).

**Family involvement and rehospitalization.** Lack of family involvement via contact with the patient has been found to predict rehospitalization (e.g., Russo et al., 1997). One study of 1,053 adults with a mean age of 35.9 (standard deviation of 11.7 years) involved in voluntary or involuntary inpatient treatment at an inpatient facility in Seattle for a mean stay of 14.4 days (standard deviation of 10.3 days) between June 1994 and December 1995 found that rehospitalizations were correlated with fewer visits from family and friends ( $r = -.11, p < .001$ ); other predictors included being treated in an open unit, prior hospitalizations previous to the index hospitalization, comorbid substance use disorder diagnosis, higher levels of self-reported insight into psychiatric diagnosis at admission, and less global life satisfaction at admission (Russo et al., 1997).

Interestingly, this study also found that having more pre-admission contact with family members was correlated with longer lengths of stay (Russo et al., 1997). This may be interpreted in at least two ways: Patients with close family relationships may have family members who advocate for longer inpatient stays, or these patients may be dependent on their families at the detriment of social competence, thereby requiring a longer inpatient stay in order to acclimate to interactions with non-family members within the facility (Russo et al., 1997). It should be noted, however, that the number of predictors being examined in this study may have led to finding significant results by chance (Russo et al., 1997). Further, this study relied solely on patient self-reports (Russo et al., 1997), which may have led to participant bias. Finally, this study consisted of patients primarily from a

low SES community who were being treated at a single public inpatient hospital, which may limit the generalizability of these findings (Russo et al., 1997). Relatedly, patients rehospitalized within six months of index hospitalization have been found to have less family involvement than those who were not rehospitalized within six months (Lyons et al., 1997). It should be noted, however, that this study did not define family involvement operationally. Nevertheless, families are likely to judge effectiveness of adolescent inpatient treatment in context of whether their youths require additional hospital stays. Therefore, rehospitalizations are an important factor to consider when conceptualizing inpatient treatment. Likewise, restraint and seclusion are elements of inpatient care that may shape patient engagement, making these variables worthy of examination.

### **Restraint and Seclusion**

The Centers for Medicare and Medicaid Services (CMS), formerly the Health Care Financing Administration (HCFA), defines restraint as restricting another person's movement or access to his or her own body; this may occur through use of an inanimate object (i.e., mechanical restraint), such as ambulatory wrist restraints or restraint sheets, by use of a staff member's body to hold another person (i.e., physical restraint or hold), or by use of drugs for disciplinary purposes (i.e., chemical restraint; CMS, 2006; HCFA, 1999, as cited in Busch & Shore, 2000). One retrospective study examined restraint use within four units in an adolescent inpatient facility in which staff were trained to use restraint only in situations deemed threatening to the patient or others, when less restrictive de-escalation strategies have failed (Delaney & Fogg, 2005). It was found that 57% of 100 participants were restrained one to two times and 12% were restrained three or more times during their admissions (Delaney & Fogg, 2005). The use of restraint was

significantly higher among males, those with longer inpatient stays or multiple admissions to the facility during the length of the study, those who verbalize suicidal ideation or made at least one suicide attempt, those involved in a special education program, and those involved in foster care or in custody of the Department of Children and Family Services (DCFS; Delaney & Fogg, 2005). Additionally, those diagnosed with a psychotic disorder were significantly more likely to be restrained (Delaney & Fogg, 2005). Restraints were used most often in situations involving patient agitation (63% of restraints), threats (73%), and assault (63%). Violence in the form of combative behavior, striking staff, hitting other patients, and kicking doors or windows, trying to elope from the unit, and actions precipitated by paranoia or other delusional thoughts were common immediately preceding restraint episodes (Delaney & Fogg, 2005). Restraint was more likely to occur at the beginning of inpatient stay and in the afternoon (Delaney & Fogg, 2005). Family configuration was not found to be associated with restraint; however, being in foster care or DCFS custody related to restraint, which may be interpreted as being related to having multiple or unstable caretakers or volatility in the family of origin (Delaney & Fogg, 2005). It should be noted that this study examined a single inpatient facility, and that restraint was not defined operationally (Delaney & Fogg, 2005).

In addition to restraint, another aspect of disciplinary action found in inpatient treatment facilities is the use of mandatory seclusion. The CMS defines seclusion as the act of confining a person involuntarily to an isolated room from which he or she cannot exit (HCFA, 1999, as cited in Busch & Shore, 2000). It has been found that children and adolescents who experience at least one episode of seclusion during inpatient stay have

elevated levels of psychopathology as compared to those who are never secluded (Gullick, McDermott, Stone, & Gibbon, 2005). Notably, one study found that those who experienced at least one instance of seclusion also had significantly more familial problems, as defined by primary caregiver self-reports of higher levels of mental health symptoms, higher reported levels of family dysfunction, and a greater number of stressful familial events in the year prior to inpatient stay, than those who did not endure seclusion (Gullick et al., 2005). It should be noted that this study relied on data from 70 youths in inpatient care (Gullick et al., 2005). Of those 70 youths, 86% were aged 13 or younger, 65.7% were males, and 55.7% were secluded more than once (Gullick et al., 2005).

Despite their necessity in some situations, it should be noted that restraint and seclusion have often been criticized as invasive and coercive (De Hert, Dirix, Demunter, & Correll, 2011). In some circumstances, the use of restraint or seclusion leads to negative consequences, such as escalation of physical violence of the person being restrained or secluded, or hindrance to the therapeutic alliance (De Hert et al., 2011). For this reason, understanding risk factors that relate to increased chances of restraint or seclusion is imperative. Conversely, being cognizant of privileges that a patient may receive is important, as it may impact treatment engagement and overall satisfaction.

### **Unit Privileges**

For decades, the use of privileges has been a common procedure within psychiatric hospitals or units (Stern, 1970). Historically, unit privileges have functioned as a means of assessing patient progress, including the ability to function relatively independently within the unit, as well as to determine the supposed level of sanity of a patient (i.e., those who receive many privileges had, in the past, been considered more

sane than those who had not; Stern, 1970). Privileges have been used to reward patients for complying with unit rules and participating in therapy sessions (Wolpe, Gorton, Serota, & Stanford, 1993). Nevertheless, there are advantages and disadvantages related to using privileges on an inpatient unit. Privileges may be beneficial because many patients appreciate the opportunity to earn rewards, and may even compete with others on the unit to achieve the greatest number of privileges (Stern, 1970). Likewise, seeing others receive privileges lends itself to vicarious reinforcement to engage in preferred behaviors on the unit (Stern, 1970). Additionally, granting patients privileges serves as a behavioral treatment in which rewards are used to reinforce behavior positively or negatively (Stern, 1970). Despite the benefits of privileges, some researchers deem the use of privileges to be a means of infantilizing patients (Stern, 1970).

Privileges should be discussed openly between patients and inpatient staff (Bongar, 2002). Patients who engage in suicidal thought and behavior on a psychiatric unit are at an increased risk of further suicidal behavior when there is disagreement over unit privileges (Bongar, 2002). Further, from a risk management standpoint, ensuring that the unit is a safe environment necessitates the need for the appropriate use of privileges, restrictions, and other precautions; however, it should be noted that risk management applies more fittingly to longer-term treatment facilities employing day or weekend passes as patient privileges (Bongar, 2002).

Associations have been found between privileges and adherence (Wolpe et al., 1993). Nonadherent patients have been found to lose privileges during their hospitalizations and be less likely to follow-through with aftercare plans post-discharge than patients who are adherent consistently (Wolpe et al., 1993). Nevertheless,

nonadherent patients have also been shown to be more likely to be given the highest level of privilege, such as weekend passes off-site, than those who are considered adherent consistently (Wolpe et al., 1993). These disjointed relationships suggest that those who are potentially nonadherent will demonstrate erratic behaviors, choosing sometimes to behave appropriately and receive privileges as a result and sometimes to behave inappropriately and have privileges taken away (Wolpe et al., 1993). The impact of restrictions and privileges may relate to patient engagement, in that those who are more engaged may be more strongly impacted by rewards and punishments than those who are uninterested in the treatment process.

### **Patient Engagement**

Engagement has been operationally defined in numerous ways within the literature. Much of the time, the term *engagement* has been used interchangeably with participation, adherence, or compliance (Staudt, 2007). In describing adolescent engagement specifically, McKay and Bannon (2004) reviewed studies that have defined engagement as a process that involves a youth being recognized by guardians, teachers, or others as having a mental health difficulty, addressing the youth's particular mental health needs, referring the youth to mental health resources, and resulting finally with the youth receiving mental health treatment (Laitinen-Krispijn, Van der Ende, Wierdsma, & Verhulst, 1999; Zwaanswijk, Van der Ende, Verhaak, Bensing, & Verhulst, 2003; Zwaanswijk, Verhaak, Bensing, van der Ende, & Verhulst, 2003). Another definition of engagement includes not only the process of initiation into treatment, but also continuous participation in treatment; however, both of these definitions relate more to attendance than to active participation (McKay, Stoewe, McCadam, & Gonzales, 1998). In many

inpatient settings, attendance is required and barriers to attendance, such as transportation, are removed inherently. Other studies have viewed engagement to include attendance, but also incorporate participating within sessions and completing homework between sessions (e.g., Cunningham & Henggeler, 1999; Hansen & Warner, 1994).

A useful and comprehensive way to define engagement is to codify the concept into two important subtypes: behavioral components and attitudinal components (Staudt, 2007). Behavioral components of engagement include any activity a patient performs that is deemed vital for treatment (Staudt, 2007). Attendance is merely one behavioral component of engagement (Staudt, 2007). Other behavioral components of engagement include participating in sessions such as by talking about relevant subject matter, sharing feelings, or practicing newly learned strategies, as well as by showing progress through behaviors outside of sessions, such as by completing homework or utilizing new skills between sessions (Staudt, 2007). Attitudinal components, on the other hand, involve the patient's investment and commitment to treatment, as well as the patient's belief that treatment will be useful (Staudt, 2007). This may include having a positive outlook about treatment and motivation to change (Staudt, 2007). Without both behavioral and attitudinal engagement, patients will not benefit from treatment fully (Staudt, 2007). This may be true even when patients are adherent to treatment recommendations, which is why it is useful to differentiate engagement from adherence or compliance (Staudt, 2007). In other words, a patient may attend all his or her sessions and complete homework between sessions, but if he or she is not invested attitudinally, success will be limited.

Motivation to change, which is a component of attitudinal engagement (Staudt, 2007), is vital for success in mental health treatment because it helps ensure that the patient remains in treatment rather than terminating early (Prochaska & DiClemente, 1982; Roedelof, Bongers, & van Nieuwenhuizen, 2013). Indeed, in addition to patient characteristics (e.g., age, IQ; Prentice-Dunn et al., 1981), an important precondition for success in psychotherapy includes the patient's positive expectations regarding treatment (Prochaska & DiClemente, 1982). For those who enter treatment voluntarily, expectations about treatment results are vital in order for a person to justify the expenditure of time, money, and energy attending treatment (Prochaska & DiClemente, 1982). Likewise, when expectations are not readily met, the patient may resign from treatment prematurely (Prochaska & DiClemente, 1982).

The groundbreaking work of Prochaska and DiClemente (1982) described a transtheoretical understanding of a person's level of motivation through a series of stages. Patients should be considered agents of change rather than therapists being the sole change mediator (Prochaska & DiClemente, 1982). It is important for the clinician not only to recognize the patient's current stage of change, but also to move at the same pace as the patient (Prochaska & DiClemente, 1982). Further, it has been hypothesized that adolescents' treatment engagement may be understood in the context of treatment readiness, which is associated with therapeutic involvement and session attributes (Broome, Joe, & Simpson, 2001). Treatment readiness is shaped by factors such as social support, family and peer deviance, neighborhood safety, presence of conduct disorder, family drug abuse, school problems, and legal history (Broome et al., 2001). Therefore, this motivational model suggests that background factors relate to engagement, in the

context of their relationship with treatment readiness (Broome et al., 2001). This model was supported by the Drug Abuse Treatment Outcome Studies for Adolescents (DATOS-A), which followed 1,732 adolescent patients in outpatient, inpatient, and residential treatment in four American cities between 1993 and 1995 (Broome et al., 2001). For short-term inpatient treatment particularly, the motivational model was found to be an acceptable fit, family and peer deviance were positively correlated with treatment readiness, and legal status was negatively correlated. Readiness, in turn, predicted therapeutic involvement via participating in sessions and other session attributes (e.g., number of sessions attended, number of pertinent topics discussed in sessions; Broome et al., 2001).

Adolescents' engagement relies not only on personal characteristics, but on familial aspects as well. Engagement in the therapeutic alliance is a major predictor of treatment outcome for adults involved in mental health care (Kroll & Green, 1997). As much of a youth's wellbeing depends on his or her guardians, family involvement may play a key role in the child alliance (Kroll & Green, 1997). The child alliance within inpatient psychiatric treatment has been conceptualized to include the child's or adolescent's relationship with therapists, other staff members, particular staff members who take on parental roles, peers, and guardians (Kroll & Green, 1997). Importantly, this alliance manifests itself within the youth's engagement with staff and peers, as well as in participation in therapeutic activities (Kroll & Green, 1997). Therefore, the child alliance also appears to be a vital ingredient in treatment engagement, and is impacted by the guardian alliance (Kroll & Green, 1997).

**Fluctuations in engagement.** Adolescents have been shown to be disengaged during treatment, drop out of treatment, or remain unimproved following treatment (Ferrin et al., 2012). One Dutch study sought to identify factors that relate to adolescent community-based treatment engagement (Roedelof et al., 2013). This study included 49 adolescents with a mean age of 18.3 years who had severe psychiatric disorders, which were not defined. Using an engagement rating scale, clinicians rated treatment engagement—including participation, making sacrifices, openness, efforts to change, focus on treatment goals, socioeconomic improvement efforts, constructive use of sessions, practicing content of therapy between sessions, and a global evaluation of engagement after 6, 18, 30, 42, and 54 weeks of treatment. Of these patients, 10 were found to have low engagement, 20 were found to have medium engagement, and 19 were found to have high engagement as defined by their global evaluation of treatment engagement scores (Roedelof et al., 2013). Significantly more low engagers were males (90%), contrasted with 45% medium engagers and 31.6% high engagers being males. Similarly, significantly more adolescents with substance dependence were low engagers. Expectedly, those with low engagement scores were also rated as making the least amount of effort to engage during treatment; this was true for all measurement times except for 30 weeks (Roedelof et al., 2013). Treatment outcome was defined as changes in global assessment of functioning (GAF) scores. Low engagers had significantly lower GAF scores at the end of treatment compared to medium and high engagers, despite all classes having equal GAF scores at the commencement of treatment. Further, low engagers' GAF scores decreased from start to finish of treatment, medium engagers' GAF scores remained stable over the course of treatment, and high engagers' GAF scores

increased over the course of treatment (Roedelof et al., 2013). Those with low engagement were identified reliably by six weeks, and were characterized as having severe psychiatric problems, continuing to engage in high-risk behaviors, avoidant of open and honest communication in sessions, indifferent toward treatment goals, and rejecting of advice or solutions in sessions (Roedelof et al., 2013). This is contrasted with high engagers, who tried consistently to change problem behaviors and were active participants in and out of sessions (Roedelof et al., 2013). Those who fell into the medium engagement class supported their therapy goals, but relied on clinicians to direct treatment planning and goal-focused behaviors (Roedelof et al., 2013). Interestingly, over the first four-and-a-half months of treatment, medium and high engagers showed the same level of engagement, but after six months, medium engagers began to look more similar to low engagers than to high engagers. Low engagers' level of engagement also fluctuated over time, with low engagement at the start and end of treatment but above-average engagement at 30 weeks. The fluctuating nature of engagement may be interpreted as meaning that motivation for engagement in treatment is a state rather than trait (Roedelof et al., 2013). The finding that motivation level can improve or fluctuate is important in an inpatient setting, where the amount of time for treatment is far less than it is in outpatient treatment: Knowing that an adolescent has low engagement early on can alert clinicians to alter treatment strategies in order to try to improve engagement rather than assuming that this adolescent is, characteristically, a low engager.

**Barriers to engagement.** There are many potential barriers to treatment engagement. For instance, adults with serious mental illness have reported reasons for disengagement; these include beliefs that treatment did not match their needs, inability to

trust clinicians, and beliefs that they were not ill. Conversely, service providers have cited lack of patient insight, stigma, and cultural barriers as reasons for patient disengagement (Smith, Easter, Pollock, Pope, & Wisdom, 2013). When adolescent patients or their families do not deem treatment to be relevant or perceive the demands of treatment to outweigh its potential benefits, they may end treatment prematurely (e.g., Kazdin, 2000; Kazdin, Holland, & Crowley, 1997). One study assessed perceived barriers to participation in 242 families of children with oppositional, aggressive, or antisocial behavior (Kazdin et al., 1997). Following assessment, children and guardians were randomly assigned to receive cognitive problem-solving skills training (PSST) for the child, parent management training (PMT), or both. Results showed that commonly perceived barriers to treatment participation included life stressors, obstacles that interfered with attendance, the belief that treatment was irrelevant, and the perception that relationship between the guardian and therapist was poor (Kazdin et al., 1997). Further, it was found that perceived barriers were significantly associated with dropping out of treatment prematurely. Perceived barriers were unrelated to family, guardian, or child characteristics that also predict premature termination (e.g., socioeconomic disadvantage, ethnicity, mother's age, number of parents in the household, adverse child-rearing practices, parental stress, child's severity of psychopathology), and those who were at high risk for dropping out on the basis of those characteristics were found to have an attenuated risk of early termination when fewer barriers were perceived (Kazdin et al., 1997).

In another study, 144 youths with conduct problems and their guardians were given measures to assess perceptions related to acceptability of treatment, barriers to

treatment participation, socioeconomic disadvantage, parent psychopathology and stress, severity of child psychopathology, and therapeutic change (Kazdin, 2000). Following assessment, children and guardians were randomly assigned to receive cognitive PSST for the child, PMT for parents, or both. It was found that perceived barriers to treatment participation in either type of treatment predicted child and guardian evaluations of treatment acceptability, with those who perceived many barriers viewing treatment as less acceptable. These results were found after controlling for socioeconomic disadvantage, guardian psychopathology and stress, and severity of child dysfunction (Kazdin, 2000). Overall, families vary in their perceptions of what constitutes a treatment barrier, but perceptions of the presence of barriers influence how they evaluate treatment acceptability (Kazdin, 2000). It is noteworthy that only a small relationship was found between therapeutic change and guardian evaluations of treatment acceptability (Kazdin, 2000). The aforementioned studies on perceived barriers' effects on premature termination (Kazdin, 2000; Kazdin et al., 1997) were conducted in outpatient settings, where attendance is a major behavioral component of engagement, but are important in consideration of inpatient settings when understood in the context of other kinds of behavioral and attitudinal components of engagement, such as those delineated by Staudt (2007).

As noted, a caregiver's or patient's beliefs about his or her mental health, the treatment, or the need for change; a negative patient-clinician relationship; or stressors such as family conflict or lack of social support may impede treatment engagement (Staudt, 2007). Educating patients and caregivers about the rationale for treatment, improving the therapeutic alliance, and addressing life stressors that affect patients and

caregivers may help mitigate engagement barriers (Staudt, 2007). It should also be noted that, sometimes, lack of full participation is not synonymous with lack of engagement: Other reasons for inability to participate fully, such as educational or practical barriers, should be assessed (Staudt, 2007). Once a patient's level of engagement is conceptualized, ways in which to improve upon engagement may be employed.

**Improving engagement.** Adolescence is a time of change and identity exploration (Green, Wisdom, Wolfe, & Firemark, 2012). Further, as youths begin to develop a sense of self-sufficiency in adolescence, the emergence of mental disorders during this pivotal time in development may make them reluctant to engage in treatment (Green et al., 2012). Therefore, it is important for clinicians to learn ways in which to improve treatment engagement. One exploratory study attempted this by asking experienced consumers of mental health services for recommendations for how to engage adolescents with serious mental health problems, such as psychotic and bipolar disorders, in treatment (Green et al., 2012). Consumers aged 16 to 84 years who were diagnosed with schizophrenia, schizoaffective disorder, affective psychosis, or bipolar disorder within the previous 12 months participated by responding to interviews four times over a two-year period. Interviews sought to determine factors that aided in or were barriers to treatment. Participants in all age groups described the importance of age and cultural sensitivity when treating adolescents, respect for adolescents as adults rather than treating them as children, understanding the dilemma of emerging independence in adolescence coupled with the reliance on guardians or other adults that is often necessary for adolescents facing mental health problems, treating adolescents as people rather than diagnoses to avoid stigma and shame, empathy and genuineness in interactions, and

creating a supportive and confidential environment where adolescents feel safe to share their problems (Green et al., 2012). Additionally, participants ages 30 and over noted that practitioners should strive to ensure accurate diagnoses and prescription of appropriate and agreed-upon medications, urge against alcohol and illicit drug use, avoid adolescent isolation (e.g., such as by reducing time spent using technology in lieu of having social interactions), utilize the unit for peer support, and involve the family as much as possible (Green et al., 2012). This study considered ways in which a clinician may improve adolescent treatment engagement. It is also important to recognize the effects that the family or guardians have on adolescent treatment engagement.

Overall, it seems apparent that treatment engagement—including behavioral and attitudinal components of engagement—is an important aspect of successful inpatient care (Staudt, 2007). Moreover, motivation, expectations regarding treatment success, and treatment readiness impact a patient's level of engagement and the likelihood of completing treatment successfully (Broome et al., 2001; Prochaska & DiClemente, 1982). A youth's alliance with the entire inpatient atmosphere is manifested in his or her engagement with the people and treatment activities on the unit (Kroll & Green, 1997). Therefore, adequate communication and collaboration between staff and guardians is pivotal (Kroll & Green, 1997). Because of the importance of engagement in treatment outcome, it is imperative to understand and mitigate the barriers to engagement, such as life stressors, obstacles that interfere with attendance, beliefs that treatment is irrelevant, and beliefs that the relationship between the guardian and therapist is poor (Kazdin et al., 1997). Because many youths are influenced by their families, particularly guardians,

examining adolescent engagement within the context of guardian involvement is warranted.

### **Family/Guardian Involvement**

Family functioning (weighted predictive value [WPV] = 0.70; Pfeiffer & Strzelecki, 1990) and family participation in aftercare treatment planning (Parmelee et al., 1995) have been found to impact child and adolescent treatment outcome in inpatient care. Conversely, disengaged family interaction has been found to relate to poor treatment outcomes (Brinkmeyer et al., 2004). It should be noted that studies have routinely used the terms *family* and *parent* or *guardian*, and *involvement*, *participation*, and *engagement* interchangeably. Results from such studies must also be scrutinized carefully because the average length of stay for many studies that examine the relationship between family and adolescent treatment outcome range from 35 to 61 days (e.g., Brinkmeyer et al., 2004; Parmelee et al., 1995), which does not represent the shorter lengths of stay more common currently (Brinkmeyer et al., 2004). Indeed, a study that included a mean inpatient stay of 14 days found no relationship between family functioning prior to admission and treatment progress or follow-up outcome; however, this study included a treatment component requiring guardians to work with their children and the treatment team at least three hours per week (Dickerson Mayes et al., 2001). Therefore, whereas family functioning was found to have no significant effect on outcome, family involvement may have played a role, as it was a pivotal treatment component. Altogether, the literature on family involvement and inpatient treatment effects for adolescents is lacking (Brinkmeyer et al., 2004).

Certain factors, including guardian involvement, predict behavioral improvement during hospitalization (Prentice-Dunn et al., 1981). For instance, it was found that, in addition to parental involvement, IQ, age, and living arrangement (e.g., whether the patient lives with his or her parents) predict behavioral improvement, and each of these factors was found to predict behavioral ratings independently of one another (Prentice-Dunn et al., 1981). It should be noted, however, that participants in this study were in inpatient care for approximately one year (Prentice-Dunn et al., 1981). Additionally, family involvement was not defined operationally, except for the implication in context that family involvement is synonymous with parental involvement. Nonetheless, this article points to the necessity of understanding individual differences in patients' and families' preadmission characteristics and their effects on treatment outcome (Prentice-Dunn et al., 1981).

Guardian involvement is a common component of adolescent psychiatric treatment (Israel et al., 2004). One study found that guardian consultations occurred as frequently as consultations with adolescent patients, which suggests that guardians were considered an essential component of adolescents' treatment (Israel et al., 2004). In this outpatient clinic, it was found that 27% of consultations with adolescent outpatients' guardians occurred via telephone and that therapists initiated 71% of parent contacts, suggesting that guardians are not always active in initiating communication with their children's clinicians despite becoming involved once they have been prompted (Israel et al., 2004). Although this study focused on outpatient treatment, the implication that parents are not always active in adolescent psychiatric treatment is relevant to the present study.

Overall, youths' level of psychological functioning improves significantly during inpatient hospitalization that includes guardian involvement as a core component of treatment (Dickerson Mayes et al., 2001). Nevertheless, despite improved functioning and less impairment immediately upon discharge, gains are not always fully maintained at one- and six-month follow-ups (Dickerson Mayes et al., 2001). Still, children in one study were significantly less impaired at follow-ups compared to at the time of admission despite being less improved at follow-ups compared to at the time of discharge (Dickerson Mayes et al., 2001). Further, gains present by one-month post hospitalization were still present at the six-month follow-up (Dickerson Mayes et al., 2001). In this study, individual and group psychotherapy, recreational therapy, and a three-and-a-half-hour school program were attended daily, and family therapy was attended twice per week by 110 children (mean age = 8.9) admitted to a child psychiatric unit for a median of 13 days (Dickerson Mayes et al., 2001). In addition, a parent support group was provided twice per week. Guardians were required to be involved in treatment for at least three hours per day, three days per week. This treatment program also relied on a token economy, time out, and medication as vital treatment components. Positive outcomes were evident for children who came from reportedly nurturing, stable, and secure homes as well as for those from unsatisfactory homes, indicating that removing a child from a negative home environment did not account for improved functioning (Dickerson Mayes et al., 2001). It should be noted that, as this treatment program consisted of numerous interventions including but not limited to mandatory family involvement, the effects of each component separately are unclear.

Guardian engagement has also been linked to consumer satisfaction. For example, one study examined the relationship between guardian engagement and consumer satisfaction among guardians of 47 youths between the ages of 7 and 17 (mean age: 13 years) in short term (median: six days) inpatient care (Brinkmeyer et al., 2004). Immediately prior to patient discharge, legal guardians completed questionnaires regarding demographic information, their children's behavior, and guardian satisfaction with inpatient treatment; guardians also completed questionnaires at a 9-month follow-up. In addition, psychiatry residents completed questionnaires assessing each family's engagement on the unit, including the patient's positive interactions and communication with staff and peers, participation in activities, the patient's hostile or aggressive behavior and escape attempts, the frequency of guardian visits, guardian attendance and open participation in family therapy sessions, and the level of guardian hostility toward staff (Brinkmeyer et al., 2004). This study found clinicians' ratings of guardian engagement correlated with guardians' ratings of satisfaction with their youths' treatment (Brinkmeyer et al., 2004). Hypotheses regarding a negative relationship between child engagement and externalizing behavior, as well as a relationship between family engagement and guardian satisfaction being lower in families with rehospitalized youths, were partially supported (Brinkmeyer et al., 2004). Further, families of children and adolescents that have been hospitalized prior to the index hospitalization were rated by clinicians as being less engaged in treatment, and guardians rated their level of satisfaction lower than those of youths hospitalized for the first time (Brinkmeyer et al., 2004). Although this study examined guardian satisfaction rather than patient satisfaction as associated with guardian engagement with adolescent inpatient treatment, it relates to

the present study in that guardians' satisfaction ratings may be impacted by patients' behaviors while hospitalized. Further, if guardians are dissatisfied with their children's treatment, they may become uninvolved, and guardian involvement has been shown to correlate with adolescent treatment outcomes (Pfeiffer & Strzelecki, 1990; Prentice-Dunn et al., 1981).

**Barriers to family involvement.** It is, to an extent, understandable that some families are not as willing as others to become involved actively with adolescent inpatient treatment. Historically, families have been blamed for family members' development of mental illness. For example, in previous decades, blaming terms such as *schizophrenic mother* justified removing patients from their homes and placing them into long-term inpatient facilities (Jubb & Shanley, 2002). Today, with briefer forms of inpatient care and less blatant blaming of families, responsibilities related to aftercare have been placed not only on the treatment team and community, but on the family (Jubb & Shanley, 2002). Despite this, many families' experiences with inpatient hospitalization for loved ones have been negative, and families' knowledge and expertise regarding inpatient family members' symptoms and family strengths have, at times, been ignored (Heru & Berman, 2008; Jubb & Shanley, 2002). Family members are not always perceived by hospital staff as the vital resources that they can be (Heru & Berman, 2008). There have been difficulties for families who wish to be involved in their relatives' treatment. Aside from families' relationships with inpatient staff, the limited timeline of inpatient treatment, as well as the changing laws governing insurance reimbursement, may serve as additional obstacles (Heru & Berman, 2008). Indeed, researchers have noted the status quo of family involvement in inpatient treatment involves a social worker contacting the

family once to obtain collateral data about the patient at the outset of treatment, and once more to inform the family of discharge plans; it has been considered extraordinary for social workers to invite family members to in-person meetings in order to gather a more robust patient history and allow clinicians to provide the family with psychoeducation and support (Heru & Berman, 2008). In many inpatient settings, it is rare for the family to meet with the treating physician unless urged from the social worker or clinician, or if family members pursue contact themselves (Heru & Berman, 2008).

One study examined reasons that some families do not feel involved in inpatient treatment. Families noted the reliance on the traditional medical model, the lack of recognition mental health professionals give family caregivers as useful members of the treatment team, poor verbal exchanges between staff and families, family members feeling ignored by mental health staff, the number of mental health care workers with whom family members must communicate in order to be involved in treatment, and staff blaming the family for the patient's mental health problems as barriers to family involvement (Jubb & Shanley, 2002). Overall, the experience of being a family member of a person receiving inpatient treatment can be daunting and confusing for someone who is not well-versed in the language of mental health and is unaccustomed to the inpatient treatment process (Jubb & Shanley, 2002). Family members may feel alienated when they are not provided with adequate information during their loved ones' inpatient stays (Jubb & Shanley, 2002).

Researchers have surveyed families in an attempt to better understand their experiences with an inpatient hospitalization of a loved one (Jubb & Shanley, 2002). For example, of 14 families who completed surveys, 57% reported receiving inadequate

information and education from inpatient staff regarding treatment protocols and hospital procedures. Additionally, 43% of families reported receiving inadequate information regarding their family members' mental disorders, noting incomplete and vague explanations and no information regarding the projected course of the illness. Moreover, 64% of families reported not having their legal rights explained. Approximately half of the responders reported that they were uninformed regarding the ways in which their family members' medications should relieve symptoms, and 75% reported that they were not informed about their family members' medications' potential side effects. In addition to believing that they are under-informed, 50% of families reported that they felt neglected emotionally by inpatient staff in that they did not receive sufficient emotional support from physicians, nurses, psychologists, and social workers. Responses to these surveys may indicate why only 21.43% of the participating families reported that they felt involved in treatment planning for their relatives. Indeed, one participating family member reported that as the length of inpatient stay for her family member increased, the amount of consultation between her and the hospital staff decreased. This lack of contact may relate to 29% of participants reporting that they were dissatisfied with staff contact and that staff members' attitudes needed improvement (Jubb & Shanley, 2002). The small sample size of this study is important to note. Nevertheless, this study points to the detrimental effects that may occur when staff members do not involve patients' families in the treatment process. Perhaps the lack of support and education from staff relate to why only 14 of 54 families returned their surveys.

In summary, patients' family members can potentially play a major role in inpatient psychiatric treatment. This involvement may come in the form of participation

in treatment planning (e.g., Parmelee et al., 1995), family visits (e.g., Russo et al., 1997), phone consultations (e.g., Israel et al., 2004), or family therapy sessions (e.g., Dickerson Mayes et al., 2001). For adolescents, parental involvement is a common component of treatment (Israel et al., 2004). Nevertheless, some parents and families desire inpatient staff to make more explicit efforts to involve them in the treatment process (Israel et al., 2004; Jubb & Shanley, 2002). In addition, adolescent treatment readiness, a key factor in treatment engagement, is impacted by family factors and support (Broome et al., 2001).

### **Rationale for the Present Study**

The literature on adolescent inpatient psychiatric treatment informs the present study. Because insurance companies have begun requiring inpatient facilities to place emphasis on cost-effective and empirically supported medical and mental health treatment (Stuart et al., 1997) and have begun to rely on patient satisfaction as a measure of outcome (Biering, 2010; Knox et al., 2004), and because patients have described the benefits of involving families in treatment (e.g., Green et al., 2012), it is worthwhile to scrutinize the benefits of guardian involvement on an adolescent inpatient psychiatric unit. Further, involvement of a patient's support system is a tenet of the recovery model (e.g., Le Boutillier et al., 2011), which is the treatment paradigm employed at the inpatient unit being examined in the present study. Indeed, this inpatient psychiatric hospital has begun attempting to incorporate family meetings into their adolescent unit programming. Discerning the differences between patient engagement, number of privileges, number of restraints, and number of prior hospitalizations between adolescents with guardians exhibiting different levels of involvement adds to the literature on adolescent inpatient treatment.

### Chapter 3: Method

#### Participants

Participants included a sample of  $N = 52$  charts of adolescents who were treated at an acute inpatient psychiatric hospital in the Mid-Atlantic region of the United States from May 1, 2014 through November 2, 2014. Participants' ages ranged from 13 to 17. Psychiatric diagnoses were varied and were not recorded for the purposes of this study. Some participants were first-time inpatients at this hospital, whereas others were hospitalized previously.

**Exclusion criteria.** Adolescents whose progress notes were incomplete or inadequate (e.g., the group therapist did not report whether the individual attended a group therapy session) and adolescents whose length of stay was for fewer than 72 hours would have been excluded, but neither of these issues arose in the charts reviewed. Additionally, any individual who did not have a parent or legal guardian reported in the chart was excluded, accounting for one excluded chart and bringing the total charts used in this study's analysis to  $N = 51$ . Aside from these exclusions, in keeping with recovery principles (e.g., Le Boutillier et al., 2011), no other exclusions were made.

#### Design

A retrospective, case-control, between-groups design was employed in order to deduce inferences about the effects of different types of guardian involvement on adolescent attendance to group therapy, privileges, number of restraints, and number of prior hospitalizations.

This study reviewed archival records to determine whether the type of parent or guardian involvement (i.e., in-person, telephone only, no contact) is associated with the

amount of adolescent inpatient engagement in treatment, as defined by the percentage of group therapy sessions attended without complete withdrawal (e.g., sleeping or engaging in disruptive behaviors repeatedly), number of patient restraints endured, and number of prior hospitalizations experienced. Privileges will be reviewed qualitatively based on narratives within the charts. This study included the use of archival data from May 1, 2014 through November 2, 2014.

**Design justification.** A retrospective, between-groups, case-control observational research design was selected for a number of reasons. First, this design allows for examination of a relatively small population in comparison to the general population (Kazdin, 2003) of all adolescents in inpatient care. Second, this design is an efficient choice due to the ability to examine archival records rather than follow participants prospectively (Kazdin, 2003). Similarly, the possibility of attrition is eliminated (Kazdin, 2003). In addition, a retrospective case-control design enables an investigation of variables' relationship patterns, as well as the degree and types of relationships among variables of interest (Kazdin, 2003); namely, the relationship between the type of guardian involvement and percentage of adolescent groups attended without complete withdrawal, number of restraints, and number of prior hospitalizations. Finally, despite inability to randomize participants, this study design may provide critical information regarding this population that would otherwise be unattainable (Kazdin, 2003).

**Design considerations.** Although this design's benefits appear to outweigh its costs, there are a number of notable considerations. For instance, a retrospective case-control design does not demonstrate causal relationships with absolute certainty. Rather,

hypotheses may be generated about causality and strengthened by ruling out other influences (Kazdin, 2003). Furthermore, sampling bias may affect generalizability, in that adolescent inpatients at this Mid-Atlantic inpatient psychiatric hospital may differ inherently from adolescent inpatients being treated in other institutions or regions. Nevertheless, a retrospective between-groups case-control study is useful to answer this study's research questions, as the design will identify relationships among multiple variables of interest, as well as delineate the magnitude of impact among the variables of interest (Kazdin, 2003).

### **Measures**

Measures selected for this study include archival data from patients' charts. Archival data included a review of the type of communication that guardians had with hospital staff regarding their adolescents (e.g., in-person, telephone only, or none), the percentage of group attendance without complete withdrawal, the number of restraints and seclusions that each participant endured, and the number of prior hospitalizations reported in the patients' charts. Additionally, privileges were reviewed qualitatively.

### **Setting and Apparatus**

Data for the present study were collected from adolescent inpatient charts at an inpatient psychiatric hospital in the Mid-Atlantic region of the United States. This hospital serves adolescents and adults. Treatment includes individual and group therapy with psychologists, psychology interns, psychology externs, social workers, expressive arts therapists, MHTs, and chaplains; family meetings with social workers and marriage and family therapy interns; and medication management with psychiatrists, psychiatry residents, and medical students. The inpatient facility is open seven days per week, 24

hours per day. Clinical staff members include psychiatrists, psychiatry residents, medical students, nurses, expressive arts therapists (e.g., recreational, movement, music, and art therapists), chaplains, social workers, social work interns, marriage-and-family therapy students, psychologists, postdoctoral psychology fellows, predoctoral psychology interns, and doctoral- and master's level practicum psychology students.

The Young Person Unit (i.e., adolescent unit) at this facility consists of 24 beds and serves all adolescents admitted to this hospital. The unit employs a point system as a means of bestowing privileges to patients who are behaving appropriately. When admitted, each adolescent begins with zero points and has the opportunity to earn up to 10 points every hour from wakeup until bedtime. Points are earned for three categories of behavior each hour: cooperation (i.e., the adolescent is following unit rules and directions or requires only one redirection before changing behavior appropriately), respect (i.e., using proper language and respecting others' property and space), and participation (i.e., attending all groups and participating in an appropriate and constructive way in consideration of level of functioning). Points cannot be taken away once they are earned, except in instances of physical or verbal aggression, which result automatically in losing all points earned that day and dropping to level 0. In cases of aggression, an adolescent is required to complete a written apology to the aggressed. In addition, when an adolescent experiences a mandatory time-out for poor behavior (e.g., yelling, cursing, or extreme disruption to unit activities), he or she loses the ability to earn points for that hour. Finally, automatic level drops occur when an adolescent trespasses into a peer's room; steals; disturbs the unit by being purposefully loud, waking up peers,

or disrupting groups and quiet times; or engages in horseplay that can lead to real fighting.

Points are used to gain new level statuses, each of which comprises more privileges. Additionally, extra points remaining after gaining a level change can be used in the point store. Points required at each level must be maintained in order to remain at that level. An adolescent begins at level 1 upon admission. At this level, bedtime is set at 9:00 p.m. Monday through Thursday and 9:30 p.m. Friday through Sunday. If an adolescent earns 150 points over two consecutive days, he or she will move up to level 2. There are new privileges incurred at level 2, including later bedtimes (9:30 p.m. Monday through Thursday and 10:00 p.m. Friday through Sunday) and the ability to give a staff member money to purchase something from the vending machine for him or her. In order to increase to level 3, the adolescent must earn 155 points for two consecutive days. At level 3, an adolescent is given a later bedtime (10:00 p.m. Monday through Thursday and 10:30 p.m. Friday through Sunday) and is permitted to walk to the vending machine precluding elopement precautions, with an additional privilege of going to the cafeteria for lunch on Wednesdays. To move to level 4, the highest possible privilege level, an adolescent must earn 162 points for two consecutive days as well as write a petition to gain level 4 status. At this level, an adolescent has the latest possible bedtime (10:30 p.m. Monday through Thursday and 11:00 p.m. Friday through Sunday); can walk to the vending machine; can eat lunch in the cafeteria on Mondays, Wednesdays, and Fridays; can order takeout on Mondays and Fridays; have an extra allotted time for telephone use; and has access to the "Level 4 Room," which is filled with games and activities.

**Procedure**

The investigator examined a retrospective sample of  $N = 52$  charts of adolescents who were hospitalized at a Mid-Atlantic inpatient psychiatric hospital from May 1, 2014 to November 2, 2014. In order to ensure random sampling, the investigator reviewed charts selected randomly by staff members of the hospital's medical records department, who were blind to the aims of this study. Participants' information was de-identified. The investigator examined progress notes written by group therapists in the adolescent unit of the hospital. The data retrieved were archival, and were collected originally by staff employed at the hospital, including group therapists, MHTs, social workers, and nurses. Because this study is retrospective, neither staff nor patients were aware of the study upon completion of progress notes. All of the data for this study were obtained from patient charts, with each chart being represented only once in the sample. From the charts, the investigator recorded the number of times each participant engaged in group therapy, operationally defined as the number of times the patient attended group therapy sessions and without complete withdrawal according to the group therapist's clinical judgment (i.e., sleeping; engaging in disruptive behaviors that were not redirectable after more than one attempt by the group facilitator, such as talking incessantly to peers in side conversations, refusal to follow instructions, making purposely vulgar or disrespectful comments, engaging in verbal or physical altercations, or using items in the room inappropriately; leaving group very early; or being dismissed by staff for poor behaviors). Each participant's number of restraints and number of prior hospitalizations were also obtained and recorded from these charts. Data concerning privileges and seclusions were explored in narratives within the chart (i.e., discharge summaries and shift summaries).

Additionally, the investigator reviewed social work notes recording the level of involvement of participants' guardians, operationally defined as the type of guardian contact with the hospital staff regarding their adolescents (i.e., at least one in-person meeting with staff, solely telephone contact with staff, or no contact with staff). With the exception of data gathered from one chart which was excluded from analysis, all data obtained from N = 51 charts by the investigator were inputted into the SPSS database.

### **Chapter 4: Hypotheses**

The purpose of this study was to ascertain the relationship between guardian involvement and a number of adolescent inpatient engagement variables, including percentage of groups attended without complete withdrawal, privileges, number of restraints, and number of prior hospitalizations. Adolescent participation, which is a component of treatment engagement (McKay et al., 1998), is defined operationally in the present study as the percentage of group therapy sessions an adolescent has attended without complete withdrawal. For the present study, family involvement is operationalized as the type of guardian contact (i.e., in-person, telephone only, none) with the hospital staff regarding their adolescents. Restraint and seclusion are defined operationally as CMS defines them (HCFA, 1999, as cited in Busch & Shore, 2000). Privileges are defined per this hospital's guidelines, as described above. Finally, prior hospitalizations are defined as any acute inpatient, RTF, or residential juvenile detention admission recorded in patients' charts.

#### **Hypotheses**

- Hypothesis I: It was hypothesized that adolescents in inpatient psychiatric treatment whose guardians participated in treatment via in-person contact with hospital staff regarding their adolescents would have significantly higher levels of the following: participation in group therapy, as measured by percentage of groups attended without complete withdrawal, and numbers of privileges granted on the unit compared to those whose guardians participated in treatment solely with telephone contact. Additionally, both in-person and telephone-only contact by guardians would include significantly higher levels of the aforementioned variables in comparison to

- adolescents whose guardians did not have contact with hospital staff after their adolescents were admitted into inpatient care.
- Hypothesis II: It is hypothesized that adolescents in inpatient psychiatric treatment whose guardians participated in treatment via in-person contact with hospital staff would have significantly lower numbers of restraints and seclusions compared to those whose guardians participated in treatment solely with telephone contact, both of which would be significantly lower than adolescents whose guardians did not have contact with hospital staff after their adolescents were admitted into inpatient care.
  - Hypothesis III: It is hypothesized that adolescents whose guardians who had contact with hospital staff in any manner (i.e., in-person, solely by telephone) would have had fewer rehospitalizations prior to the index hospitalization in comparison to those whose guardians did not contact hospital staff subsequent their adolescents' admission to inpatient treatment.

### **Rationale for Hypotheses**

Although there has been no known research on the impact that family involvement has on adolescents while in inpatient care, prior family functioning (Pfeiffer & Strzelecki, 1990) and family participation in aftercare treatment planning (Parmelee et al., 1995) have been found to impact youth treatment outcomes following inpatient care. Conversely, disengaged family interaction has been found to relate to poor treatment outcomes (Brinkmeyer et al., 2004). The present study sought to examine more present-focused variables as a means of understanding the process of adolescent inpatient treatment and ways in which that process may be impacted by family involvement.

## Chapter 5: Results

Fifty-two charts were reviewed from adolescent patients who had been hospitalized from May 1, 2014 through November 2, 2014. Of these charts, one was excluded from analysis because the patient represented by the chart did not have a legal guardian. The remaining charts ( $N = 51$ ) were included in this analysis. Demographic information and descriptive statistics are reported below. Additionally, a Pearson's product moment coefficient correlation was computed to determine whether statistically significant relationships exist between the number of prior hospitalizations, number of restraints, and percentage of groups attended; a simple regression was calculated to determine whether percentage of groups attended predicts number of restraints endured; three independent samples t-tests were computed in order to determine whether there were a significant differences between adolescents whose guardian attended at least one in-person meeting with staff while the patient was hospitalized and adolescents whose guardians' contact with staff was solely by telephone regarding number of prior hospitalizations, percentage of groups attended, and number of restraints; and a multiple linear regression analysis was conducted to determine whether number of restraints, number of prior hospitalizations, in-person involvement, and length of stay predict percentage of groups attended. Finally, information about patient privileges gleaned from charts was analyzed qualitatively.

### Demographic Analysis

The present study examined a sample of 51 charts from a psychiatric inpatient hospital. Lengths of stay ranged from 3 to 115 days. Patients represented by these charts had a mean length of stay of 21.41 days ( $M = 21.41$ ,  $SD = 20.19$ ). Guardians of all

patients (100%) had at least one instance of telephone contact with staff. Thirty-four (66.7%) of the charts reviewed included documentation of at least one in-person meeting between the adolescent's guardian and staff. Of all psychology, expressive arts, and MHT groups offered during hospitalization, a mean of 88.49% of groups ( $M = 88.49$ ,  $SD = 15.49$ ) were attended by adolescents without complete withdrawal of engagement, with this percentage ranging from 0 to 100%. Adolescents represented by these charts experienced a total of 23 documented physical, mechanical, and chemical restraint episodes ( $M = 0.49$ ,  $SD = 2.28$ ), and only two seclusion episodes were reported ( $M = 0.04$ ,  $SD = 0.20$ ). It was found that 86.3% of patients did not experience restraints, three patients (5.9%) endured one restraint episode, three patients (5.9%) endured two restraint episodes, and one patient (2%) was restrained 16 times. In addition, adolescents represented by these charts experienced an average of 1.45 prior hospitalizations, including at acute inpatient facilities and RTFs, as well as at one juvenile detention facility ( $M = 1.45$ ,  $SD = 2.94$ ). The total number of prior hospitalizations experienced by these patients ranged from 0 to 18. Frequency distributions are included in Tables 1 through 4, and descriptive statistics can be found in Table 5.

### **Correlational Analysis**

Correlations between number of prior hospitalizations, number of restraints, and percentage of groups attended were calculated using a Pearson product moment coefficient correlation. As shown in Table 6, the only significant relationship found was between number of restraints and percentage of groups attended ( $r(50) = -.839$ ,  $p = .000$ ). This suggests that there is a very strong negative correlation between the number of restraints endured and percentage of groups attended. In other words, there was a strong

Table 1

*Frequency Table: Length of Stay*

Length of Stay (In Days)	Frequency	Relative Percent	Cumulative Percent
3	1	1.961	1.96
4	1	1.961	3.92
5	1	1.961	5.88
6	1	1.961	7.84
7	2	3.922	11.77
8	4	7.843	19.61
10	1	1.961	21.57
11	1	1.961	23.53
12	4	7.843	31.37
13	5	9.804	41.18
14	2	3.922	45.10
15	3	5.882	50.98
16	2	3.922	54.90
17	4	7.843	62.75
18	1	1.961	64.71
19	1	1.961	66.67
20	3	5.882	72.55
21	1	1.961	74.51
26	2	3.922	78.43
27	1	1.961	80.40
29	1	1.961	82.36
30	1	1.961	84.32
31	1	1.961	86.28
40	1	1.961	88.24
42	1	1.961	90.20
46	1	1.961	92.16
50	1	1.961	94.12
52	1	1.961	96.08
89	1	1.961	98.04
115	1	1.961	100.00
Total	51	100.0	100.0

Table 2

*Frequency Table: Number of Prior Hospitalizations*

Number of Prior Hospitalizations	Frequency	Relative Percent	Cumulative Percent
0	24	47.059	47.06
1	14	27.451	74.51
2	4	7.843	82.35
3	6	11.765	94.12
7	1	1.961	96.08
9	1	1.961	98.04
18	1	1.961	100.00
Total	51	100.0	100.0

Table 3

*Frequency Table: Percentage of Groups Attended*

Percentage of Groups Attended	Frequency	Relative Percent	Cumulative Percent
0.0	1	1.961	2.0
64.6	1	1.961	3.9
69.4	1	1.961	5.9
70.7	1	1.961	7.8
72.2	1	1.961	9.8
74.6	1	1.961	11.8
74.7	1	1.961	13.7
78.0	1	1.961	15.7
80.0	1	1.961	17.6
84.4	1	1.961	19.6
85.0	2	3.922	23.5
85.1	1	1.961	25.5
86.1	1	1.961	27.5
86.7	1	1.961	29.4
87.1	1	1.961	31.4
87.5	1	1.961	33.3
87.7	1	1.961	35.3
88.7	1	1.961	37.3
89.6	1	1.961	39.2
90.0	1	1.961	41.2
91.4	1	1.961	43.1
91.7	1	1.961	45.1
92.2	1	1.961	47.1
92.3	1	1.961	49.0
93.1	1	1.961	51.0
93.2	1	1.961	52.9
93.5	1	1.961	54.9
93.9	1	1.961	56.9
94.2	1	1.961	58.8
94.7	2	3.922	62.8
95.2	1	1.961	64.7
95.6	2	3.922	68.6
95.7	1	1.961	70.6
95.8	1	1.961	72.6
96.3	1	1.961	74.5
96.8	1	1.961	76.5
97.6	1	1.961	78.4
97.9	1	1.961	80.4
98.4	1	1.961	82.4
98.6	1	1.961	84.3
98.8	1	1.961	86.3
98.9	1	1.961	88.2
100.0	6	11.765	100.0
Total	51	100.0	100.0

Table 4

*Frequency Table: Number of Restraints*

Number of Restraints	Frequency	Relative Percent	Cumulative Percent
0	44	86.275	86.28
1	3	5.882	92.16
2	3	5.882	98.04
16	1	1.961	100.00
Total	51	100.0	100.0

Table 5

*Descriptive Statistics*

Variables	N	Minimum	Maximum	Mean	Standard Deviation
Length of Stay	51	3	115	21.41	20.19
Number of Prior Hospitalizations	51	0	18	1.45	2.94
Percentage of Groups Attended	51	0	100%	88.49	15.49
Number of Restraints	51	0	16	.49	2.28

Table 6

*Pearson's Correlations*

		Number of Prior Hospitalizations	Number of Restrains	Percentage of Groups Attended
Number of prior Hospitalizations	Pearson's Correlation	1	.023	-.151
	Significance (1-tailed)		.436	.145
	N	51	51	51
Number of Restrains	Pearson's Correlation	.023	1	-.839*
	Significance (1-tailed)	.436		.000
	N	51	51	51
Percentage of Group Attendance	Pearson's Correlation	-.151	-.839*	1
	Significance (1-tailed)	.145	.000	
	N	51	51	51

\*Correlation is significant at the .01 level (1-tailed).

inverse relationship found between the percentage of groups in which an adolescent engaged and the number of restraints he or she experienced during the hospitalization. The coefficient of determination ( $R^2 = .7046$ ) suggests that approximately 70.46% of the variance in number of restraints is attributable to the percentage of groups in which the adolescent engaged.

A simple regression analysis was conducted using percentage of groups attended as a predictor variable and number of restraints as a criterion variable. Results of this regression were significant ( $F(1,49) = 116.831, p = .000$ ). The coefficient of determination ( $R^2 = .704$ ) indicated that approximately 70.4% of the variance observed in the percentage of groups attended is attributed to differences in number of restraints. Further, the adjusted coefficient of determination was found to be virtually equivalent to

the coefficient of determination ( $AdjR^2 = .698$ ). This indicates that the coefficient of determination was significant (See Tables 7 and 8). Overall, the regression equation is highly significant, suggesting that number of restraints is predicted by percentage of groups attended. Although the percentage of groups attended was the only variable found to predict number of restraints, the number of prior hospitalizations approached significance in predicting the number of restraints. If more charts were included in this analysis, this variable may have also been found to be significant.

### **Analysis of Hypotheses**

It was hypothesized that adolescents in inpatient psychiatric treatment whose guardians participated in treatment via in-person contact with hospital staff regarding their adolescents would have significantly higher numbers of privileges and significantly lower numbers of seclusions. Because privileges and seclusions were not recorded in a standardized manner within the hospital's charts, these hypotheses were unable to be tested quantitatively. In addition, because all guardians of patients whose charts were examined engaged in telephone contact, the hypotheses that both in-person and telephone-only contact by guardians would include significantly higher percentages of groups attended and numbers of privileges, and significantly lower numbers of restraints, seclusions, and prior hospitalizations than for those whose guardians made no contact with staff were unable to be tested.

It was hypothesized that adolescents in inpatient psychiatric treatment whose guardians participated in treatment via in-person contact with hospital staff regarding their adolescents would have significantly higher levels of participation in group therapy as measured by percentage of groups attended relative to those that were offered during

Table 7

*Simple Regression: Model Summary*

Model	R	R <sup>2</sup>	Change Statistics						
			AdjR <sup>2</sup>	Std. Error of the Est.	R2 Change	F Change	df1	df2	Sig. F Change
1	.839	.704	.698	8.506	.704	116.83	1	49	.000

Table 8

*Simple Regression: ANOVA<sup>a</sup>*

Model		Sum of Squares	df	Mean Square	F	Significance
1	Regression	8453.500	1	8453.500	116.831	.000 <sup>b</sup>
	Residual	3545.488	49	72.357		
	Total	11998.988	50			

<sup>a</sup>: Criterion variable: number of restraints.

<sup>b</sup>: Predictor variable: : percentage of groups attended.

their hospital stays. An independent samples t-test was conducted using in-person involvement (coded yes/no) as the independent variable and percentage of groups attended without complete withdrawal as the dependent variable (See Table 9). The means and standard deviations are reported in Table 10. The Levene's test for equality of variances revealed that the variances of the two groups were not significantly different ( $F = 1.695, p = .199$ ). Assuming equal variances, the t-test revealed that there was not a significant difference between the means of the two groups ( $t(49) = .905, p = .370$ ). No significant difference was found between adolescents of guardians who attended in-person meetings with staff ( $M = 89.885, SD = 9.753$ ) and those whose guardians did not attend in-person meetings ( $M = 85.712, SD = 23.269$ ) in regard to percentage of attended. In other words, adolescents whose guardians met with staff in-person and those whose guardians communicated with staff solely by telephone had statistically similar group attendance percentages.

It was hypothesized that adolescents in inpatient psychiatric treatment whose guardians participated in treatment via in-person contact with hospital staff would have significantly lower numbers of restraints compared to those whose guardians participate in treatment solely with telephone contact. An independent samples t-test using in-person involvement (coded yes/no) as the independent variable and number of restraints as the dependent variable was conducted (See Table 11). The descriptive statistics of these variables are reported in Table 12. The Levene's test for equality of variances was found to be significant ( $F = 8.659, p = .005$ ), indicating a violation of the assumption of homogeneity of variances. With equal variances not assumed, the t-test revealed no significant difference between the means of the two groups ( $t(16.202) = 1.091, p = .291$ ).

Table 9

*Independent Samples T-Test (In-Person Contact [IV] and Percentage of Groups Attended [DV])*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	95% Confidence Interval of the Difference	
									Lower Bound	Upper Bound
Percentage of Groups Attended	Equal Variances Assumed	1.695	.199	-.905	49	.370	-4.174	4.610	-13.44	5.090
	Equal Variances Not Assumed			-.709	18.864	.487	-4.174	5.886	-16.50	8.152

Table 10

*T-Test Descriptive Statistics for In-Person Contact (IV) and Percentage of Groups Attended (DV)*

In-Person Involvement		N	Mean	Standard Deviation	Standard Error Mean
Percentage of Groups Attended	0 (No)	17	85.712	23.269	5.643
	1 (Yes)	34	89.886	9.753	1.673

Table 11  
*Independent Samples T-Test (In-Person Contact [IV] and Number of Restraints [DV])*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	95% Confidence Interval of the Difference	
									Lower Bound	Upper Bound
Number of Restraints	Equal Variances Assumed	8.659	.005	1.544	49	.129	1.029	.667	-.310	2.369
	Equal Variances Not Assumed			1.091	16.202	.291	1.029	.943	-.968	3.027

Table 12

*T-Test Descriptive Statistics for In-Person Contact (IV) and Number of Restraints (DV)*

In-Person Involvement		N	Mean	Standard Deviation	Standard Error Mean
Number of Restraints	0 (No)	17	1.18	3.877	.940
	1 (Yes)	34	.15	.436	.075

In other words, no significant difference was found between of guardians who attended in-person meetings with staff ( $M = 0.15$ ,  $SD = 0.436$ ) and those whose guardians did not ( $M = 1.18$ ,  $SD = 3.877$ ) in regard to number of restraints endured.

It was hypothesized that adolescents of guardians who had contact with hospital staff in any manner (i.e., in-person or by telephone) would have had fewer rehospitalizations prior to the index hospitalization in comparison to those whose guardians did not contact hospital staff subsequent their adolescents' hospital admissions. Because this hypothesis was unable to be tested, as 100% of guardians had some form of contact with staff, an independent samples t-test was conducted in order to determine whether there was a significant difference between adolescents whose guardians attended at least one in-person meeting with staff while the adolescents were hospitalized and those whose guardians' contact with staff was solely by telephone regarding number of prior hospitalizations. This independent samples t-test was conducted using in-person involvement (coded yes/no) as the independent variable and number of prior hospitalizations as the dependent variable (See Table 13). The means and standard deviations are reported in Table 14. The Levene's test for equality of variances revealed that the variances of the two groups were not significantly different ( $F = .546$ ,  $p = .463$ ). Assuming equal variances, the t-test revealed that there was not a significant difference between the means of the two groups ( $t(49) = -.469$ ,  $p = .641$ ).

Conducting multiple t-tests could capitalize on chance, but this was not an issue in this analysis because no t-test yielded significant results. Three t-tests were calculated rather than one multivariate analysis of variance (MANOVA) because only two of the

Table 13

*T-Test Descriptive Statistics for In-Person Contact (IV) and Number of Prior Hospitalizations (DV)*

In-Person Involvement		N	Mean	Standard Deviation	Standard Error Mean
Number of Prior Hospitalizations	0 (No)	17	1.18	2.186	.530
	1 (Yes)	34	1.59	3.267	.560

Table 14

*Independent Samples T-Test (In-Person Contact [IV] and Number of Prior Hospitalizations [DV])*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	95% Confidence Interval of the Difference	
									Lower Bound	Upper Bound
Number of Prior Hosp.	Equal Variances Assumed	.546	.463	-.469	49	.641	-.412	.879	-2.177	1.354
	Equal Variances Not Assumed			-.534	44.675	.596	-.412	.771	-1.966	1.142

variables correlated with one another. Further, there was a significant Box's Test, which violates the assumption of equality of covariance matrices being equal across groups.

### **Additional Analyses**

A multiple linear regression analysis was calculated using number of restraints, number of prior hospitalizations, in-person involvement (coded yes/no), and length of stay as the predictor variables, and percentage of groups attended as the criterion variable. A significant regression equation was found ( $F(4,46) = 30.512, p = .000$ ). The coefficient of determination ( $R^2 = .726$ ) suggests that approximately 72.6% of the variance observed can be attributed to this combination of predictor variables. Further, the adjusted coefficient of determination was found to be virtually equivalent to the coefficient of determination ( $AdjR^2 = .702$ ), signifying very small shrinkage found from sample to population. *F change* was found to be significant ( $F change = 30.512, p = .000$ ), indicating that using a combination of these predictors is better than using the means (See Tables 15 and 16). Of these predictor variables, the only variable that predicted the percentage of groups attended was the number of restraints endured (See Table 17).

The assumption independent errors was met using the Durbin-Watson test. According to Field (2009), Durbin-Watson tests serial correlations between errors in regression models, helping to determine whether adjacent residuals are correlated. Conservatively, values less than 1 or greater than 3 indicate correlations that are cause for concern. The Durbin-Watson test in this multiple regression is not cause for concern (*Durbin-Watson* = 2.454). In terms of multicollinearity, which indicates a strong correlation between two or more predictor variables in a regression model, none of the

Table 15

*Multiple Linear Regression Analysis: Model Summary<sup>b</sup>*

Model	R	R <sup>2</sup>	Change Statistics							Durbin-Watson
			AdjR <sup>2</sup>	Std. Error of the Est.	R <sup>2</sup> Change	F Change	df1	df2	Sig. F Change	
1	.852 <sup>a</sup>	.726	.702	8.450	.726	30.512	4	46	.000	2.454

<sup>a</sup> = Predictor variables: length of stay, in-person involvement (yes/no), number of prior hospitalizations, number of restraints.

<sup>b</sup> = Criterion variable: percentage of groups attended.

Table 16

*Multiple Linear Regression: ANOVA<sup>a</sup>*

Model		Sum of Squares	df	Mean Square	F	Significance
1	Regression	8714.510	4	2178.627	30.512	.000 <sup>b</sup>
	Residual	3284.479	46	71.402		
	Total	119988.988	50			

<sup>a</sup> = Predictor variables: length of stay, in-person involvement (yes/no), number of prior hospitalizations, number of restraints.

<sup>b</sup> = Criterion variable: percentage of groups attended.

Table 17

*Coefficients<sup>a</sup>*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	92.404	2.578		35.840	.000		
	Number of Restraints	-5.724	.541	-.841	-10.572	.000	.941	1.063
	Number of Prior Hospitalizations	-.721	.414	-.137	-1.741	.088	.968	1.034
	In-Person Involvement	-1.350	2.585	-.041	-.522	.604	.943	1.061
	Length of Stay	.039	.060	.051	.651	.518	.962	1.040

<sup>a</sup> = Dependent variable: percentage of groups attended.

variables were found to have a tolerance statistic of less than .1 or a variance inflation factor (VIF) of greater than 10, suggesting that multicollinearity is not biasing the model.

Further, the dependent variables are normally distributed. The probability probability plot (P-P plot) is a graph of the cumulative probability of a variable against the cumulative probability of, in this case, the normal distribution (Field, 2009) of the dependent variable of percentage of groups attended. This is a means of standardizing residuals against standardized regressions, which suggests relative homogeneity of variances. Using the P-P plot shows that, although there was some deviation, by visual inspection, there appears to be relative homogeneity.

**Qualitative Analysis**

As stated above, it was hypothesized that adolescents in inpatient psychiatric treatment whose guardians participated in treatment via in-person contact with hospital

staff regarding their adolescents would have significantly higher numbers of privileges than those whose guardians participated by telephone only or did not participate at all, and that both in-person and telephone-only contact by guardians would include significantly higher numbers of privileges in comparison to adolescents whose guardians did not have contact with hospital staff after their adolescents were admitted into inpatient care. Because there was no discernible standardization method for recording privileges in the charts and all adolescents' guardians engaged in some form of contact with staff, a qualitative analysis of what was observed in charts regarding privileges is discussed below.

Of the 51 charts analyzed in this study, 20 charts included mention of patients' privilege status. This information was found primarily in discharge summaries, with rarer instances recorded in shift summaries. In 10 discharge summaries, it was noted specifically that the patient "earned and maintained level 4 status." In addition, two discharge summaries noted that the patient "reached level 4 status," and one discharge summary stated that the patient "reached level 3 status," each without specifying if he or she maintained the noted status. Three discharge summaries discussed patients having earned level 4 status but later dropping to a lower level. Of these three discharge summaries, two signified the reason the level was dropped (i.e., going into a peer's room, involvement in a physical altercation with a peer) and one did not. Further, one discharge summary noted that the patient earned a high privilege level prior to discharge, but did not state which level. Another discharge summary noted that the patient's privilege level increased gradually, without stating to which level the patient increased. Nursing shift summaries also included information about privilege level on occasion. For instance, in

two charts, nursing shift notes described patients not earning any points in a given day, and one of these charts also included a nursing shift summary mentioning that the patient was “happy to have her level increased today” without indicating which level the patient reached.

When scrutinizing the charts that noted explicitly the patient earned and maintained level 4 status, interesting patterns emerge. Of these 10 patients, all but two adolescents’ guardians attended an in-person meeting with staff, accounting for a higher percentage of in-person contact in comparison to the entire sample of  $N = 51$  (80% versus 66.7%, respectively). Additionally, only one patient who earned and maintained level 4 status experienced a single restraint episode ( $M = 0.1$ ,  $SD = .3$ ), accounting for a lower mean than that of the entire sample ( $M = 0.49$ ,  $SD = 2.3$ ). Further, these 10 patients attended a higher percentage of groups than was found when examining the entire sample ( $M = 94.4$ ,  $SD = 7.96$ , in contrast to  $M = 88.5$ ,  $SD = 15.5$  for the entire  $N = 51$  sample) and had fewer previous hospitalizations ( $M = 0.8$ ,  $SD = 1.2$ , in contrast to  $M = 1.5$ ,  $SD = 2.9$  for the entire  $N = 51$  sample). Interestingly, the mean length of stay for these 10 patients was longer than for the entire sample of  $N = 51$  ( $M = 28.7$ ,  $SD = 25.1$  versus  $M = 21.41$ ,  $SD = 20.19$ , respectively).

## **Chapter 6: Discussion**

This study was an initial investigation into the ways in which guardian involvement impacts adolescent engagement variables while in the midst of inpatient treatment. This study differs from previous research that explored preconditions of family functioning (e.g., Pfeiffer & Strzelecki, 1990), more direct family involvement via inpatient family therapy (e.g., Dickerson et al., 2001), and later treatment outcomes post-discharge (Prentice-Dunn et al., 1981). Although the hypotheses posited in this study were found to be insignificant, its results can inform inpatient treatment providers' approaches toward improving adolescent inpatient engagement in group therapy and reducing restraint episodes.

### **Implications of Findings**

The results of this study have implications on the outlook of adolescent inpatient treatment. As inpatient stay has become shorter (Meagher et al., 2013) but more frequent (Pottick et al., 1995), approaches to inpatient treatment have changed to fit these new confines (Blanz & Schmidt, 2000). Costs of inpatient care have increased and insurance has dictated much about the trajectory of treatment (Blanz & Schmidt, 2000; Pottick et al., 1995). As such, inpatient facilities may benefit from understanding engagement in inpatient treatment as a means of helping to prevent future rehospitalizations, thereby cutting costs.

Although testing hypotheses concerning guardian involvement yielded insignificant results, the findings of this study have implications for adolescent inpatient hospitalizations. Adolescents whose guardians were and were not involved in treatment via in-person meetings did not have significant differences in percentage of groups

attended without complete withdrawal, number of restraints, or number of prior hospitalizations, which may imply that the kind of guardian involvement, whether at the facility or from a remote location, may not hinder treatment, or may not matter at all. This also implies that other factors may play a role in differences within these variables, as well as that adolescents who have less actively involved guardians, uninvolved guardians, or do not have guardians at all may not be at a disadvantage in terms of treatment. This appears to contradict past research which has found that engagement in the context of treatment readiness is shaped by family support (Broome et al., 2001) and that lack of family involvement via contact with the patient predicts rehospitalization (e.g., Lyons et al., 1997; Russo et al., 1997), but it should be noted that family contact with patients may differ systematically from family contact with hospital staff. Indeed, overall, youths' level of psychological functioning has been shown to improve significantly during inpatient hospitalization that includes guardian involvement (Dickerson Mayes et al., 2001), but involvement may take the undocumented form of private telephone calls between adolescent and guardian or guardian visits that do not involve hospital staff.

Inferences may be made concerning the significant inverse relationship found between number of restraints and percentage of groups attended, with percentage of groups attended being predictive of number of restraints endured during an adolescent's hospital stay. Psychiatric hospital administrators may interpret this finding as useful, in that determining ways in which to increase attendance to and engagement in group therapy may help reduce restraint use, which is often a goal of inpatient hospitals. Relatedly, as patients exhibiting externalizing behaviors (e.g., agitation, threats, and

assault or other violent behaviors) and those diagnosed with psychotic disorders have been found to be more likely to be restrained (Delaney & Fogg, 2005), understanding group participation's role in reducing restraints is useful. This finding may highlight the need to modify or supplement the kinds of groups being offered, such as by incorporating specialty groups that focus on externalizing or psychotic symptoms, or may suggest the utility of individualized programming as an adjunct to the groups currently being offered. These alterations in programming may benefit adolescents who are at the greatest risk of restraint, thereby leading to better outcomes.

Although data regarding unit privileges were limited in this study, information gleaned from the charts about privileges has implications for inpatient treatment. Of patients who earned and maintained the highest level of privilege possible, fewer prior hospitalizations were experienced, in-person contact was more prevalent, fewer restraints were endured, and a greater percentage of groups were attended without complete withdrawal. Because there was a relationship between group participation and restraints observed among the sample as a whole ( $N = 51$ ), and those with the highest privilege status had fewer restraints and greater participation than the  $N = 51$  sample, the benefits of the unit privilege system may warrant further exploration by hospital administrators. Specifically, it would be beneficial to determine whether privileges serve as operant reinforcement as past studies have found (e.g., Wolpe et al., 1993), or if there are systematic personality or symptom presentation differences between those who maintain a high privilege level versus those who do not. In the present study, it remains unclear whether privileges added to the inverse relationship between restraints and group participation. It should be noted that the length of stay for these 10 patients was longer

than for the sample as a whole ( $N = 51$ ). This may have afforded these patients greater opportunity to fully grasp the unit rules and, therefore, become more cognizant regarding how to earn points. Generally, longer length of stay may relate to awaiting placement rather than to a continued presence of acute symptoms.

### **Study Limitations**

Numerous study limitations are apparent in consideration of the present study. One such limitation concerns the retrospective nature of the data. As such, some of the proposed hypotheses were unable to be tested because variables related to seclusions and privileges were not documented in the charts. Moreover, because the data used in this study are archival, there was no control over the ways in which information that was available was gathered originally. For example, there was little regulation and, therefore, a great deal of subjectivity regarding how clinicians recorded group participation. In other words, whereas one clinician may perceive a quiet patient as listening attentively and thereby participating in more passive engagement, another might record the same patient as being disengaged. Relatedly, interpreting others' narratives in group notes is inherently subjective and equates to a limitation in data collection. In other words, characteristics of the data collector likely impact the way in which information is processed and interpreted. Language poses an additional, similar limitation. For instance, "refused to share" and "did not share" carry varying connotations that may lead a reader to interpret the narrative differently.

Another category of limitation concerning this study includes how extraneous guardian and guardian-adolescent relationship variables may have influenced results. For example, guardian psychopathology, severe family discord, and any inherent differences

between guardians who did not attend in-person meetings volitionally versus those who did not attend in-person meetings because of transportation difficulties, living great distances from the hospital, or working during business hours when meetings would be scheduled by hospital staff may account for differences in patient engagement. Therefore, quality of communication made by guardians rather than type of communication may impact treatment outcome. Further, although some adolescents' guardians did not attend meetings, their case managers, Department of Human Services (DHS) workers, or probation officers may have. It is possible that any in-person involvement from someone in the patient's life may impact engagement. Conversely, some patients represented by the reviewed charts had guardians whose involvement may have hindered rather than benefitted adolescents' treatment. In other words, a limitation to this study may include guardians who express agitation toward hospital staff aggressively (e.g., guardians who blame hospital staff for adolescents' exacerbation in symptoms or other dissatisfactions ["You drugged my son!"]), guardians who prohibit their adolescents from taking medication, and guardians with whom adolescents experience a great deal of conflict or whom adolescents blame for their symptoms (e.g., "I am depressed because my dad hits me," or "I use drugs because my mom tries to control me too much."). Moreover, undocumented visits and telephone calls between patient and guardian likely occurred. Finally, although length of stay was measured quantitatively, qualitative analysis may have yielded findings that suggest that those with longer lengths of stay required longer hospitalizations not necessarily because of symptom severity, but because of disposition issues. In other words, it was observed that many patients who had longer lengths of stay had DHS or foster care involvement, and

their hospitalization experiences included awaiting approval by DHS to return home or time to interview with new prospective foster families despite already having legal guardians and already having psychiatric and behavioral symptoms stabilized.

An additional set of extraneous variables that may have influenced results of the present study include patient characteristics, such as diagnoses that include behavioral symptoms or responding externally to internal stimuli (e.g., ADHD, psychotic disorders, ODD, conduct disorder), language barriers, and intellectual functioning. Each of these characteristics may yield similar outcomes to volitional disengagement (e.g., disrupting group), but may relate to lack of ability or lack of insight rather than to willingness to engage. Indeed, lack of full participation may relate to an inability to participate fully, such as in the case of educational or practical barriers rather than lack of motivation or willingness (Staudt, 2007). Relatedly, it is possible that the inverse relationship observed between percentage of groups attended and number of restraints endured can be explained by the inability to attend groups because of being restrained during groups; however, this possibility is mitigated by the fact that the length of time of a restraint episode tends to be limited due to continuous staff evaluation regarding when the patient may be ready to come out of restraints.

Finally, other threats to validity should be considered. A threat to internal validity that may relate to the present study is selection bias. It is possible that adolescents in inpatient treatment differ systematically from the entire population of United States adolescents, thereby hindering randomization of the sample. It is also possible that guardians who are involved in-person versus those who are involved by telephone only differ systematically from one another. Therefore, differences between groups may not

relate to differences in guardian involvement specifically, but to guardian characteristics that expand beyond the scope of a finite inpatient stay. Likewise, adolescents who do not have legal guardians may differ systematically from adolescents who have guardians. These adolescents were excluded from the present study, but represent many adolescents. Another threat to reliability relates to the fact that only one person collected and coded the data analyzed in this study. Ideally, a percentage of the charts would have been coded by an additional person in order to demonstrate inter-rater reliability, but this did not occur in the present study. In addition to threats to internal validity, a threat to external validity evident in this study is the potential lack of generalizability. The adolescents and guardians in the present study sought treatment in the Mid-Atlantic region of the United States. It is unclear whether the results of this study would pertain to adolescents in inpatient institutions in other regions. In addition, although much of the research relevant to this topic area focuses on children and adolescents as one group, this study examined only adolescents, making generalizability to people of other age groups (i.e., child, adult, geriatric populations) unclear. Other threats to generalizability, such as differences in race, ethnic background, and education level, can be mitigated by having a heterogeneous, diverse composition of participants, which may be the case in the present study, as it is set in a diverse location; however, demographics of the populations were not recorded. Another threat to external validity that may relate to the present study involves novelty effects. Some of the data from this study came from charts of adolescents who were admitted into inpatient care for the first time, whereas other data came from charts of adolescents who have been through the process of inpatient hospitalization previously. It is possible that the guardians of those who are first-time

admittances may be zealous in their involvement, but guardians of those who have been through the process before may not feel the need to be. Conversely, it is also possible that guardians whose adolescents have been hospitalized previously may be more highly motivated to be involved in order to halt the pattern of hospitalizations, whereas guardians experiencing their adolescents' hospitalizations for the first time may not have developed a sense of urgency regarding involvement. Moreover, adolescents may engage in group therapy differently during an initial admission in contrast to rehospitalizations. The threat of novelty is mitigated by the fact that first-time admittances and re-admittances were both included in this study.

### **Future Directions**

As recovery models focus on inclusion of caregivers, loved ones, and patients' broader communities, continued exploration into the role that such people take in inpatient treatment warrants future investigation. In future studies, to expand upon the results of this study, other dependent variables may be examined. For example, because patient satisfaction has been found to be an indicator of positive treatment outcomes (Biering, 2010; Knox et al., 2004), it would be worthwhile to scrutinize patient satisfaction in relation to other variables examined in the present study. It may also be useful to expand the examination of the negative consequences incurred during inpatient stay (i.e., restraints, seclusions) to include unit restrictions, which may be more common than restraints or seclusions among adolescents. Additionally, some of the dependent variables of this study (percentage of groups attended without complete withdrawal, number of restraints) may also be compared for first-time versus repeat inpatient admittances. Further, examining the variables of interest in the present study with

populations of other age groups (i.e., child, adult, and geriatric populations) would assist in testing the generalizability of this study's findings. Future research may also test this study's hypotheses in inpatient settings that differ from this specific Mid-Atlantic region.

In addition, the dependent variables of this study may be viewed in light of more active guardian involvement, namely, family therapy within adolescent inpatient units. Further, because guardians may contact their adolescents instead of or in addition to contact with staff, which would not be documented in patient charts, the recorded interactions may not paint a full picture of guardian involvement. Likewise, who contacted whom tended to be unclear within the social work notes, and there may be systematic differences between guardians who initiate contact with hospital staff and guardians who merely accept contact made by hospital staff. Finally, this study does not clarify whether number of contacts, either in person or by telephone, impact engagement differently. These are additional future directions for this research.

Finally, it may be beneficial to replicate this study using a greater sample size. The hypotheses concerning guardian involvement were not found to be significant, but this may be a consequence of having a small sample size. Including more charts in this study may yield more significant results.

### **Charting Strengths, Limitations, and Recommendations**

In addition to study limitations, it is evident that there are numerous limitations imposed by the charting system at this hospital. Indeed, there are a number of areas for improvement in the note-taking and charting system from which this data were collected. Although restraints are mechanisms of restricting another person's movement or access to his or her body by use of physical, mechanical, or chemical means (CMS, 2006;

HCFA, 1999, as cited in Busch & Shore, 2000), only physical holds and mechanical restraints were recorded in patient charts. Similarly, the hospital denies the use of seclusions. Based on anecdotal evidence as well as narrative information gleaned from the charts, however, it appears as though seclusions and chemical restraints are more prevalent than the charts indicate. Chemical restraints in particular may be used within hospitals but are being considered *pro re nata* (PRN) medication rather than restraint episodes by hospital staff. Whereas PRNs are medications that are prescribed to be taken on an as-needed basis when a patient feels anxious or agitated, they become chemical restraints rather than PRNs when hospital staff members enforce their use rather than the patient requesting them. It is recommended that hospitals reevaluate their definitions of PRNs and chemical restraints, and record the latter the same way in which they record other restraints. It is expected that the use of medication to restrain would decrease once it is monitored properly, as self-monitoring in instances in which one is unaware of the extent of one's behaviors may lead to reactivity or, in this case, a decrease in the monitored behavior (Spiegler & Guevremont, 2010). Similarly, in direct contrast to seclusion, there was at least one instance noted in which a patient was locked out of his room from 8:00 a.m. until 8:00 p.m., thereby "forcing" group attendance. Practices such as this are not aligned with the recovery model, which values autonomy, and may have influenced results.

An additional recommendation also related to restraints is for hospital administrators to evaluate the reasons for restraints systematically. For example, it is recommended that administrators explore whether a given restraint occurs because of physical aggression, self-harm, psychotic symptoms, or other reasons. This

recommendation comes after examining one chart specifically: One patient represented by a chart in this study was hospitalized for three days and endured 16 restraint episodes. It appears evident that hospital staff members were ill-equipped to manage his symptom presentation and responded to safety concerns by restraining him multiple times. Delving more deeply into the reasons that this patient was restrained repeatedly may help the hospital administration to consider feasible alternatives to restraints, or may help to alter criteria for admitting patients to the unit. For example, perhaps this patient would have benefited from a hospitalization in a more specialized environment.

The present study aimed initially to examine patient satisfaction and privileges quantitatively as dependent variables, in addition to number of restraints, number of prior hospitalizations, and percentage of groups attended. Because satisfaction ratings have been found to relate to improvement of problems and perceived usefulness of discharge recommendations (Kaplan et al., 2001; Marriage et al., 2001), and are being scrutinized increasingly by insurance companies (Kaplan et al., 2001), including satisfaction surveys in patient charts may be useful for future studies conducted within the hospital. Likewise, because studies have shown the relationship between privileges and treatment adherence (Wolpe et al., 1993), including privilege level in shift notes thrice daily may prove useful. Regarding organization of charts, a hospital that is interested in studying variables potentially related to treatment outcomes may benefit from a summary sheet that outlines pertinent variables. For instance, this study would have benefited from a summary sheet that recorded number of prior hospitalizations, number of restraints, daily privilege levels, and number of groups attended daily. The hospital may also choose to include other variables of interest, such as number of times guardians visited adolescents

without staff involvement, number of times a patient requested a PRN, number of times a patient experienced unit restrictions, or number of times a patient experienced one-to-one staffing, among other variables.

Finally, the note-taking structure within the charts would benefit from systematic changes. There were numerous instances of inconsistencies observed within the charts. For example, whereas a discharge summary noted that a patient had no prior hospitalizations, the integrated clinical assessment in the same chart recorded the patient as having one prior hospitalization. Likewise, some charts examined in the present study contained notes clearly pertaining to other patients. More careful scrutiny of notes within charts is certainly warranted. Relatedly, some notes within the charts were nearly illegible, and many lacked appropriate detail. Specifically, it was observed that MHT group notes were sparse in detail. Therefore, as MHTs are expected to facilitate groups, training should incorporate teaching MHTs the components of a proper group progress note. Further, it is recommended that, whenever possible, notes be typed rather than handwritten.

Despite their limitations, the charts examined had a number of strengths. Some of the most helpful information relevant to the present study was collected from the discharge summaries found in all charts. Discharge summaries tended to be detailed and comprehensive. Regarding organization of charts, the color coding system of notes was highly useful in retrieving information as efficiently as possible. For instance, all social work notes were printed on yellow paper. Some charts were further organized by the medical records department staff, who placed all social work notes together, all

psychology and expressive arts group notes together, and all MHT group notes together, rather than having all three categories of groups together and organized by date.

### **Relevance of this Study to the Theory and Practice of Psychology**

Although the hypotheses posited in this study related to guardian involvement were not found to be significant, a qualitative analysis of patients who earned and maintained the highest possible privilege level—who also had more guardian involvement, fewer restraints, and higher percentages of groups attended—has implications for the continued practice and additional research on the recovery model. As guardians have been shown to play an intricate role in adolescents' psychiatric treatment experiences (e.g., Israel et al., 2004) and were found to be more involved for patients with the highest level of privilege in the present study, it is evident that the inclusion of caregivers in inpatient treatment should be continued. Indeed, two major tenets of recovery models are the inclusion of the patient's community and an emphasis on outside support (Le Boutillier et al., 2011). For adolescents, a main component of their communities and primary source of support are their guardians. Further, recovery models strive to respect not only patients but also patients' families (Le Boutillier et al., 2011). An important feature of recovery models is that everyone in a patient's life, most notably guardians for adolescents, be involved in the ongoing commitment to recovery (Le Boutillier et al., 2011).

Also related to recovery principles is the belief that patient individuality and autonomy should be respected within the mental health system (Le Boutillier et al., 2011). Therefore, understanding the relationship between group attendance and restraints within a recovery framework should promote individualized, patient-focused treatment

that may increase the likelihood of a patient choosing to attend group, thereby reducing the likelihood of restraint use. Abiding by the tenet of patient autonomy and respecting patients, overall, will benefit patients.

### **Conclusion**

The present study was an initial investigation not only into the ways in which guardian involvement impacts adolescent engagement during an inpatient hospitalization, but also into how engagement variables in inpatient treatment relate to one another. The significant inverse relationship found between percentage of groups attended and number of restraints should inform treatment procedures in psychiatric hospitals. As group therapy is a primary modality of inpatient treatment (Freeman et al., 1993), identifying ways in which engagement in group therapy influences the overall experience of inpatient hospitalization is pivotal. Treatment engagement, including behavioral and attitudinal components of engagement, is an important aspect of successful inpatient care (Staudt, 2007) and may relate to other treatment-related factors. Ultimately, it is the goal of insurance companies, hospitals, patients, and patients' families and communities to reduce the number of rehospitalizations that adolescents experience. Improving engagement during hospitalization, thereby helping to set the stage and enhance motivation for future outpatient treatment engagement, may be an important step.

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