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POST-DISCHARGE OUTCOMES FOR YOUTH SERVED IN A RESIDENTIAL  
TREATMENT CENTER

By

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Missoula, MT

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## Post-Discharge Outcomes for Youth Served in a Residential Treatment Center

Co-Chairperson: Veronica Johnson

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### Abstract Content:

This causal-comparative non-experimental study explores the pattern of post-discharge functioning for youth who received either short term or long term residential treatment at Intermountain Children's Home. Post-discharge functioning was evaluated using the Youth Outcome Questionnaire, 2.0 (Y-OQ 2.0) which tracked the behavioral and subjective experience of the youth, as well as their ability to function in society. Additionally, functional outcomes were also assessed post-discharge via phone interview questions about meaningful life domains. The researcher found that youth in both short and long term residential care experienced significant decreases in their Y-OQ 2.0 scores from admission to discharge, admission to 6 months post-discharge and from admission to 12 months post-discharge. Youth from short term care also experienced a significant increase in Y-OQ 2.0 scores from discharge to 6 months post-discharge. Results from phone interview questions revealed the following significant results: (a) Short term youth exhibited significantly more sexualized behavior at 12 months post-discharge (b) long term youth reported that treatment had a positive impact significantly more than short term youth at 12 months post-discharge and (c) in contrast, at 24 months post-discharge short term youth reported that treatment had a positive impact significantly more than long term youth. Benchmarking data is also provided for responses to phone interview questions. The results are discussed in the context of understanding residential care in the continuum of viable mental health services for youth. Limitations, implications and recommendations for future research are discussed.

## DEDICATION

This work is dedicated to my husband, Philip, and our two boys, Jack and Sam. They encouraged and supported me as I struggled to balance motherhood, marriage, work and graduate school. Their faith in me was unwavering and unconditional, even when I began to doubt myself. I will be forever grateful for their patience, cheerleading, love and humor that helped me see this through to the end.

## ACKNOWLEDGEMENTS

I would like to begin by thanking the University of Montana and Betsy Wilcox for creating and funding the Intermountain Doctoral Fellowship. I was fortunate enough to be selected for this honor and it allowed me to conduct meaningful research for Intermountain Children's Home. In addition, the fellowship provided me with the incredible opportunity to receive supervision and guidance from Dr. Elizabeth Kohlstaed, Chief Clinical Officer, at Intermountain. This project would not have been possible without the access she fostered and supported.

Additionally, I would like to thank the members of my committee for their efforts in helping me complete this important research. My first co-chair, John Sommers-Flanagan offered his patience, humor, direction, and editing finesse. My second co-chair, Veronica Johnson, contributed her calm leadership and encouragement. I am grateful to both John and Veronica for the innumerable hours I spent in their hours asking questions and fretting about how I was going to finish. I would like to thank Sara Polanchek for fearlessly showing me how to complete this doctoral program and for always knowing when I needed a shoulder lean on. Patty Kero's meticulous attention to detail and help with obscure statistical questions is much appreciated. Finally, I would like to thank Kirsten Murray, who was my first advisor when I began my doctoral program four years ago. Her joyful and genuine support throughout my program has been critical to my ability to persist and complete this journey.

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CHAPTER ONE: INTRODUCTION TO THE STUDY

Approximately four million children and adolescents in this country are suffering from a serious mental disorder that causes significant functional impairments at home, at school and with peers (National Research Council and Institute of Medicine, 2009; Centers for Disease Control and Prevention, 2013). In fact, one in every five youth ages 13-18 meet criteria for a mental disorder that is associated with severe role impairment (Merikangus et al., 2010) and 13% of youth ages 8-15 have a diagnosable mental disorder (Centers for Disease Control and Prevention, 2013). The prevalence of severe emotional and behavior disorders is higher than the most frequent major physical conditions in adolescence including asthma and diabetes (Merikangus et al., 2010). If serious mental disorders are left untreated these children are likely to experience school failure, limited employment opportunities, incarceration, substance use, injury, suicide and poverty in adulthood (Center for Disease Control and Prevention, 2011; USDHHS, 1999, 2012). Speaking to this issue, the National Institute of Mental Health's National Advisory Mental Health Council, Workgroup on Child and Adolescent Mental Health (2001) concluded that "no other illnesses damage so many children so seriously" (p. 1).

Children and youth with mental health disorders need access to a comprehensive continuum of interventions, treatments, and supports (National Institute for Health Care Management Foundation, 2005; U.S. Department of Health and Human Services, 2010). These services include outpatient treatment, medication and monitoring, crisis intervention services, outpatient services, hospitalization and inpatient services, and respite and support services for family (National Institute for Health Care Management Foundation, 2005; U.S. Department of Health and Human Services, 2010). The severity of the child or adolescent's mental disorder informs treatment providers about level of service intensity needed for each youth. If the mental

disorder is severe and community based services are either not enough or nonexistent, then residential treatment centers (RTC's) are appropriate resources to serve the needs of children and adolescents with severe emotional disturbance (American Academy of Child and Adolescent Psychiatry (AACAP), 2010; Dale, Baker, Anastasio & Purcell, 2007).

In 2010, approximately 61,000 children were receiving mental health services in group care and residential treatment settings (U.S. Department of Health et al., 2011). Although research has evaluated children's residential treatment outcomes (Bates, English & Kouidou-Giles, 1997; Connor, Miller, Cunningham & Melloni, 2002; Frensh & Cameron, 2002; Hair, 2005; Walter, 2007), less is known about the long term effectiveness of residential treatment. Given the large numbers of mental health disorders in our youth, it is important to understand the immediate and long term outcomes for this service setting in the continuum of mental health care.

### **Statement of the Problem**

In the last decade, residential treatment centers have come under greater scrutiny to establish themselves as an effective and integral component of child and adolescent mental health services (Butler & McPherson, 2007; Lyons, Woltman, Martinovich & Hancock, 2009; Walter, 2007). First, as the most expensive per episode child and adolescent mental health intervention option, residential treatment centers need to demonstrate that their disproportionate resource consumption (i.e., cost) produces positive, long lasting outcomes (Brown, Barrett, Allen & Blau, 2011; Lyons et al., 2009; Sternberg et al., 2013). Second, the emerging system of care philosophy that endorses least restrictive, community-based environments are at odds with the out-of home, out-of-community residential treatment model (Lyons et al., 2009; Huang et al., 2005; Stroul & Friedman, 1986). Third, the promotion of evidence-based practices has resulted

in an emphasis on empirically supported interventions (Curry, 2004; Foltz, 2004, Helgerson, Martinovich, Durkin & Lyons, 2005). For these reasons, RTC administrators and staff are under increased pressure to demonstrate that they are an effective service option for children and adolescents.

Many programs have relied on anecdotal data to assess long term effectiveness. This is primarily because of the cost and logistical difficulties associated with maintaining or re-establishing contacts with families (American Association of Children's Residential Centers (AACRC), 2012). Additionally, because outcomes can be influenced by factors outside of the treatment program, it is difficult to efficiently and reliably measure long-term treatment effects (AACRC, 2012). As a result, many studies are riddled with methodological and research design issues such as lacking a treatment description and a clear definition of residential treatment (Butler & McPherson, 2007; Lee, 2008). Finally, there are difficulties in comparing data across residential treatment centers as assessment instruments vary from standardized assessments of social/emotional, academic or intellectual ability to functional outcomes indicators such as treatment satisfaction, school and housing status, and more (Sternberg et al., 2013).

Recently, some residential treatment centers have begun collecting and reporting post-discharge data (Brown et al., 2011; Sternberg et al., 2013). According to Brown et al. (2011), a 2009 survey of residential treatment facilities for children and youth revealed that 75% of state licensed facilities collected post-discharge data, while only 55% of unlicensed facilities collected client/patient outcome follow-up after discharge. Although 69% collected perception of care data regarding treatment satisfaction, only about half measured functional outcomes such as mental health service utilization, housing or school status, and clinical functioning. In addition, these perception of care and functional outcomes data were not typically collected for longer than 6

months and there were no outcomes data based on any standardized assessment tools (Brown et al., 2011). A 2010 survey of children's residential treatment centers, revealed that less than half of the 73 of programs sampled were gathering data post-discharge (Sternberg et al., 2013). Of the 34 programs gathering data, 19 different standardized assessment instruments were used, in addition to many in-house, non-standardized instruments. Although treatment outcomes measurement efforts are positive, due to the significant number of different assessment strategies (standardized assessments versus functional outcome indicators) and instruments agencies use to collect and analyze data, it is nearly impossible to establish benchmarking data (Sternberg et al., 2013).

In this era of managed care, cost containment, public revenue reductions, and increased accountability, residential treatment centers are trying to remain a viable service option. The field's willingness to track results and make themselves accountable to all stakeholders may determine whether they remain a reasonable service option (Sternberg et al., 2013). While residential treatment centers have long-term anecdotal data and discharge data to document treatment effectiveness, they have not yet measured whether their youths-in-treatment maintain treatment gains post-discharge. Not enough is known about how children who experience residential treatment are functioning at 6 months, 12 months and 24 months post-discharge.

### **Purpose of the Study**

The purpose of this study was to evaluate post-discharge outcomes of youth who were recently discharged from the Short Term Child and Family Stabilization Center (CFSC) and the Intensive Long Term Residential Program (ILT) at Intermountain Children's Home. Specifically, this study investigated how recent graduates from Intermountain's CFSC and ILT functioned at 6 months, 12 months and 24 months post-discharge. This information allowed us

to understand if Intermountain graduates were able to maintain the gains they made in treatment after leaving the residential setting. Further, in this study I examined whether there was a difference in functioning between graduates of the CFSC and ILT.

### **Research Questions**

For the purposes of this research, the following questions were investigated:

#### **Research Question One: Treatment Setting and Standardized Assessment Outcomes**

What is the effect of treatment setting (short term versus long term) on standardized assessment outcomes (Y-OQ. 2.0 Total Score) at discharge, and 6, 12, and 24 months post-discharge?

#### **Research Question Two: Treatment Setting and Functional Outcomes**

What is the effect of treatment setting (short term versus long term) on post-discharge (6, 12 and 24 months) functional outcomes?

Based on the aforementioned research questions, I formulated the following research hypotheses.

*Hypothesis 1.* There will be statistically significant differences between treatment settings (short term and long term) as measured by the Y-OQ 2.0 scores at discharge, 6, 12, and 24 months post-discharge.

*Hypothesis 1<sub>0</sub>.* There will be no statistically significant differences between treatment settings (short term and long term) as measured by the Y-OQ 2.0 scores at discharge, 6, 12, and 24 months post-discharge.

*Hypothesis 2 (a).* There will be statistically significant differences in post-discharge living environment at 6 months, 12 months and 24 months post-discharge between treatment settings.

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*Hypothesis 2<sub>0</sub> (a).* There will be no statistically significant differences in post-discharge living environment at 6 months, 12 months and 24 months post-discharge between treatment settings.

*Hypothesis 2(b).* There will be statistically significant differences in number of out of home placements at 6 months, 12 months and 24 months post-discharge between treatment settings.

*Hypothesis 2<sub>0</sub> (b).* There will be no statistically significant differences in number of out of home placements at 6 months, 12 months and 24 months post-discharge between treatment settings.

*Hypothesis 2(c).* There will be statistically significant differences in sexualized behavior at 6 months, 12 months and 24 months post-discharge between treatment settings.

*Hypothesis 2<sub>0</sub> (c).* There will be no statistically significant differences in sexualized behavior at 6 months, 12 months and 24 months post-discharge between treatment settings.

*Hypothesis 2(d).* There will be statistically significant differences in contact with the legal system placements at 6 months, 12 months and 24 months post-discharge between treatment settings.

*Hypothesis 2<sub>0</sub> (d).* There will be no statistically significant differences in contact with the legal system placements at 6 months, 12 months and 24 months post-discharge between treatment settings.

*Hypothesis 2(e).* There will be statistically significant differences in friendships at 6 months, 12 months and 24 months post-discharge between treatment settings.

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*Hypothesis 2<sub>0</sub> (e).* There will be no statistically significant differences in friendships at 6 months, 12 months and 24 months post-discharge between treatment settings.

*Hypothesis 2(f).* There will be statistically significant differences in whether the youth has a better relationship with parents/guardians at 6 months, 12 months and 24 months post-discharge between treatment settings.

*Hypothesis 2<sub>0</sub> (f).* There will be no statistically significant differences in whether the youth has a better relationship with parents/guardians at 6 months, 12 months and 24 months post-discharge between treatment settings.

*Hypothesis 2(g).* There will be statistically significant differences in the type of impact Intermountain had on a youth's life at 6 months, 12, months and 24 months between treatment settings.

*Hypothesis 2<sub>0</sub> (g).* There will be no statistically significant differences in the type of impact Intermountain had on a youth's life at 6 months, 12, months and 24 months between treatment settings.

### **Definition of Terms**

*Child and Family Stabilization Center (CFSC):* A short term residential treatment center program for youth ages 5-14 years-old at Intermountain Children's Home in Helena, Montana. Stays are typically 3-6 months, in contrast to the Intensive Long Term Residential Treatment Program at Intermountain that has stays lasting 12-24 months. Although the developmental/relationship treatment model is used, its use is limited to *identifying* and *beginning* to implement specific strategies to stabilize behavior, family discord and friction, and determine treatment and/or placement needs for the child and family. (L. Kohlstaedt, personal communication, September 11, 2013).

*Developmental/Relational Model of Residential Treatment:* A unifying philosophy to choose and train staff and understand the meaning of a child's disturbed behavior. It uses patterned, repetitive relational responses to change the child's experience of and interaction with the world around him or her. The developmental/relational approach addresses children's violent behaviors as an expression of unmet needs, and treats children in residential care by the intentional use of intimate relationships, changing the child's experience of himself or herself in relationship. Within this model, the healing instrument is the relationship with staff (Kohlstaedt, 2008).

*Functional Outcomes:* Changes in adaptive functioning in meaningful life domains, along with measureable progress in achieving developmental milestones. Meaningful life domains include home, school/education, safety, employment, social, emotional, and cultural (AACRC, 2012, pp. 1-2).

*Intensive Long Term Residential Treatment (ILT):* A long term residential treatment center program for youth ages 5-14 years old at Intermountain Children's Home in Helena, Montana. The ILT also uses the developmental/relational treatment model. Stays are typically 12-24 months (L. Kohlstaedt, personal communication, September 11, 2013).

*Long-term Residential Treatment:* Residential treatment programs lasting longer than nine months (James, 2011).

*Residential Treatment Centers:* Out-of-home 24 hour facilities that offer mental health treatment, use multi-disciplinary teams, deliberate client supervision, intense staff supervision and training that often make therapeutic use of the daily living milieu, but are less restrictive than inpatient psychiatric units (Bates, English & Kouidou-Giles, 1997; Butler & McPherson, 2007)



*Short-term Residential Treatment:* Residential treatment programs lasting less than nine months (James, 2011).

### **Delimitations**

This study was delimited to youth who were enrolled and exited from the CFSC and ILT Programs at Intermountain Children’s Home in Helena, Montana. Only participants who were discharged after March 1, 2011 were included.

### **Significance of the Study**

The importance of conducting research on post-discharge outcomes from residential treatment centers is directly linked to the increased scrutiny that residential treatment centers are under. As managed care organizations and other third-party payers dictate how health care dollars can be spent and there is a corresponding expectation that service delivery models use evidence based interventions. Consequently, treatment centers need data to support that they are an effective and vital service delivery option for children with severe emotional disturbances.

This study examined youth who were enrolled and discharged from Intermountain’s CFSC and ILT programs. Specifically, this study assessed how these youth were functioning at 6 months, 12 months and 24 months post-discharge. By analyzing standardized assessment outcomes data as well as functional outcomes data, Intermountain gained an understanding of the effects of their treatment programs; therefore continuing to inform their service delivery model. Finally, this study helped the industry evaluate whether long term residential treatment outcomes outweigh the cost and restrictiveness of these programs.

### **Summary**

Children and adolescents are suffering from significant mental disorders that negatively affect their lives across many domains. Without treatment, many youth have little chance for

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success in life and are likely to drop out of school, struggle with poverty, or end up in the prison system. It is imperative that youth with mental health disorders have an opportunity to receive appropriate treatment. Residential treatment centers are an expensive and restrictive treatment option for youth with significant mental health disorders. Although research has generally established that children improve while receiving residential care, less is known about the stability of treatment effects post-discharge. Given the level of scrutiny, expense, and restrictiveness of this model Intermountain will be well-served if it can demonstrate a long lasting treatment impact.

## CHAPTER TWO: REVIEW OF THE LITERATURE

### **Introduction**

In this chapter I provide an overview of the research regarding residential treatment for children and adolescents. This chapter discusses the obstacles that residential treatment centers (RTCs) face as they vie to remain an option in the mental health care continuum. The definition of residential treatment will be reviewed, as well as methodological and research design issues that have influenced the field. Data collection practices and assessments used both as internal outcome tracking and post-discharge outcome evaluation will be discussed. Discharge outcomes will be briefly reviewed, while the research review focuses on post-discharge outcome studies. The research studies were selected for this review based on their relevance to the current study of post-discharge functioning of Intermountain youth. Relevant considerations included size of residential treatment center (RTC), population and ages served, use of similar assessment instruments and techniques and/or similar timelines for post-discharge data collection.

In the last decade, residential treatment centers have come under greater scrutiny to establish themselves as an effective and integral component of child and adolescent mental health services (Butler & McPherson, 2007; Leichtman, 2006; Walter, 2007). One obstacle facing RTC's is their cost. Since the reduction in average lengths of stay in psychiatric hospitals, residential treatment has become the most expensive per episode mental health service (Helgerson et al., 2005; Leichtman, 2006). In the past, the reimbursement system did not support comprehensive outpatient services, so the more costly inpatient programs were the most economically viable treatment for families with deeply troubled children (Behar, 1990; Bleiberg, 2001). However, by the 1990's, these conditions significantly changed. Medications made it

more possible to manage emotional and behavioral disorders in outpatient settings (Baldessarini, 2014) and outpatient services such as day treatment and wrap around services also offered ways to support troubled families in the community (Leichtman, 2006). Managed care systems and public funding, with an increased focus on the popularized short term therapies, began limiting extended inpatient benefits (Emenhiser, Barker, & DeWoody, 1995). As a result, RTC's need to demonstrate that their disproportionate resource consumption produces positive, long lasting outcomes (Brown et al., 2011; Lyons et al., 2009; Sternberg et al., 2013).

Second, an additional obstacle faced by RTC's is that the emerging system of care philosophy that endorses least restrictive, community-based environments is at odds with the out-of home, out-of-community residential treatment model (Huang et al., 2005; Lyons et al., 2009, Stroul & Friedman, 1986). System of care is a comprehensive spectrum of mental health services that are organized into a coordinated network to meet the needs of children and adolescents with severe emotional disturbances and their families. This system of care emphasizes two core values: care must be child-centered and community based (Stroul & Friedman, 1986). Residential treatment centers have not traditionally been included in these systems of care initiatives, and have often been seen as a last resort for children not successfully treated in the community (Helgerson et al., 2005)

A third obstacle is that the promotion of evidence-based practices have resulted in an emphasis on empirically supported interventions (Bettman & Jasperson, 2009; Curry, 2004; James, 2011). Larzelere (2001) reported that residential treatment had historically been well funded, and therefore had little motivation to document its effectiveness. However, as the evidence-based practice movement has advanced, it is notable that group care treatment cannot be found on any list of evidence-based treatments for youth with serious emotional and

behavioral problems (NREPP, 2010). For all of these reasons, residential treatment is under increased pressure to demonstrate that they are an effective service option for children and adolescents.

### **Defining Residential Treatment**

Many contend that at the heart of the weak evidence base for residential treatment is a lack of a clear understanding of what exactly constitutes residential treatment (Butler & McPherson, 2007; James, 2011; Lee, 2008;). In fact, Butler and McPherson (2007) state that *Residential treatment* is an umbrella term to describe a plethora of different types of models of service delivery. In accordance with that statement, the Surgeon General's Mental Health Report (USDHHS, 1999) acknowledged that many configurations of care and treatment are labeled as residential treatment, but actually provide a wide range of care and provisions. These configurations include group homes, therapeutic foster homes, treatment foster care, campus-based homes, locked facilities, and congregate care (USDHHS, 1999). Leichtman (2006) added that organizations labeled as residential treatment range from highly structured institutions closely resembling psychiatric hospitals to those that are indistinguishable from group homes, half-way houses or foster care homes and they all differ markedly in treatment philosophies and populations served.

In order to bring clarity and common language to the field, Butler and McPherson (2007) proposed the following definition, "Residential treatment requires components of a therapeutic milieu, a multidisciplinary care team, deliberate client supervision, intense staff supervision and training, and consistent clinical/administrative oversight" (p.499). The definition proposed by Bates et al. (1997) enhances the previous definition by stating that residential treatment centers are defined as "out-of-home 24 hour facilities that offer mental

health treatment and use multi-disciplinary teams that often make therapeutic use of the daily living milieu, but are less restrictive than inpatient psychiatric units.”

However, Lee (2008) argued that Butler and McPherson’s (2007) definition was problematic because it aggregated diverse programs under the banner of residential treatment. For example, Lee (2008) pointed out that substance abuse treatment, locked offender units, family-style group care, emergency shelters, and residential schools all met the criteria set forth by Butler and McPherson (2007). To improve how we classify the continuum of residential programs Lee (2008) proposed that the following dimensions be addressed:

**Target population:** Programs could be classified based on the proportion of youth represented by mental health needs, juvenile justice system or other special population.

**Length of stay:** The average length of stay within residential programs varies widely from 30 day substance abuse programs to residential schools who may serve students for years. Short term programs are generally described as lasting less than 9 months while long term programs typically last longer than 9 months (James, 2011).

**Level of Restrictiveness:** Locked units for sexual offenders are radically different in their level of restrictiveness compared to family-style group care and should be clearly articulated in the treatment description.

Despite the fact that Butler and McPherson (2007) identified the lack of clarity around what defines residential treatment, confusion remains (Lee, 2008). In order to empower families and children to better understand their treatment needs and service options, Lee (2008) asserted that a more refined classification system is needed to clean up the language used in labeling residential programs. Defining residential treatment centers by their target population, level of restrictiveness and length of stay could bring that clarity to families and children.

### **Methodological and Research Design Concerns**

One significant methodological problem that researchers have highlighted is that residential treatment studies often fail to provide detailed descriptions of the theoretical orientations and treatment components (Frensch & Cameron, 2002; James, 2011; Knorth, Harder, Zandberg & Kendrick, 2008; Lyman & Campbell, 1996;). In residential treatment, it is difficult to specify which treatment element is having a differential effect (Frensch & Cameron, 2002). This is of particular importance in making an evaluation of program effectiveness, since the outcomes cannot then be related to its constitutive elements (Palareti & Berti, 2009).

Additional methodological and research design issues were reported by Pfeiffer (1989) in his review of studies evaluating children receiving inpatient psychiatric services. In addition to not including a description of the intervention and exploring the role of specific treatment components, Pfeiffer (1989) suggested 14 other issues regarding outcomes research. He suggested that good research also required the following: a psychiatric diagnosis, an adequate response rate, and multiple measures from multiple sources at intake, discharge, and follow-up. He recommended that the measures include standardized measures, as well as indicators of post-discharge functioning. His other recommendations were to include information on prior treatment, use uniform criteria for diagnoses, use appropriate inferential statistics, subdivide the sample into different subgroups, inclusion of control group, blind data collection and a uniform set time for follow-up interview (Pfeiffer, 1989). Hair (2005) also reported the following design limitations in her review of residential treatment outcomes: (a) variability of participants, (b) lack of comparable information, (c) using a single data set, (d) minimal sources of information, (e) small non-randomized sample sizes, (f) no comparison groups, (g) non-comparative measures, (h) data attrition, and (i) retrospective data.

While Pfeiffer (1989) advocated for traditional experimental or quasi-experimental designs, there are difficulties inherent in these approaches. Two methodologies typically employed by researchers establishing empirically supported interventions are efficacy and effectiveness studies. Efficacy studies are tightly controlled studies designed to demonstrate “the probability that a given intervention will produce beneficial effects under ideal conditions” (Weisz & Jensen, 2001, p. 12). Typically all conditions, such as criteria and assignment of participants, the use of control groups, and fixed treatment protocols, are tightly monitored. Furthermore, efficacious treatments are manualized and specific to treated problems such as anger control (U.S. Public Health Service, 2000). However, efficacy studies in residential settings are not likely to occur because of how difficult it is (and sometimes inappropriate) to introduce and maintain tightly controlled conditions within the clinical setting (AACRC, 2009; Hair, 2005).

In contrast, effectiveness studies refer to the “probability that an intervention will produce beneficial effects for typical clients, treated by the average practitioner, under ordinary clinical practice conditions” (Weisz & Jensen, 2001, p.12). Establishing that an intervention is effective with youth in residential treatment is also difficult to establish despite less tightly controlled conditions than efficacy studies (AACRC, 2009; Hair, 2005; Walter, 2007). These difficulties include: agency fiscal restraints that limit intensity and duration of treatment (Hair, 2005), clinicians who could disagree with, misunderstand or decide to alter the treatment process to better match their own ideology (Burns, Hoagwood & Mrazek, 1999), and lack of consistent training, supervision, and implementation practices (AACRC, 2009; March & Curry, 1998). As a result, the data collection may be incomplete or inconsistent which negatively affects measurement reliability and validity (Hair, 2005). March and Curry (1998) also note that



practitioners in residential treatment settings need to be flexible and spontaneous as needed in order to effectively engage distressed and suspicious families. However, these characteristics that may make services effective also make the services that much more difficult to measure and evaluate (Hair, 2005).

### **Functional Outcome Performance Measures**

In contrast to standardized measurement procedures, The American Association of Children's Residential Centers (2012) and Lee and McMillen (2008) advocated for measuring functional outcome and perception of care as a method for demonstrating the treatment effectiveness. McMillen and colleagues (2005) offered that while outcome studies are one piece of the quality puzzle, efforts to identify quality indicators and develop performance standards are also needed. The systematic gathering, compilation and analysis of data regarding how specific children are served provides important objective information about residential treatment as an intervention and establishes credibility for individual organizations in the field (AACRC, 2009). While performance measurement can identify effectiveness, benchmarking is an important companion to performance measurement because it further contextualizes the data and can safeguard against myopic interpretation (AACRC, 2009). It allows for comparison of similar organizations providing care and treatment for similar youth and can incentivize the pursuit of excellence (AACRC, 2009).

A framework for benchmarking measurement that reflects short and long term results of the treatment effort in residential treatment centers contains two types of indicators (AACRC 2012). The first is functional outcomes. Functional outcomes are defined as "changes in adaptive functioning in meaningful life domains, along with measureable progress in achieving developmental milestones. Meaningful life domains include home, school/education, safety,

employment, social, emotional, cultural, etc. but are ideally defined from the perspective of each family and culture” (AACRC, 2012, pp. 1-2). The second indicator is perception (experience) or care measures which is defined as whether the youth and family believe they benefitted from treatment and can use what they learned to make improvements in their lives (AACRC, 2012). When functional outcomes and perception of care are assessed, it is a way for residential treatment centers to answer the questions, “Did we make a difference?” and “What difference was that?” (AACRC, 2012). Several researchers have called for the development of a consistent set of functional outcome measures to be tracked by all residential programs (Epstein, 2004; Frensch & Cameron, 2002; Whittaker & Pfeiffer, 1994). This would allow for comparisons between providers as well as aggregated results for the industry (Lee & McMillen, 2008).

Boys Town has implemented a functional outcomes performance measurement protocol for their residential program (R. Thompson, personal communication, December 10, 2013). Boys Town Out-of-Home services follow-up interview gathers data about living environment, out-of home placements, school, work, arrests, use of illegal substances, relationships with peers and adults, religious practices, community activities, medical coverage, and treatment outcomes at 6, 12 and 24 months post-discharge (R. Thompson, personal communication, December 10, 2013). Boys Town also shared their questions with Alliance for Children and Families for their National Benchmarking Initiative (R. Thompson, personal communication, December 10, 2013).

### **Discharge Outcomes Data Collection**

While not the focus of this study, discharge outcomes data collection practices are relevant to understanding post-discharge data collection as they may use the same instruments. In 2010, the American Association of Children’s Residential Centers (AACRC) repeated a 1999 survey that included data regarding current practices and trends in residential treatment

(Sternberg et al., 2013). The 2010 survey committee was particularly interested in the role of data collection and analysis and how agencies are using the data to improve process and evaluate outcomes (Sternberg et al., 2013). In the 2010 survey, assessment instruments used to track internal outcome data were identified. While the Child and Adolescent Needs and Strengths (CANS), Ansell-Casey Life Skills Assessment (ACLSA) and Child and Adolescent Functional Assessment (CAFAS) were the most frequently used assessment tools, other instruments, such as the WISC-R (intelligence test) and WJ-R (achievement test) were also sometimes included. In fact, 29 and 28 facilities, respectively used these instruments to track outcomes. Both of these instruments are significantly outdated with many new editions having been published in more recent years. Given that standardized assessments are no longer recommended for use one year after the newest edition is published, it is clear that the WISC-R and WJ-R, should not be used for interpretation (American Psychological Association, 2010). In addition, using intelligence test and achievement test data to determine residential treatment outcomes, when such care focuses primarily on social/emotional and behavioral health is inappropriate. Greater care and attention needs to be given in helping residential treatment centers determine valid and reliable assessment tools to measure not only immediate outcomes, but also post-discharge outcomes for the youths receiving treatment.

### **Immediate Discharge Outcomes**

The outcome literature of child and adolescent residential treatment indicates that these therapeutic settings can be successful interventions for many youth (Bettman & Jaspersen, 2009; Hair, 2005). This is demonstrated through research measuring behavioral and socio-emotional functioning and symptom reduction (Connor et al., 2002; Lazerele, 2001; Leichtman, Leichtman, Barber, & Neese, 2001; Lyons, Terry, Martinovich, Peterson & Bouska, 2001). For example,

Connor et al. (2002), found that more severe internalizing symptoms such as depression and anxiety and high-risk behaviors such as suicidality (Lyons et al., 2001) were significantly reduced. However, these results should be tempered due to the limitations previously listed including, lack of consistent definition, methodological research issues and failure to describe residential treatment programs in detail (Bettman & Jaspersen, 2009; Hair, 2005).

### **Post-discharge Outcomes Data Collection**

The 2009 Survey of Residential Treatment Facilities (SRTF) was distributed to facilities that reported to provide 24-hour out-of-home residential treatment for children and youth age 17 and under (Brown et al., 2011). Respondents to the SRTF were geographically diverse and served an average of 93 children and youth during the past 12 months (Brown et. al., 2011). The SRTG researcher reported that while 75% of state licensed facilities collected post-discharge data, only 55% of unlicensed facilities collected client/patient outcome follow-up after discharge (Brown et al., 2011). Overall, between one and six months post-discharge, 71% of facilities collected data regarding satisfaction with residential treatment. About 65% of facilities collected data during the same time period regarding the use of community based mental health services, housing status, educational attainment and clinical/functional status (Brown et. al. 2011). At seven to twelve months post discharge, and more than one year post-discharge, percentages of data gathered was typically less than 25%. (Brown et. al., 2011). While perception of care and to a minimal degree, functional outcomes are being measured at one to six months post-discharge, it appears that residential treatment centers are only very infrequently collecting data pertaining to discharge outcomes longer than six months. Further, outcomes data directly related to treatment efficacy or effectiveness are rarely collected.

The 2010 AACRC survey, reported that only 34 of 73 (47%) sampled programs were gathering any data at all post-discharge. Of these 34 residential treatment centers, seven percent used in-house instruments, 40% used standardized instruments and 38% used more than one instrument. Nineteen different standardized instruments were used across the 34 programs. The CANS and CAFAS were used most frequently for post-discharge data collection.

### **Post-Discharge Outcomes from Short Term Residential Treatment Centers**

Larzelere (2001) evaluated 43 youth at a Boys Town Residential Treatment Center. He reported that the youth benefitted from treatment and were able to maintain treatment gains post-discharge. The average age was 13.0 years at intake, with a range of 6 to 17 years. On average they had experienced four different placements during the six months before receiving treatment at the RTC. They stayed in treatment from 18 to 505 days, with a mean treatment duration of 181 days (median = 165 days). Measures were administered at intake, discharge, and/or as part of a follow-up phone survey. The follow-up response rate was 65% and the data were collected within a range of 6 to 21 months. The measures used included the Child Behavior Checklist (CBCL) (intake, discharge, follow-up); the Children's Global Assessment Scale (C-GAS) (intake and discharge), the Restrictiveness of Living Environments Scale (ROLES) (completed from case records at intake, discharge and follow-up); Youth Satisfaction Survey (just before discharge), and a telephone follow-up survey. Youth improved significantly on the CBCL and maintained those gains at follow-up. ROLES respondents indicated that only 9% of youth were discharged to a more restrictive setting. The Youth Satisfaction Scale mean score on a 7 point scale was 6.4. The follow-up survey revealed that 96% were going to school and 79% reported they were doing the same or better in school than they had before RTC treatment. Eighty percent of caregivers reported that their relationship with the youth was going at least "fairly well."

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Despite these relationships going fairly well, 43% of caregivers also reported serious conflict incidents occurring monthly or more often. In addition 52% reported that the youth had relationship problems in multiple settings.

Finally, the researchers reported that specific delinquency problems such as running away, physical assault, and theft were less likely after RTC treatment. The majority of youth, 86%, received psychological or psychiatric outpatient treatment after discharge. Overall, caregivers reported that 76% of the youth had a better quality of life than before residential treatment. About 16% had a life quality the same as before and only 8% rated their lives as worse than before treatment.

Larzelere et al. (2001) also attempted to address the methodological problems that typically plague residential treatment center evaluations. These researchers included a description of the intervention, follow-up information, an adequate response rate and multiple measures from multiple sources at intake, discharge and follow-up. Additionally, they included standardized measures as well as post-discharge functional performance indicators. The methodological issues not addressed in the study included subdividing the sample into different subgroups, exploration of the role of specific treatment components, inclusion of a control group, blind data collection and a uniformly set time for the follow-up interview (Larzelere et al., 2001). It is also noteworthy that follow-up data were only collected at one post-discharge date. Finally, in a review of residential treatment outcomes, Bettman and Jaspersen (2009) noted that the C-GAS was not administered at follow-up, so therefore researchers based improved functioning on change within the residential setting, not out in society.

Preyde et al. (2011) conducted a study to evaluate the long term outcomes of children and youth with severe mental health problems who either received residential treatment (RT) or

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intensive home based treatment (IHT). Both treatment groups had a mean age at admission of approximately 14 years of age. RT involved multi-disciplinary teams that created individual treatment plans based on cognitive-behavioral, psychoeducational, brief and solution focused models. RT children (n= 105) lived in residence 5 days a week and attended either their own community school or an on-site school. Children returned to their family's home on weekends, when possible. The average length of stay for RT youth was 7.8 months. IHT youth (n= 105) remained at home and the family received a range of intensive services similar to those offered in residential care. The average length of program involvement was 5.25 months.

Preyde et al. (2011) included intake and discharge scores on the Brief Child and Family Phone Interview (BCFPI) obtained from agency files. The BCFPI was completed by an intake worker in consultation with the caregiver and provided a rating of symptoms severity for six core mental health subscales and a total mental score (Cunningham, Pettingill & Boyle, 2002) Post discharge scores on the BCFPI were obtained with caregiver interviews at two different points in time: approximately 12-18 months post-discharge and 36-40 months post-discharge (Preyde et al., 2011). Data were collected from admission and discharge by studying agency files. Two post-discharge points (at approximately 12-18 months and again at 36-40 months) used standardized measures. Scores on the Child and Adolescent Functioning Assessment Scale (CAFAS) were gleaned from agency files at both admission and discharge (Preyde et al., 2011). The CAFAS is administered by clinicians through consultation with caregivers. It measures psychosocial functioning along eight domains and is frequently used to present clinical results from residential treatment (Hodges & Kim, 2000; Leichtman et al., 2001).

Preyde et al. (2011) reported the following results. [Please note that a clinically significant improvement in CAFAS scores would be a decrease of 20 points and an overall score

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of 40 suggests youth could live in their home and attend regular school (Hodges, Xue, & Wotring, 2004)]. Seventy-nine percent of youth in RT and 71% of IHT youth made clinically important improvements. An end of service target of a CAFAS score of 40 or below was met by 44% of youth in RT and 51% of youth in IHT. There were also statistically significant improvements on all the BCFPI subscales except Separation from Parents and Managing Anxiety for both groups. Significant improvements were made between admission and 2 years post-discharge, with minimal change between 2 and 3 years post-discharge. These findings suggest that residential treatment and the home-based alternative were beneficial for several youth.

Similar to the results of Larzelere et al. (2001) the Preyde et al. (2011) study demonstrated that many youth retained treatment gains for 3 years post-discharge. In addition, this study also contributes to the literature on the need for RT. IHT is not an option for youth who do not have a stable home and therefore, RT can be considered as providing services for youth in need of that level of care. Preyde et al. (2011) recommended that future studies concentrate on determining for whom RT is indicated, identifying areas that could be strengthened, and testing the effectiveness with randomized clinical trials.

While this study involved a two group comparison, it was not a randomized controlled trial. Because the study was not randomized, the two groups may not be comparable because of significant pre-treatment differences. Preyde et al. (2011) asserts that RT and IHT are accessed by two distinctly different youth populations. The relative effectiveness of RT and IHT therefore cannot be determined by statistically comparing outcomes scores of youth in each program, but rather both treatments should be seen as important options in a continuum of mental health services. Preyde et al. (2011) reported that missing data and sampling as their main limitations.



Additionally, without a control group, it is possible that maturation or historical factors may have accounted for some or all of the positive changes.

Leichtman et al., (2001) conducted a follow-up study of 123 adolescents who were provided treatment in a short-term residential center. Participants were 53% male with a mean age of 14.8. The typical length of stay was three to four months with the shortest stay being 35 days and the longest 867 days (mean = 163 days, median = 118 days). At admission, three months post-discharge and 12 months post-discharge, semi-structured interviews using the Child Behavior Checklist (CBCL), Youth Self Report (YSR) and Child and Adolescent Functional Assessment Scale (CAFAS) were used.

The sample had a mean admission total CAFAS score of 118 which is in the range Described by Hodges (1998) as “extreme impairment.” The mean T-score on the CBCL total problems scale was 73 which is more than two standard deviations above the mean. The self-report YSR was somewhat lower (T-score + 64), but still significantly above the mean.

Of the 49 adolescents who completed the YSR at admission and three months after discharge, 47% showed reliable improvement (improvement by more than 13 points, Achenbach, 1991b) and 70% showed clinically significant change (post-discharge score was closer to mean of the normal population than to the mean of the pretreatment group).

Using the Achenbach norms (1991a), the CBCL completed by parents at admission and 3 months after discharge showed improvement. Seventy-one percent showed reliable improvement and 53% showed clinically significant change (T-score at 3 months post-discharge of less than 64).

Using Jacobson and Turax’s (1991) Reliable Change Index on the total CAFAS scores, 79% of adolescents made reliable improvement (at least 40 point change) between admission and

three months post-discharge. Three months after discharge, 65% of patient's total CAFAS scores fell more than two standard deviations below the pretreatment mean (clinically significant change.)

On a repeated measures analysis for all measures (CBCL, YSR and CAFAS), the overall change between admission and three months post-discharge was significant for all three measures. There was no significant change between three and 12 months post-discharge.

The most significant finding of this study is that intensive short-term residential treatment can be an effective intervention for adolescents who have exhibited severe psychiatric problems and have not responded to a range of earlier interventions. These patients consistently showed statistically significant and clinically substantial improvement from admission to 3 months post-discharge; and in contrast to some outcome research, the improvement was sustained for the year following discharge.

The strengths of this study include the use of standardized measures that were administered at admission and post-discharge. This allowed for comparison of functioning and symptom severity. The weaknesses of this study are the lack of data gathered at discharge and lack of control group. Without discharge data it is not possible to ascertain if patients improve or decline in the first three months after discharge, simply that they are better relative to admission. It is also difficult to characterize this treatment as short term intensive when at least one patient received this treatment for 867 days.

### **Post-Discharge Outcomes from Long Term Residential Treatment Centers**

Asarnow, Aoki, and Elson (1996) conducted a qualitative follow-up study that included primary caregivers of 51 male youth up to 3 years after being discharged to their families. The youth had mean length in residential treatment of 16.7 months and mean age of 11.9 at

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discharge. A brief semi-structured interview was conducted with the child's primary caregiver. The follow-up interval ranged from two months to roughly 3 years.

At one-year post-discharge, 32% of children were at risk for re-placement in a residential facility. The numbers increased to 53% and 59% for two and three years post discharge, respectively. Re-placement to a residential facility or group home was mainly due to violent behaviors toward others or property, and/or running away.

While 82% of children participated in required post-discharge special education services (which the residential treatment staff had helped set up), only 57% of youth received psychotherapy or counseling as a follow-up service. The researchers found that there was an underutilization of other aftercare services, such as access to community clinic, private provider or use of medication. Asarnow et al. (1996) concluded that this lack of aftercare could contribute to difficulties maintaining home placements and thus the increased need for more structured settings. In addition, Asarnow et al. (1996) identified that residential treatment is not integrated as part of a system of care and so families with few resources experience residential treatment as a "single shot" intervention with no follow-up provided.

The strength of this study is that youth were followed for 24 months post-discharge. Qualitative research provides a strong foundation for more focused quantitative research, however, it does not allow the researcher to generalize results beyond the sample population. Therefore, the results of this study are limited to the population it sampled.

Hooper, Murphy, Devaney and Hultman (2000) followed 111 youth who were admitted to the Whitaker School in North Carolina from 1992-1997. The school is based on the principles of Hobbs' re-educational model (Re-ED). The Re-ED model emphasized a strength-based approach, an ecological orientation, a focus on competence and learning, an emphasis on

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relationship-building and the development of a culture of questioning and informed or data-driven decision making (James, 2011). The mean age of the youth was 15 years and they were being treated for co-morbid diagnoses of severe emotional and behavioral problems. The mean stay was 285 days and all were successfully discharged.

Youth's case managers were contacted at 6, 12, 18 and 24 months post-discharge to complete phone interviews. The youth were rated as either "satisfactory" or "unsatisfactory" in the following life domains: absence of illegal activity, academic achievement, and level of care. During that 24 months, 79% were doing satisfactorily in school, 80% had no legal involvement, and 86% did not require a more restrictive setting. At least 60% of residential graduates were successful across all three areas of investigation.

Strengths of the study included post-discharge data collection at multiple points over the course of 24 months. Another strength was the assessment of functional life domains. However, there were no standardized assessments administered and data were not compared across intake, discharge, and follow-up. Finally, Bettman and Jaspersen (2009) noted in their review of residential treatment research that the reporting of youth functioning was completely subjective on the part of the case manager.

Thompson, Hirshberg and Qiao (2011) studied post-discharge outcome data for one cohort of adolescent girls discharged from a long term residential treatment center, Germain Lawrence. Follow-up interviews with former residents and/or parents/guardians were completed at three months and 12 months post-discharge with 100% of the girls discharged. The interview protocol used open and closed-ended questions to elicit information about each adolescent's behavior in the following areas: level of care, education, hospitalizations, arrests/detentions, and aftercare services.

Germaine Lawrence offered long-term programs for adolescent girls (ages 11 through 19) with problematic behaviors such as physical aggression, self-injury, suicidal thoughts and gestures, and sexual exploitation and sexual aggression. The treatment provided incorporates a psycho-educational motivational system in the milieu, and cognitive and dialectical behavior therapy in individual sessions and groups. Throughout treatment, parent involvement was emphasized.

Forty-nine adolescent girls were tracked for the purposes of this study. The mean age at admission was 16 years and the mean length of treatment was 12.9 months. Approximately 75% of the cohort had planned discharges.

For the 36 girls with planned discharges, there was a 77% reduction in out-of-home placements in comparing the year before admission versus the year after discharge. Eighty-one percent were also living in a safe, less-restrictive residence. In contrast, the seven residents with unplanned discharges were still living in institutional settings.

Measures of social functioning for the 36 girls with planned discharges demonstrated that at 3 months post-discharge the large majority of adolescents were not hospitalized (92%), not arrested (92%), attending high school or GED class (93%) and graduated from high school (83%). At one year post discharge 72% of adolescent girls were still not hospitalized and 83% had not been arrested and were attending high school. Only 54% graduated from high school or equivalent.

One strength of this study included the collection of data on 100% of the girls in residence. This is significantly higher than the Larzelere et al. (2001) response rate of 65%. In addition, in contrast to the Larzelere et al. (2001) research design where each youth was contacted once over a two year period, Thomsson et al. (2011) contacted respondents twice in

one year. In addition, the data collection focused on functional outcomes that can be benchmarked with other residential treatment centers. The limitations of this study were the lack of standardized assessment data and lack of a control group.

Nijhof, Otten and Vermaes (2014) examined parents' and adolescents' perceptions of adolescent functioning after being discharged from the Hoenderloo Groep in the Netherlands. The Hoenderloo Groep offered both secured and open residential care to boys and girls aged 10 to 18 years. The mean age at time of discharge was 16.16 and 69% of the adolescents were male. The average duration of treatment was 27.95 months. Adolescents and parents completed interviews at approximately 3 months, 9 months and 24 months post-discharge.

Structured interviews assessed eight outcome variables that were deemed important to function in society. These variables included: living situation, school/work, contact with parents, social network, behavior problems, the use of soft drugs, self-reported police contacts and well-being. Post-treatment outcomes were quite positive. Adolescents were satisfied about contact with parents, almost all had a place to live, went to school or had a job, did not use drugs and were satisfied about their well-being. On the other hand, only one-third had a good social network and the behavior problems increased over time. In regards to the stability of functioning over time, it appeared that adolescents who show negative outcomes directly after discharge are also more likely to show negative outcomes in the longer term, whereas positive outcomes were also more likely to persist over time.

The strengths of this study included gathering post-discharge outcomes at three separate times in order to gather longitudinal data to analyze the stability of post-treatment functioning. In addition, the interview was developed as a tool to measure how well the adolescents were functioning in society post-discharge. An additional strength was having multiple informants.

Weaknesses of this study include participant attrition over time, there was no control group, and the study did not include pre-treatment characteristics.

### **Summary**

Residential treatment centers are facing many obstacles as they try to remain a service option in the continuum of mental health care services for children and adolescents. Research studies generally support that residential treatment reduces symptoms and increases social/emotional behavioral functioning while youth are in treatment. The small number of post-discharge studies available indicated that youth were able to maintain much of those gains post discharge. However, methodological issues prevent comparison across residential treatment centers due to variability in assessment practices and instruments. Furthermore, because none of the research has included a control group, it is impossible to definitively conclude that residential treatment in general, or any of its specific characteristics, are what drive or cause positive changes.

### CHAPTER THREE: METHODOLOGY

The primary purpose of this study was to explore the pattern of post discharge functioning for youth who received residential treatment at Intermountain Children's Home. Specifically, total life distress and functional performance were used as the outcomes measures in this study. The secondary purpose of the study was to explore the relationship between treatment setting and total life distress and functional performance. The study included a causal comparative non-experimental design to statistically analyze the relationship between treatment setting, time, and total life distress in youth. The broader purpose was to better understand how youth were functioning once they were discharged from either Child and Family Stabilization Center (CFSC) or the Intensive Long Term Residential Treatment Program (ILT) at Intermountain Children's Home in Helena, Montana.

#### **Context and Setting: Intermountain Children's Home**

Intermountain Children's Home is a non-profit agency providing campus based residential services for 32 youth ages 5-15. These services are guided by the following mission statement: Healing Through Healthy Relationships ([www. intermountain.org/about-us/](http://www.intermountain.org/about-us/), 2015). Intermountain Children's Home provides two levels of residential services to severely emotional disturbed children and adolescents. Their residential campus consists of four cottages, housing eight children each. One cottage, the Child and Family Stabilization Center (CFSC) is designated for short term residential services. The other three cottages are for youth receiving long term intensive residential services (ILT). Children from all four cottages attend school on campus where regular education and special education services are provided by certified staff.

Intermountain employs a board certified psychiatrist, a psychologist, licensed mental health therapists, nursing staff, certified special education teachers, and non-licensed milieu



counselors. Intermountain is accredited by the Joint Commission and by Northwest Accreditation Commission. They are also licensed by the Montana Department of Public Health and Human Services (DPHHS), an approved contractor with the state of Montana for special education services, and a certified non-public school for the following states: California, Washington and Illinois. Additionally, they are members of the National Association of Therapeutic Schools and Programs (NATSAP), Alliance for Children and Families, and Montana Children's Initiative ([www.intermountain.org/about-us/accreditationslicensure/](http://www.intermountain.org/about-us/accreditationslicensure/), 2015).

### **Population and Participants**

“The population is composed of all individuals of interest to the researcher” (Cozby & Bates, 2012, p. 143). The population for this study was comprised of all residents of Intermountain's Residential Program and Child and Family Services Center who had been discharged since March 1, 2011. Intermountain was interested in evaluating the effectiveness of their residential treatment center services, including both their Residential Program (ILT) and Child and Family Assessment Center Program (CFSC). The sample was a nonprobability convenience sample due to the fact that some youth could not be tracked down for post-discharge data collection. However, from the perspective of the researcher and the sampling procedures utilized, each youth did have an equal chance in participating.

There were 24 total participants from the CFSC program. There were 18 males and 6 females and their age at admission ranged from 5 years to 12 years old. The mean age at admission was 8. Their lengths of stay ranged from 105 to 488 days and the mean length of stay was 208 days (6.9 months).

There were 29 total participants from the ILT program. There were 15 males and 14 females. Their age at admission ranged from 6 to 13 and their mean age at admission was 10.14

years old. Their lengths of stay ranged from 169 to 888 days and the mean length of stay was 526 days (17.5 months)

### **Research Design**

This quantitative analysis included a causal comparative non-experimental design to measure the potential relationship between treatment setting, time and total life distress in youth. Boudah (2011) reported that causal comparative research “identifies potential cause-and-effect relationships between an independent variable and a dependent variable in targeted groups of individuals based on pre-existing or extant data” (p. 295).

### **Dependent Variables**

The first dependent variable in this study was the Y-OQ 2.0 total score. It reflects total distress in a youth’s life and is the best index to track global change, as compared to subtest scores because it has the highest reliability and validity (Burlingame et al., 2005). The other dependent variables were the categorical responses to phone interview questions about functional performance post-discharge. Specifically these responses included number of out of home placements, living environment (home, foster family, out of home care or lock-up), sexualized behavior, legal contact, friends, better relationship with parent/guardians and impact of treatment. Responses to questions about sexualized behavior, legal contact and better relationship with parent/guardians were categorized as “yes”, “no”, “don’t know” or “refused”. Responses to impact of treatment were categorized as “negative”, “positive”, “don’t know” or “refused”.

### **Independent Variables**

The independent variables in this study were time and treatment setting. Time was identified in one of the following categories: admission, discharge, 6 months post-discharge, 12

months post-discharge or 24 months post-discharge. Treatment setting had only two categories; CFSC or ILT.

### **Instrumentation**

Measures used in this study were a part of standard practice at Intermountain Children's Home. The Youth Outcome Questionnaire, 2.0 was selected by Intermountain staff for its ability to assess changes in behavior, while also demonstrating sound reliability and validity (Burlingame et al., 2005). The intent of gathering functional performance data through phone interviews was to hear firsthand from parents/guardians what was going well and what was not going well for the youths so that services could be improved.

#### **Youth Outcome Questionnaire, 2.0**

The Youth Outcome Questionnaire 2.0 (Y-OQ 2.0) is an outcome measurement tool (see Appendix A) designed to track the behavioral and subjective experience of children or adolescents, as well as their ability to function in society (Burlingame et al, 2005). Parents or others with reasonably extensive interaction with the youth complete the questionnaire at intake to establish a severity baseline and then complete it repeatedly to track the child's progress. Psychometric calculations from the normative database permit determination of the client's behavioral similarity at each measurement interval to inpatient, residential, in-home and out-patient populations.

The Y-OQ 2.0 is composed of 64 items that comprise six separate subscales designed to assess behavior domains of children and adolescents experiencing behavior difficulties. Most parents require 5-7 minutes to complete the measure. Each item is rated on a five point Likert scale (0-4).

**Scoring.** Scoring the Y-OQ 2.0 is a straightforward procedure, involving simple addition of item values. It should be noted that there are eight negatively scored items that occur in several subscales of the Y-OQ 2.0. These negatively scored behaviors tap “healthy” behaviors that might be positively impacted by mental health care services. The Total score (TOT) is calculated by summing the patient’s ratings across all 64 items. This yields a TOT range from -16 to 240. The higher the score the more disturbed the individual (Burlingame et. al., 2005). In this study, the Y-OQ 2.0 total scores were used as the outcome variable instead of utilizing each of the subscales as the separate outcome variables because the TOT values tends to be the best index to track global change and have the highest reliability and validity (Burlingame, et al., 2005).

The Y-OQ 2.0 has a clinical cutoff score so that researchers and clinicians can determine whether the subject’s scores most resemble that of community normal or of the clinical population (Burlingame et al., 2005). The Cutoff for the Y-OQ 2.0 total score is 46. In addition to a Cutoff score between the community mean and the clinical means, the Y-OQ 2.0 has a Reliable Change Index (RCI) of 13 points for the total score, meaning that the total score must have changed by at least 13 points (Burlingame et al., 2005). The RCI is used to determine if the change exhibited by the youth in treatment is reliable or clinically significant (Jacobson & Truax, 1991).

**Y-OQ 2.0-reliability and validity.** The Y-OQ 2.0 total score has a very high internal consistency estimate of .97 and test-retest reliability is also excellent ( $r = .84$ ) (Burlingame et al., 2005). Two studies compared Y-OQ 2.0 to established measures of similar constructs. A moderately high correlation was found between the Y-OQ 2.0 and the Child Behavior Checklist which supports criterion-related validity (Burlingame et al., 2005). Finally, the construct validity

is supported by a study comparing inpatient and outpatient scores on the Y-OQ 2.0 with those of the community sample (Burlingame et al., 2005).

### **Phone Interview Data**

The purpose of gathering phone interview data was to assess functional outcome and perception of care performance (See Appendix B). Phone interview questions queried about current living environment, number of out-of-home placements, contact with the legal system, relationships with peers and parents/guardians, and the type of impact Intermountain had on a youth's life. With the exception of living environment, out-of-home placements and impact of treatment, question responses are "no", "yes", "don't know" or "refused".

### **Data Collection Procedures**

This study used archival data. Admission, discharge, and post-discharge Y-OQ 2.0 data were collected through an archival source. In addition, archival phone interview data about functional outcomes and perception of care data was also accessed through an archival source.

### **Data Analysis**

Three non-parametric techniques were used to analyze Y-OQ 2.0 Total Scores and functional outcomes data across different treatment settings and time. Assumptions for non-parametric techniques include the use of random samples and independent observations (Pallant, 2010). The use of random samples was not feasible due to lack of information on discharged residents, but each youth was only counted once and did not appear in more than one category or group.

A series of Wilcoxon Signed Rank Tests were used to measure whether there was a significant change in Y-OQ 2.0 Total Scores as measured on two different occasions. "The

Wilcoxon Signed Rank Test is designed for use with repeated measures; that is, when your participants are measured on two occasions” (Pallant, 2010 p. 230).

Additionally, a Mann-Whitney U Test was utilized to test for differences between short (CFSC) and long (ILT) term residential treatment at Intermountain as measured by Y-OQ 2.0 scores. Pallant (2010, p.227) explains that a Mann-Whitney U Test is used to test for differences between two independent groups on a continuous measure.

For both the Wilcoxon Signed Rank Test and Mann-Whitney U Tests, when the significance level was .05 or smaller, it was concluded that the two sets of scores were significantly different and the effect size was calculated. The value of z was used to calculate a rank correlation coefficient (r) (Pallant, 2010). Cohen (1998) recommends the following guidelines for interpretation of r: 0.1= small effect, 0.3 = medium effect and 0.5 = large effect.

Finally, chi-square tests for independence were used to explore the difference between treatment setting and functional outcomes. The chi-square test is used when exploring the relationship between two categorical variables and “compares observed frequencies or proportions of cases that occur in each of the categories with the values that would be expected if there was no association between the two variables being measured” (Pallant, 2010, p. 217). An additional assumption for the chi-square test for independence is that the lowest expected frequency in any cell should be 5. Furthermore, for a 2 by 2 table, it is recommended that the expected frequency be at least 10 (Pallant, 2010). For 2 by 2 tables that violated this assumption, then Fisher’s Exact Probability Test was used instead (McDonald, 2014; Pallant, 2010).

For this study, when Fisher’s Exact Probability Test value was .05 or smaller the phi coefficient was calculated. Cohen’s (1998) criteria for interpretation is 0.1 for a small effect, 0.3 for a medium effect and 0.5 for a large effect.

### **Summary**

In summary, this study design examined the relationship pattern of post-discharge functioning for Intermountain youth who received residential treatment by evaluating their total life distress and functional performance. Data from an archival source included admission, discharge, and post-discharge Y-OQ 2.0's as well as functional performance and perception of care data gathered through post-discharge phone interviews. Data was analyzed with Wilcoxon Signed Rank Tests to determine if Y-OQ 2.0 total scores were significantly different across time. Mann-Whitney U Tests were utilized to determine if Y-OQ 2.0 scores were significantly different between treatment settings. Finally, chi-square analyses and Fischer's Exact Probability Tests determined if there were differences between treatment settings on post-discharge functional outcomes as measured at 6, 12 and 24 months post-discharge.

## CHAPTER FOUR: RESULTS

This chapter presents the data analysis and consists of two sections: (a) analysis of treatment setting and the effect on Y-OQ 2.0 Total Scores at discharge and 6, 12 and 24 months post-discharge (b) analysis of the effect of treatment setting on post-discharge functional outcomes at 6, 12 and 24 months. A series of Wilcoxon Signed Rank Tests were conducted to determine if there was a significant change in Total Y-OQ 2.0 Total Scores across time (admission, discharge, 6, 12 and 24 months post-discharge). Mann-Whitney U Tests were conducted to determine if there were differences between the short term setting (CFSC) and long term setting (ILT) as measured by the Y-OQ 2.0. A series of independent chi-square tests were conducted on the data exploring the relationship between treatment setting and post-discharge functional outcomes. An alpha level of .05 was used to determine significance for all statistical tests. Benchmarking data is also included comparing post-discharge functional outcomes of CFSC and ILT youth.

### **Research Questions**

#### **Research Question One: Treatment Setting and Standardized Outcomes**

What is the effect of treatment setting (short term versus long term) on standardized assessment outcomes (Y-OQ 2.0 Total Score) at discharge and 6, 12, and 24 months post-discharge?

*Hypothesis 1: There will be statistically significant differences between treatment settings (short versus long term) as measured by the Y-OQ 2.0 Total Scores at discharge and 6, 12 and 24 months post-discharge.*



## POST-DISCHARGE OUTCOMES FOR YOUTH

*Hypothesis 1<sub>0</sub>. There will be no statistically significant differences between treatment settings (short term and long term) as measured by the Y-OQ 2.0 scores at discharge, 6, 12, and 24 months post-discharge.*

In order to explore the relationship between treatment setting and discharge and post-discharge Y-OQ 2.0 scores, a number of analyses were conducted. First, a Mann-Whitney U test was calculated in order to determine if there were differences between the short term (CFSC) and long term (ILT) groups on the Y-OQ 2.0 at (a) discharge (b) 6 months post-discharge (c) 12 months post-discharge and (d) 24 months post-discharge. A Mann-Whitney U test revealed no significant differences in Total Y-OQ 2.0 scores at discharge for CFSC residents (Md = 67.5, n = 22) and for ILT residents (Md = 72, n = 28),  $U = 258.5$ ,  $z = -9.68$ ,  $p = .333$ . There was no significant difference,  $U = 29.0$ ,  $z = -1.588$ ,  $p = .112$  at 6 months post-discharge for CFSC residents (Md = 93, n = 10) and for ILT residents (Md = 60.50, n = 10). No significant difference was found,  $U = 71.0$ ,  $z = -.703$ ,  $p = .482$  for CFSC residents (Md = 92.5, n = 10) and ILT residents (Md = 65, n = 17) at 12 months post-discharge. There was no significant difference,  $U = 8.5$ ,  $z = -.450$ ,  $p = .646$  at 24 months post-discharge for CFSC residents (Md = 108, n = 3) and ILT residents (Md = 116, n = 7). A post-hoc Mann-Whitney U test was run to determine if there were any significant differences between Total Y-OQ 2.0 scores for the CFSC and ILT residents at admission. The Mann-Whitney U test revealed no significant difference in Total Y-OQ 2.0 scores at admission for CFSC residents (Md = 98, n = 23) and ILT residents (Md = 97.5, n = 28),  $U = 298.5$ ,  $z = -.445$ ,  $p = .656$  (also see Tables 1 and 2). The null hypothesis failed to be rejected as a result of the lack of statistically significant differences between treatment settings across time.

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Table 1

*Mann Whitney-U Test Results for CFSC and ILT Youth on Y-OQ 2.0*

Time of Y-OQ 2.0 Administration	N	U	z	p
Admission	51	298.5	-.445	.656
Discharge	50	258.5	-.968	.333
6 Months Post-Discharge	20	29.0	-1.588	.112
12 months Post-discharge	27	71.0	-.703	.482
24 months Post-Discharge	10	8.53	-.450	.646

Note. N = Total number of CFSC and ILT youth.

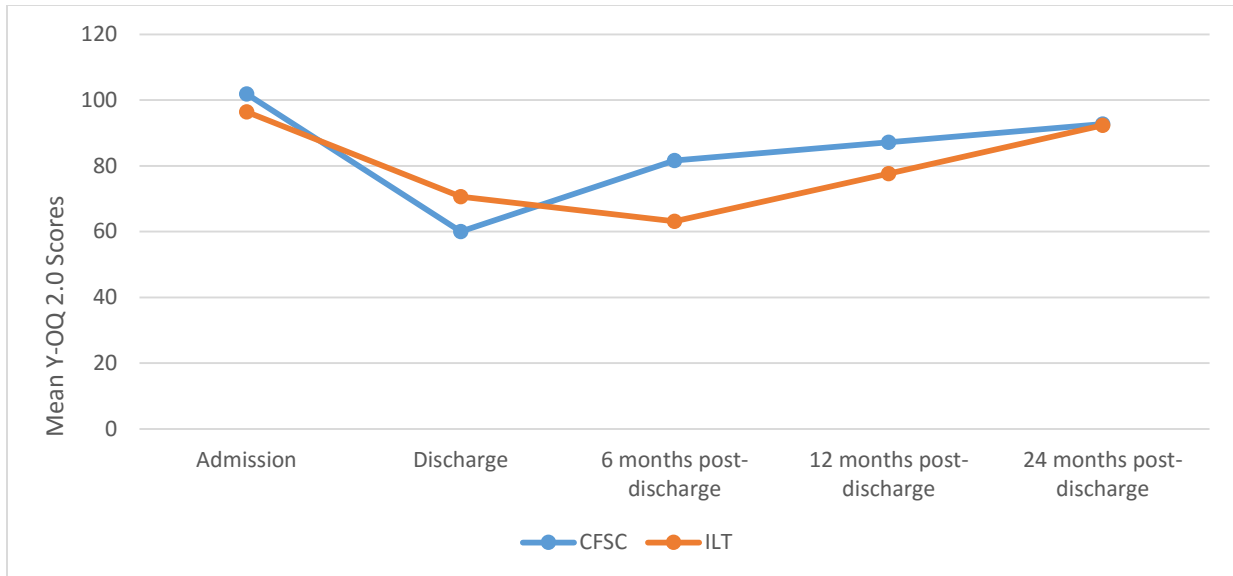
Table 2

*Y-OQ 2.0 Median and Mean Scores and Sample Sizes of CFSC and ILT Residents*

Time of Y-OQ 2.0 Administration	Group					
	CFSC			ILT		
	N	Md	M	N	Md	M
Admission	23	98	101.91	28	97.5	96.39
Discharge	22	67.50	60.05	28	72	70.61
6 Months Post-Discharge	10	93	81.6	10	60.50	63.10
12 months Post-discharge	10	92.50	87.20	17	65	77.59
24 months Post-Discharge	3	108	92.67	7	116	92.29

Note. Md = Median Y-OQ 2.0 Score. M = Mean Y-OQ 2.0 Score. Y-OQ 2.0 Total Scores range from -16 to 240. Higher scores indicate higher levels of total life distress.

## POST-DISCHARGE OUTCOMES FOR YOUTH



*Figure 1. Mean Y-OQ 2.0 Scores. CFSC = Child and Family Stabilization Center. ILT = Intensive Long Term. This figure compares mean Y-OQ 2.0 scores for CFSC and ILT youth at admission, discharge, 6, 12 and 24 months post-discharge.*

Secondly, Wilcoxon Signed Rank Tests were calculated comparing the Total Score on the Y-OQ 2.0 for each group, CFSC and ILT, from (a) admission to discharge (b) admission to 6 months post-discharge (c) admission to 12 months post-discharge (d) admission to 24 months post-discharge for each of the groups (e) discharge to 6 months post-discharge (f) discharge to 12 months post-discharge and (g) discharge to 24 months post-discharge. See Table 2 for number of participants at each Y-OQ 2.0 administration period.

**CFSC.** A Wilcoxon Signed Rank Test revealed a statistically significant reduction in Total Y-OQ 2.0 scores from admission to discharge,  $z = -3.458$ ,  $p = .001$ , with a large effect size ( $r = .52$ ). A statistically significant reduction in Total Y-OQ 2.0 scores was found from admission to 6 months post-discharge,  $z = -2.701$ ,  $p = .007$ , with a large effect size ( $r = .60$ ). A statistically significant reduction in Total Y-OQ 2.0 scores was found from admission to 12 months post-discharge,  $z = -2.090$ ,  $p = .037$ , with a medium effect size ( $r = .47$ ). There was also a statistically significant increase in Total Y-OQ 2.0 scores from discharge to 6 months post-

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discharge,  $z = -1.989$ ,  $p = .047$  with a medium effect size ( $r = .44$ ). When comparing rank scores for admission to 24 months post-discharge, discharge to 12 months post-discharge and discharge to 24 months post-discharge, no significant differences were found. (See Table 3)

**ILT.** A Wilcoxon Signed Rank Test revealed a statistically significant reduction in Total Y-OQ 2.0 score from admission to discharge,  $z = -2.847$ ,  $p = .004$ , with a medium effect size ( $r = .39$ ). There was a statistically significant reduction in Total Y-OQ 2.0 scores from admission to 6 months post-discharge,  $z = -2.652$ ,  $p = .008$ , with a large effect size ( $r = .59$ ). There was also a statistically significant reduction in Total Y-OQ 2.0 scores from admission to 12 months post-discharge,  $z = -2.170$ ,  $p = .029$ , with a medium effect size ( $r = .37$ ). There were no significant differences found when comparing rank scores between discharge and 6 months post-discharge, discharge and 12 months post-discharge, discharge and 24 months post-discharge and admission and 24 months post-discharge. (See Table 3)

Table 3

*Wilcoxon Signed Rank Test Results for CFSC and ILT*

Time 1-Time 2	Group			
	CFSC		ILT	
	z	sig	z	sig
Admission-Discharge	-3.458	.001**	-2.847	.004**
Admission-6 months PD	-2.701	.007**	-2.652	.008**
Admission-12 months PD	-2.090	.037*	-2.179	.029*
Admission-24 months PD	.000	1.0	-.734	.463
Discharge-6 months PD	-1.989	.047*	-.153	.878
Discharge-12 months PD	-1.071	.284	-.260	.795
Discharge-24 months PD	-1.069	.285	-.524	.600

Note: \* $p < .05$ , \*\* $p < .01$

**Research Question Two: Treatment Setting and Functional Outcomes**

What is the effect of treatment setting (short term versus long term) on post-discharge (6, 12, and 24 months) functional outcomes?

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*Hypothesis 2 (a). There will be statistically significant differences in post-discharge living environment at 6 months, 12 months and 24 months post-discharge between treatment settings.*

*Hypothesis 2<sub>0</sub> (a). There will be no statistically significant differences in post-discharge living environment at 6 months, 12 months and 24 months post-discharge between treatment settings.*

Chi-square analyses were conducted to evaluate the relationship between living environment at 6 months, 12 months and 24 months post-discharge and treatment setting. In order to increase the likelihood that expected cell frequencies would be achieved, the living environment categories were combined and pared down to (a) living in a home environment (b) not living in a home environment i.e. lock-up or treatment facility. Results from the chi-square analyses still violated the assumption that the lowest expected frequency in any cell should be 5 or more. Fisher's Exact Probability Test was interpreted instead as a result of this violation and as recommended by Pallant (2010). The Fisher's Exact Probability 2-sided Test indicated no significant differences between treatment setting and living environment at 6 months  $p = 1.000$ , 12 months  $p = 1.000$ , or 24 months,  $p = 1.000$ . The null hypothesis failed to be rejected as a result of the lack of statistically significant differences between treatment settings across time.

(See Table 4)

Table 4

*Number of Youth Living in Home Like Setting*

Post-Discharge Time Period	Group				Fischer's Exact Test
	CFSC		ILT		
	In home	Out of home	In home	Out of home	
6 months	7 (70%)	3 (30%)	7 (63.6%)	4 (36.4%)	p = 1.000
12 months	7 (58.3%)	5 (41.7%)	7 (53.8%)	6 (46.2%)	p = 1.000
24 months	5 (71.4%)	2 (28.6%)	3 (60%)	2 (40%)	p = 1.000

*Hypothesis 2(b). There will be statistically significant differences in number of out of home placements at 6 months, 12 months and 24 months post-discharge between treatment settings.*

*Hypothesis 2<sub>0</sub> (b). There will be no statistically significant differences in number of out of home placements at 6 months, 12 months and 24 months post-discharge between treatment settings.*

Chi-square analyses were conducted to evaluate the difference between the number of out of home placements at 6 months, 12 months and 24 months post-discharge and treatment setting. In order to increase the likelihood that expected cell frequencies would be achieved, the out of home categories were combined and pared down to (a) zero out of home placements (b) one or more out of home placements. Results from the chi-square analyses violated the assumption that the lowest expected frequency in any cell should be 5 or more. Fisher's Exact Probability Test was interpreted instead. The Fisher's Exact Probability 2-sided Test indicated no significant differences between treatment setting and the number of out of home placements at 6 months p = .395, 12 months p = .688 or 24 months, p = .567. The null hypothesis failed to be rejected as a

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result of the lack of statistically significant differences between treatment settings across time.  
(see Table 5)

Table 5

*Number of Youth and Out of Home Placements*

Post-Discharge Time Period	Group				Fischer's Exact Test
	CFSC		ILT		
	No	Yes	No	Yes	
6 months	6 (60%)	4 (40%)	4 (36.4%)	7 (63.6%)	p = .395
12 months	5 (41.7%)	7 (58.3%)	4 (30.8%)	9 (69.2%)	p = .688
24 months	4 (66.7%)	2 (33.3%)	2 (40%)	3 (60%)	p = .567

*Hypothesis 2(c). There will be statistically significant differences in sexualized behavior at 6 months, 12 months and 24 months post-discharge between treatment settings.*

*Hypothesis 2<sub>0</sub> (c). There will be no statistically significant differences in sexualized behavior at 6 months, 12 months and 24 months post-discharge between treatment settings.*

Chi-square analyses were conducted to evaluate the differences in the presence of sexualized behavior at 6 months, 12 months and 24 months post-discharge between treatment setting. Results from the chi-square analyses violated the assumption that the lowest expected frequency in any cell should be 5 or more. Fisher's Exact Probability Test was interpreted instead. The Fisher's Exact Probability 2-sided Test indicated a significant difference between treatment setting (CFSC n = 4 of 10; ILT n = 0 of 10) and the presence of sexualized behavior at 12 months, p = .035, phi = -.51. Fischer's Exact Probability test indicated no significant difference between treatment setting at 6 months, p = .087, or at 24 months, p = .417. The null hypothesis was rejected as a result of the statistically significant differences between treatment settings at 12 months post-discharge. (See Table 6)

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Table 6

*Number of Youth and Inappropriate Sexualized Behavior*

Post-Discharge Time Period	Group				Fischer's Exact Test
	CFSC		ILT		
	No	Yes	No	Yes	
6 months	6 (66.7%)	3 (33.3%)	10 (100%)	0 (0%)	p = .087
12 months	6 (60%)	4 (40%)	11 (100%)	0 (0%)	p = .035*
24 months	7 (100%)	0 (0%)	4 (80%)	1 (20%)	p = .417

Note: \*p<.05

*Hypothesis 2(d). There will be statistically significant differences in contact with the legal system placements at 6 months, 12 months and 24 months post-discharge between treatment settings.*

*Hypothesis 2<sub>0</sub> (d). There will be no statistically significant differences in contact with the legal system placements at 6 months, 12 months and 24 months post-discharge between treatment settings.*

Chi-square analyses were conducted to evaluate the difference between whether or not the youth had contact with the legal system at 6 months, 12 months and 24 months post-discharge and treatment setting. Results from the chi-square analyses violated the assumption that the lowest expected frequency in any cell should be 5 or more. Fisher's Exact Probability Test was interpreted instead. The Fisher's Exact Probability 2-sided Test indicated no significant difference between treatment setting and contact with the legal system at 6 months, p = 1.000, at 12 months p = .160 or at 24 months, p = .1.000. The null hypothesis failed to be rejected as a result of the lack of statistically significant differences between treatment settings across time. (See Table 7)



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Table 7

*Number of Youth and Legal System Contact*

Post-Discharge Time Period	Group				Fischer's Exact Test
	CFSC		ILT		
	No	Yes	No	Yes	
6 months	8 (80%)	2 (20%)	8 (72.7%)	3 (27.3%)	p = 1.000
12 months	11 (91.7%)	1 (8.3%)	8 (61.5%)	5 (38.55)	p = .160
24 months	6 (85.7%)	1 (14.3%)	4 (80%)	1 (20%)	p = 1.000

*Hypothesis 2(e). There will be statistically significant differences in friendships at 6 months, 12 months and 24 months post-discharge between treatment settings.*

*Hypothesis 2<sub>0</sub> (e). There will be no statistically significant differences in friendships at 6 months, 12 months and 24 months post-discharge between treatment settings.*

Chi-square analyses were conducted to evaluate the difference between whether or not the youth had friends at 6 months, 12 months and 24 months post-discharge and treatment setting. Results from the chi-square analyses violated the assumption that the lowest expected frequency in any cell should be 5 or more. Fisher's Exact Probability Test was interpreted instead. The Fisher's Exact Probability 2-sided Test indicated no significant difference between treatment setting and friendships at 6 months,  $p = .361$ , at 12 months  $p = 1.000$  or at 24 months,  $p = .222$ . The null hypothesis failed to be rejected as a result of the lack of statistically significant differences between treatment settings across time. (See Table 8)

Table 8

*Number of Youth and Friends*

Post-Discharge Time Period	Group				Fischer's Exact Test
	CFSC		ILT		
	No	Yes	No	Yes	
6 months	4 (40%)	6 (60 %)	2 (18.2%)	9 (81.8%)	p = .361
12 months	1 (8.3%)	11 (91.7%)	2 (15.4%)	11 (84.6%)	p = 1.000
24 months	1 (14.3 %)	6 (85.7%)	3 (60%)	2 (40%)	p = .222

*Hypothesis 2(f). There will be statistically significant differences in whether the youth has a better relationship with parents/guardians at 6 months, 12 months and 24 months post-discharge between treatment settings.*

*Hypothesis 2<sub>0</sub> (f). There will be no statistically significant differences in whether the youth has a better relationship with parents/guardians at 6 months, 12 months and 24 months post-discharge between treatment settings.*

Chi-square analyses were conducted to evaluate the difference between youth's relationship with parent/guardians at 6 months, 12 months and 24 months post-discharge and treatment setting. In order to increase the likelihood that expected cell frequencies would be achieved, the better relationship with parent/guardian category was combined and pared down to (a) no/don't know (b) yes. Results from the chi-square analyses violated the assumption that the lowest expected frequency in any cell should be 5 or more. Fisher's Exact Probability Test was interpreted instead. The Fisher's Exact Probability 2-sided Test indicated no significant difference between treatment setting and having a better relationship with parent/guardian at 6 months, p = .628, 12 months p = .670 or 24 months p = .1.000. The null hypothesis failed to be rejected as a result of the lack of statistically significant differences between treatment settings across time. (See Table 9)

Table 9

*Number of Youth and Relationships with Parent/Guardian*

Post-Discharge Time Period	Group				Fischer's Exact Test
	CFSC		ILT		
	No	Yes	No	Yes	
6 months	2 (22%)	7 (77.8%)	4 (40%)	6 (60%)	p = .628
12 months	4 (40%)	6 (60%)	6 (54.5%)	5 (45.5%)	p = .670
24 months	2 (33.3%)	4 (66.7%)	2 (40%)	3 (60%)	p = 1.000

*Hypothesis 2(g). There will be statistically significant differences in the type of impact Intermountain had on a youth's life at 6 months, 12, months and 24 months between treatment settings.*

*Hypothesis 2<sub>0</sub> (g). There will be no statistically significant differences in the type of impact Intermountain had on a youth's life at 6 months, 12, months and 24 months between treatment settings.*

Chi-square analyses were conducted to evaluate the difference between the reported impact of intermountain on youth at 6 months, 12 months and 24 months post-discharge and treatment setting. In order to increase the likelihood that expected cell frequencies would be achieved, the impact of Intermountain category was combined and pared down to (a) negative/don't know (b) positive. Results from the chi-square analyses violated the assumption that the lowest expected frequency in any cell should be 5 or more. Fisher's Exact Probability Test was interpreted instead. The Fisher's Exact Probability 2-sided Test indicated a significant difference between treatment setting and reported impact of intermountain at 12 months (CFSC n = 8 of 12 positive; ILT n = 13 of 13 positive), p = .039, phi = .45 and at 24 months (CFSC n = 7 of 7 positive; ILT n = 2 of 5 positive), p = .045, phi = -.683. The Fisher's Exact Probability 2-sided Test indicated no significant difference between treatment setting and reported impact of

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intermountain at 6 months,  $p = 1.000$ . The null hypothesis was rejected as a result of the statistically significant differences between treatment settings at 12 and 24 months post-discharge. (See Table 10)

Table 10

*Number of Youth and Impact of Treatment*

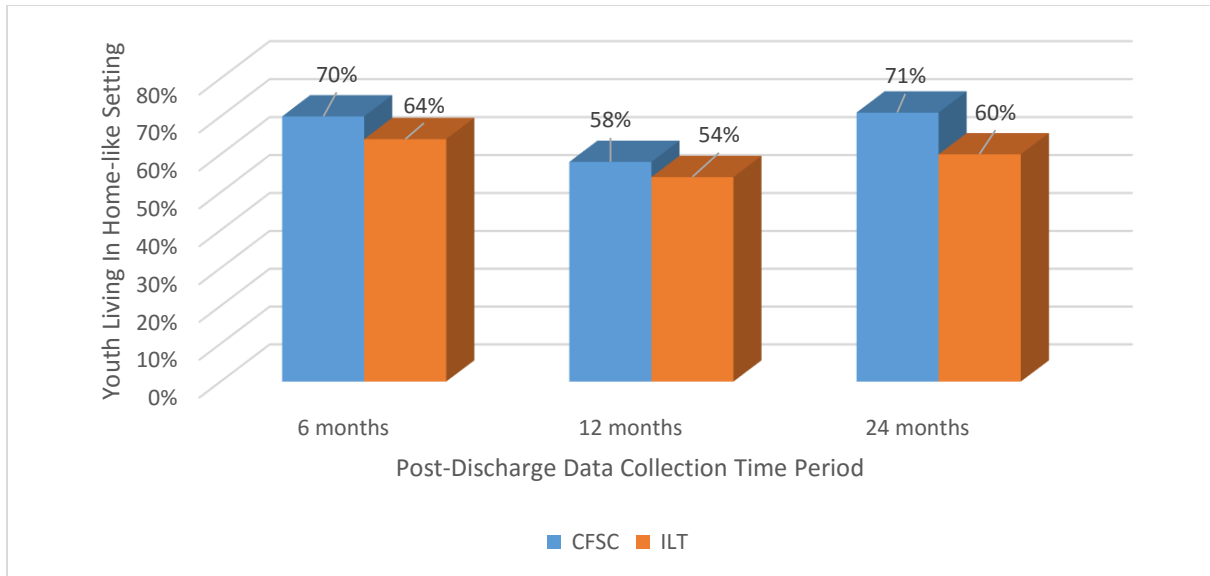
Post-Discharge Time Period	Group				Fischer's Exact Test
	CFSC		ILT		
	No	Yes	No	Yes	
6 months	3 (30%)	7 (70%)	3 (27.3%)	8 (72.7%)	$p = 1.000$
12 months	4 (33.3%)	8 (66.7%)	0 (0 %)	13 (100%)	$p = .039^*$
24 months	0 (0%)	7 (100%)	3 (60%)	2 (40%)	$p = .045^*$

Note:  $*p < .05$

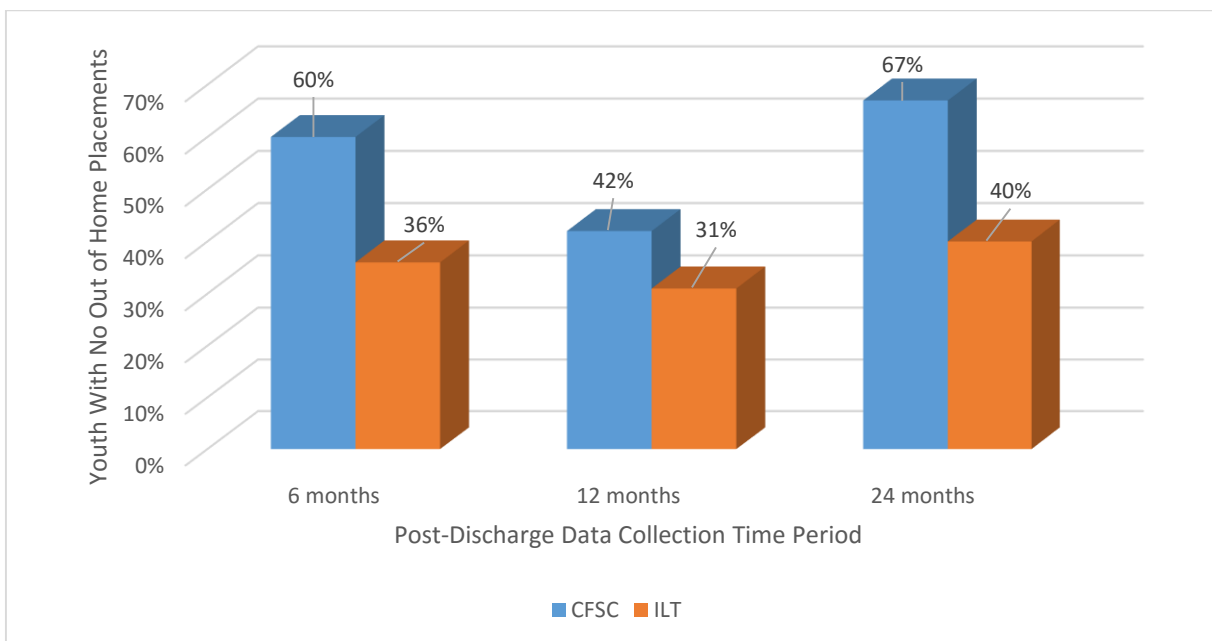
**Functional Outcomes Benchmark Data**

Responses to phone interview questions also provide valuable information about functional outcomes and perception of care. When these domains are evaluated post-discharge it not only protects against myopic interpretation of standardized assessments, but allows for comparison of similar organizations providing care for similar youth (AACRC, 2009). See Figures 2-8 for results.

## POST-DISCHARGE OUTCOMES FOR YOUTH

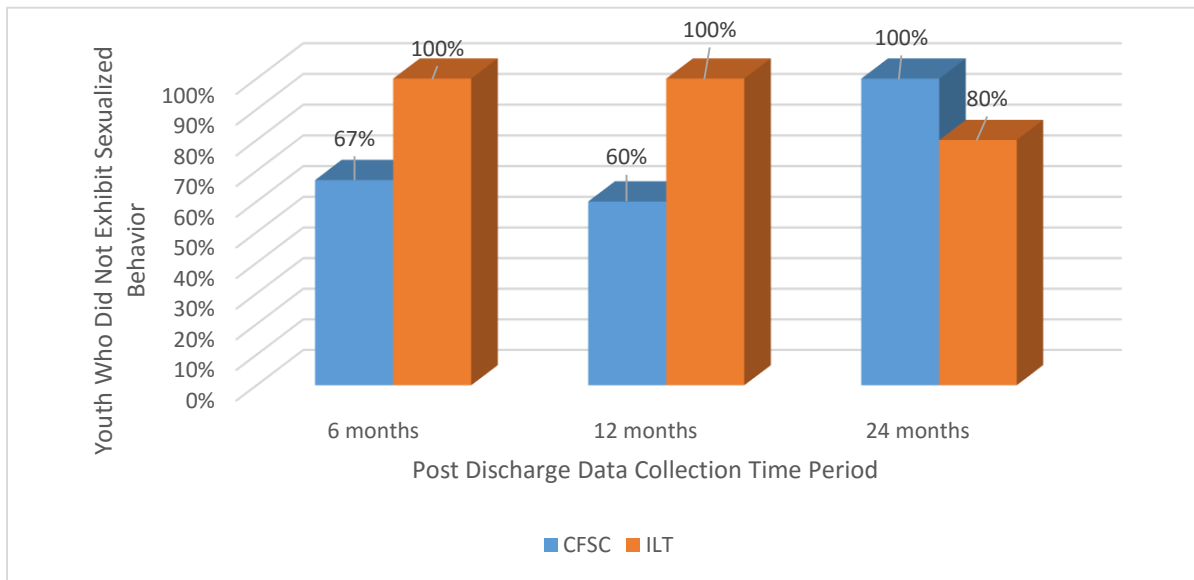


*Figure 2.* Youth living in a home-like setting. CFSC = Child and Family Stabilization Center. ILT = Intensive Long Term. This figure compares the percentage of youth from short term (CFSC) and long term (ILT) residential treatment who were living in a home like setting at 6, 12 and 24 months post-discharge.

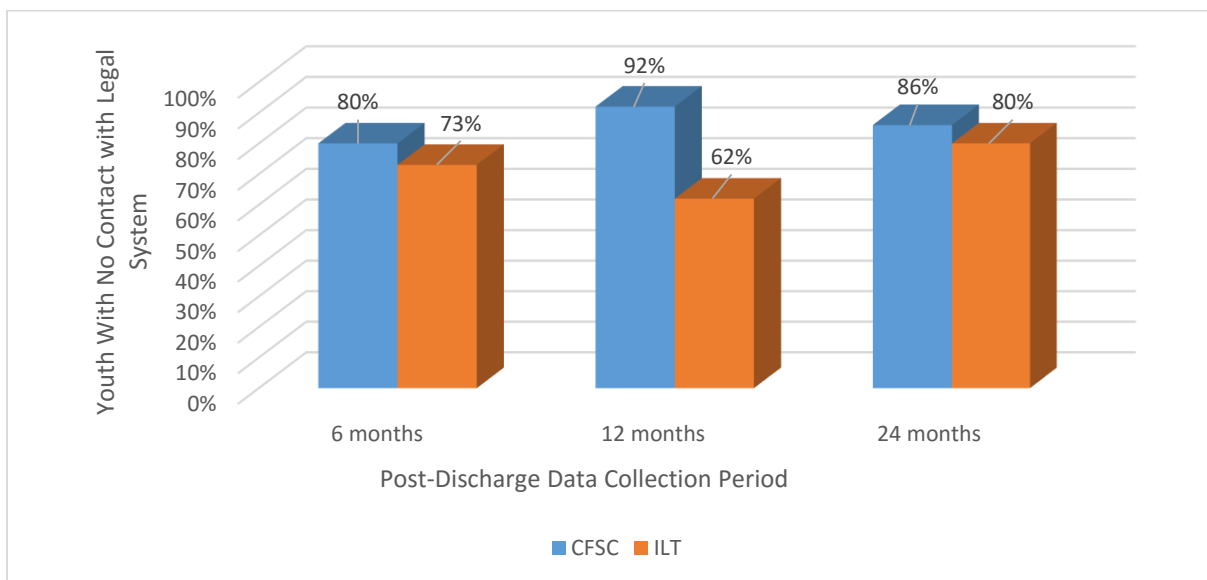


*Figure 3.* Youth with no out of home placements. CFSC = Child and Family Stabilization Center. ILT = Intensive Long Term. This figure compares the percentage of youth from short term (CFSC) and long term (ILT) residential treatment who did not have any out of home placements at 6, 12 and 24 months post-discharge.

## POST-DISCHARGE OUTCOMES FOR YOUTH

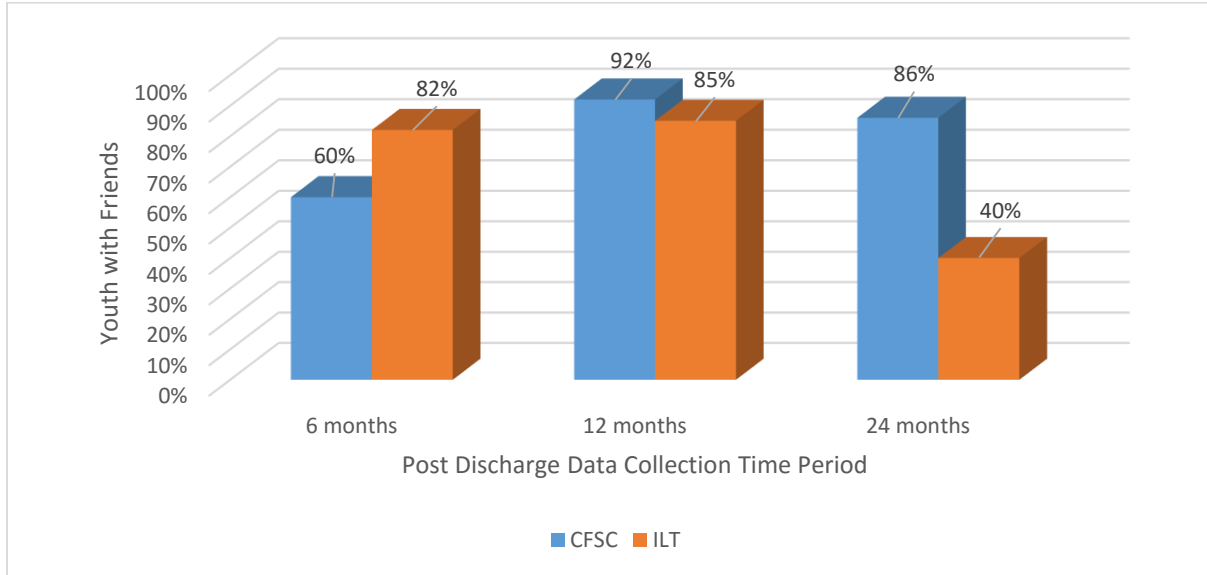


*Figure 4.* Youth who did not exhibit any inappropriate sexualized behavior. CFSC = Child and Family Stabilization Center. ILT = Intensive Long Term. This figure compares the percentage of youth from short term (CFSC) and long term (ILT) residential treatment who had not exhibited any inappropriate sexualized behavior at 6, 12 and 24 months post-discharge.

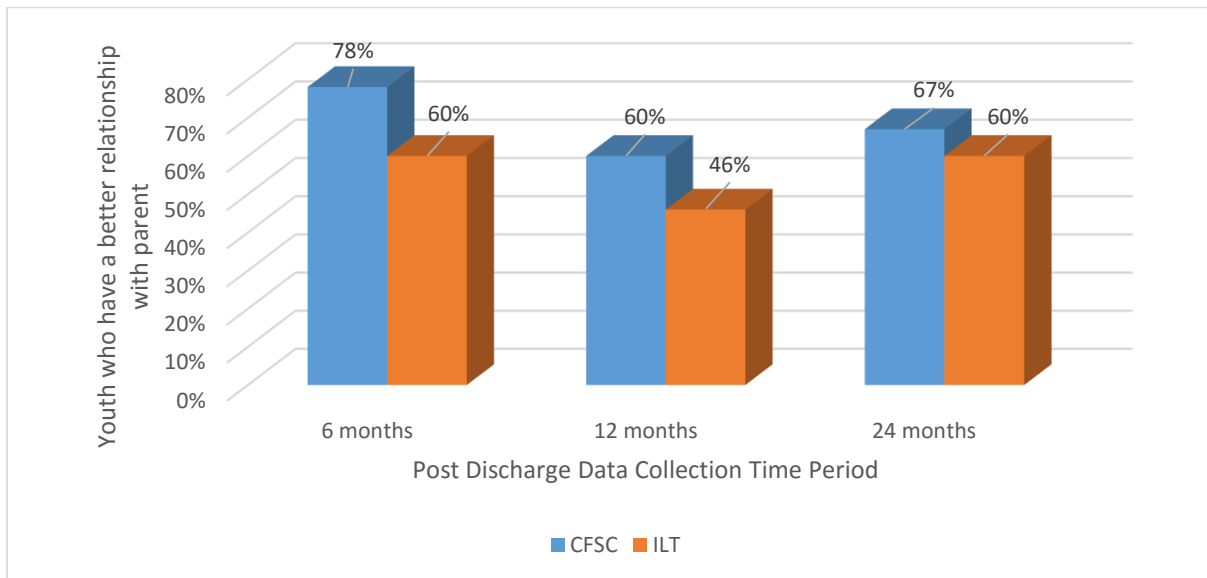


*Figure 5.* Youth with no contact with the legal system. CFSC = Child and Family Stabilization Center. ILT = Intensive Long Term. This figure compares the percentage of youth from short term (CFSC) and long term (ILT) residential treatment who had not had any legal contact or involvement at 6, 12 and 24 months post-discharge.

## POST-DISCHARGE OUTCOMES FOR YOUTH

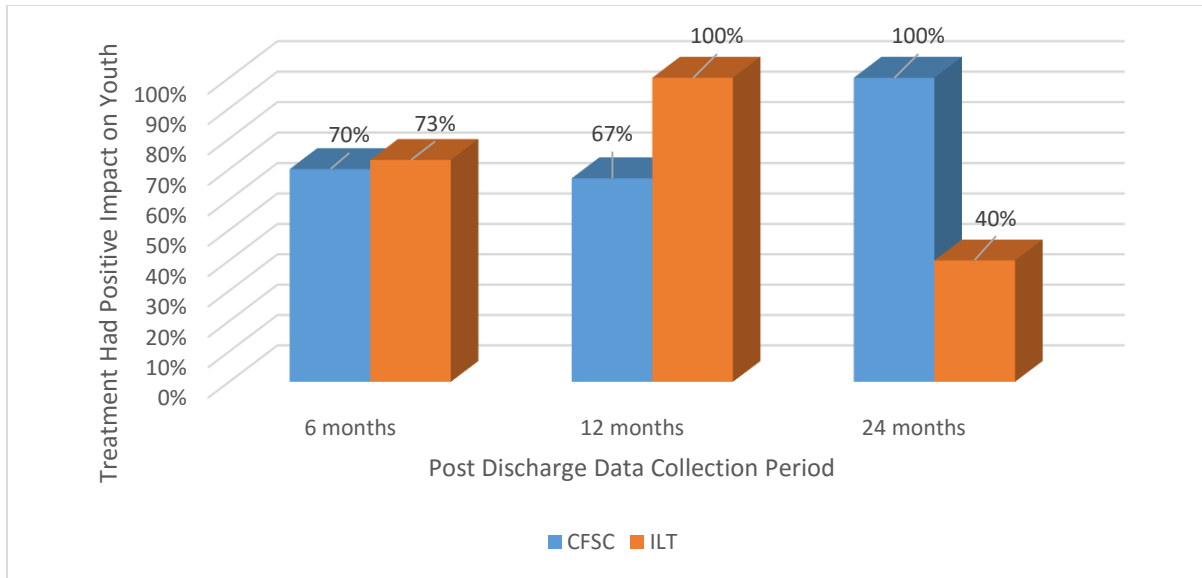


*Figure 6.* Youth with Friends. CFSC = Child and Family Stabilization Center. ILT = Intensive Long Term. This figure compares the percentage of youth from short term (CFSC) and long term (ILT) residential treatment who had friends at 6, 12 and 24 months post-discharge



*Figure 7.* Youth who have a better relationship with parent following treatment. CFSC = Child and Family Stabilization Center. ILT = Intensive Long Term. This figure compares the percentage of youth from short term (CFSC) and long term (ILT) residential treatment who had a better relationship with their parent at 6, 12 and 24 months post-discharge than they did at admission.

## POST-DISCHARGE OUTCOMES FOR YOUTH



*Figure 8.* Treatment had a positive impact on youth. CFSC = Child and Family Stabilization Center. ILT = Intensive Long Term. This figure compares the percentage of youth from short term (CFSC) and long term (ILT) residential treatment who reported that treatment had a positive effect at 6, 12 and 24 months post-discharge.



## CHAPTER FIVE: DISCUSSION

This study provides important data regarding long term outcomes of short (CFSC) and long term (ILT) residential care at Intermountain Children's Home. Additionally, it contributes benchmarking data regarding functional outcomes for youth post-discharge. In this chapter, I will describe the findings for each hypothesis and the implications of those results. Limitations and future recommendations are also included.

### **Hypothesis 1: Treatment Setting and Standardized Assessment Outcomes**

*Hypothesis 1: There will be statistically significant differences between treatment settings (short versus long term) as measured by the Y-OQ 2.0 Total Scores at discharge and 6, 12 and 24 months post-discharge.*

This research question explored the relationship between treatment setting, Y-OQ 2.0 scores and time. This study found no significant differences between Y-OQ 2.0 scores across treatment settings (CFSC and ILT) at discharge, 6, 12 and 24 months post-discharge. In addition, post-hoc analysis revealed that there is also not a significant difference between Y-OQ 2.0 scores between settings at admission. These results indicate that youth from CFSC and ILT are not significantly discrepant in their admission, discharge and post-discharge Y-OQ 2.0 scores.

The present study contributes to the field of residential treatment for youth by comparing assessment results for short term (CFSC) residential treatment with long term (ILT) residential treatment. Preyde et al. (2011) also compared two different treatment models (intensive home based treatment and residential treatment) and used the BCFPI and CAFAS to evaluate improvement and compare groups. Interestingly, the BCFPI did not reveal any statistically significant differences between the two groups on subscales or total score at admission (Preyde

et al., 2011). In contrast, the CAFAS which measures psychosocial functional outcomes indicated statistically significant differences at admission between RT and IHT on the total scale and most subscales reflecting poorer functioning for RT youth than IHT youth (Preyde et al., 2011). The current study's results that Y-OQ 2.0 total scores at admission are similar for both treatment models runs parallel to Preyde et al's (2011) finding, but measures of psychosocial functional outcomes did not occur for CFSC and ILT youth until post-discharge and thus an admission comparison is not available for analysis. This may have revealed significant differences between the youth accessing CFSC versus ILT treatment.

The current study did find significant differences in Y-OQ 2.0 scores over time in each different treatment setting. Specifically, the results of Wilcoxon Signed Rank Tests revealed significant decreases (less total life distress; improved functioning in society) in Y-OQ 2.0 scores from admission to discharge, admission to 6 months post-discharge, and admission to 12 months post-discharge for both the CFSC and ILT programs. Decreases in scores from admission to discharge supports previous research from Bettman and Jaspersen, (2009), Connor et al., (2002), Hair (2005); and Lyons et al., (2001) that residential treatment centers can be successful interventions for many youth. More importantly, the results contribute to residential treatment post-discharge outcomes literature and echo earlier research (Larzelere, 2001; Preyde et al., 2011; Leichtman et al., 2001) that youth are functioning significantly better at 6 months and 12 months post-discharge than they are at admission.

However, contrary to Preyde et al., (2011) and Larzelere (2001) who found that youth maintained gains through 40 months and 21 months respectively, this study found that youth in both treatment centers did not demonstrate significant improvement as measured by the Y-OQ 2.0 from admission through 24 months post-discharge. Even so, the inability to maintain gains

through 24 months does not necessarily indicate that that CFSC and ILT were ineffective. Limited or no follow-up mental health care services could contribute to poorer long term outcomes. Asarnow, Aoki and Elson (1996) found that psychotherapy and counseling was only received by 57% of youth following discharge from residential care. Of the 57% receiving therapy, 39% were being seen by the school counselor while only 18% were being seen in the community or by a private provider. School counselors' mental health training is different in scope and mission than that of private licensed providers and school counselors are not trained to be providing therapy or long term counseling in schools to address psychological disorders (American School Counseling Association, 2016). This current causal comparative study did not have access to data reporting whether youth were accessing mental health services post-discharge and if so what kind of services. This may have revealed important information regarding recipients of both treatment models' difficulty with maintaining treatment gains at 24 months post-discharge.

An additional notable finding of this study was that CFSC youth experienced a significant increase in Y-OQ 2.0 scores from discharge to 6 months post-discharge. While youth from ILT and CFSC had similar Y-OQ 2.0 scores at discharge, by 6 months post-discharge the ILT mean score decreased while CFSC experienced a significant increase. Although the CFSC Y-OQ 2.0 score increased significantly after discharge, the score remained significantly lower than the admission score. Further analysis of benchmarking data at 6 months reveals that despite this marked increase in Y-OQ 2.0 scores, CFSC youth fared better than ILT youth in four of the seven domains measured. They were more likely than their ILT counterparts to be living in a home-like setting, have no out of home placements, have no legal contact and have a better relationship with their parent or guardian. They fared worse than their ILT counterparts in

exhibiting inappropriate sexualized behavior, having friends and were less likely to report treatment having a positive impact. AACRC (2009) advocates for the use of benchmarking data in order to provide important objective information and to allow similar organizations to compare results. Nonetheless, given the discrepant and variable results of how CFSC youth are functioning at 6 months post-discharge, it is critical that standardized assessment results are used in conjunction with functional outcomes to also protect against shortsighted interpretation. Functional outcomes should not be gathered in lieu of the more time consuming and expensive standardized assessments, but in conjunction.

### **Hypothesis 2: Treatment Setting and Functional Outcomes**

*Hypothesis 2 (a). There will be statistically significant differences in post-discharge living environment at 6 months, 12 months and 24 months post-discharge between treatment settings.*

It was hypothesized that there would be a statistically significant difference in living environment post-discharge between CFSC and ILT settings. This hypothesis was not supported as there were no significant differences noted between settings at 6 months, 12 months and 24 months post-discharge. It is worth noting that a higher percentage of CFSC residents were living in a home-like setting at 6, 12 and 24 months post-discharge. This is an important factor to consider in post-discharge functioning because when youth are not living in a home-like setting then their out of home living placement often represents an additional cost on top of the already expensive residential treatment model. It is also worth exploring how it is that mean Y-OQ 2.0 scores were significantly higher for CFSC youth at 6 months post-discharge, yet they were more likely not to have an out of home placement. If the Y-OQ 2.0 measures total life distress and youth's ability to function in society, then one would expect that CFSC youth would

be more likely to not be living in a home-like setting. Further analysis of Y-OQ 2.0 subscales may help inform Intermountain about the specific areas in which CFSC youth are experiencing greater distress and dysfunction.

*Hypothesis 2(b). There will be statistically significant differences in number of out of home placements at 6 months, 12 months and 24 months post-discharge between treatment settings.*

In the current study, the number of out of home placements by treatment setting did not yield any statistically significant findings. Due to low number of subjects, this question was pared down to simply a yes or no question for analysis. With a larger sample, the number of out of home placements may reveal significant differences between treatment settings. Similar to living environment, CFSC youth had a higher percentage of youth not experiencing out of home placements. Out of home placements also provides valuable information about the increased cost of mental health services to youth if they continue to demonstrate a need for out of home placements after already receiving residential treatment services.

*Hypothesis 2(c). There will be statistically significant differences in sexualized behavior at 6 months, 12 months and 24 months post-discharge between treatment settings.*

This study revealed a statistically significant difference in inappropriate sexualized behavior in CFSC residents at 12 months post-discharge ( $p = .035$ ). It is noteworthy that at 6 months post-discharge, there were also more CFSC residents with inappropriate sexualized behavior, though significance was not reached ( $p = .087$ ). Analyzing the data as a functional outcome over 6, 12 and 24 months post-discharge, reveals that 7 of 26 (27%) CFSC residents displayed inappropriate sexualized behavior post-discharge while only 1 of 26 (4%) ILT residents displayed inappropriate sexualized behavior post-discharge. Inappropriate sexualized

behavior can be a sign that a child has experienced sexual abuse (National Child Traumatic Stress Network, 2016). Connor et al., (2002) found that youths with physical and/or sexual abuse histories may not improve after residential treatment commensurate with peers without abuse histories. They suggested that youth with abuse histories may need a more focused or specialized type of treatment than is found in the treatment setting (Connor et al., 2002). Given that the ILT youth only had one occurrence of inappropriate sexualized behavior following discharge, it may be that youth with abuse histories fare better with longer residential treatment. Without knowing the number of each youth in CFSC and ILT with abuse histories before treatment however, it is not possible to conclude that ILT is more effective for youth with abuse histories.

*Hypothesis 2(d). There will be statistically significant differences in contact with the legal system placements at 6 months, 12 months and 24 months post-discharge between treatment settings.*

This study found no significant differences between treatment setting for contact with the legal system. Youth from CFSC and ILT had very similar percentages at 6 months and 24 months post-discharge. Of interest is the modest discrepancy at 12 months that revealed 5 of 13 (39%) ILT residents had contact with the legal system while only 1 of 9 (8%) CFSC youth had contact with the legal system. Benchmarking data indicates that at 6, 12 and 24 months post-discharge a higher percentage of CFSC youth are not having contact with the legal system.

*Hypothesis 2(e). There will be statistically significant differences in friendships at 6 months, 12 months and 24 months post-discharge between treatment settings.*

It was hypothesized that there would be a significant difference in whether youth had friends post-discharge based on their treatment setting. The Fischer's Exact Probability Test did

not reveal any significant findings, but CFSC youth had higher percentages than ILT youth for having friends at 12 and 24 months post-discharge. Given that ILT youth are in treatment for 12-24 months in contrast to CFSC youth who are only in treatment 3-6 months, it may be that ILT youth had a more difficult time reconnecting with old friends and/or making new social connections when returning from residential care.

*Hypothesis 2(f). There will be statistically significant differences in whether the youth has a better relationship with parents/guardians at 6 months, 12 months and 24 months post-discharge between treatment settings.*

In the current study there was not a significant difference between CFSC and ILT youth in regards to having a better relationship with their parent/guardian. Analysis of this data was complicated by the fact that “don’t know” and “no” responses were combined into one category. Additionally, parents who believed they had a healthy relationship before treatment may have responded “no” to the question thus creating misleading data. An additional explanation for this result is that ILT youth are removed from their families for significantly longer periods of time than their CFSC counterparts. Not reporting a better relationship could simply reflect the fact that youth have experienced a greater disruption in attachment than CFSC youth.

*Hypothesis 2(g). There will be statistically significant differences in the type of impact Intermountain had on a youth’s life at 6 months, 12, months and 24 months between treatment settings.*

In the final analysis, CFSC and ILT youth were compared to determine if there was a significant difference in reported impact of treatment. This study revealed a statistically significant difference in reported impact in favor of ILT residents at 12 months post-discharge ( $p = .039$ ). While ILT families reported a higher percentage of having a better relationship at both 6

and 12 months post-discharge, the data shifted significantly at 24 months and CFSC families reported that treatment created a positive impact significantly more than ILT residents ( $p = .045$ ). Specifically only 40% (2 of 5) of ILT families reported that treatment had a positive impact while 7 of 7 (100%) CFSC families reported a positive impact of treatment at 24 months post-discharge. Again, the data were pooled so “don’t know” was combined with “negative.” As with all of the functional outcomes data, small sample sizes also made it difficult to analyze the data. As Intermountain continues to gather data, questions can be analyzed without the need to pool the data.

### **Limitations**

There were a number of limitations in the current study. One main limitation was a lack of a control group. However, it would be unethical and impractical to randomly select a group of youth with emotional disturbance and not provide treatment for the length of time that youth are in residential treatment. Without a control group however, it is difficult to ascertain if treatment gains weren’t simply the result of maturation.

An additional limitation was the small sample size and sample selection. Because youth were difficult to track following discharge, a number of youth who received treatment in ILT and CFSC were not included, thus limiting the ability to randomly select participants. Furthermore, this reduced the number of participants in the study which was already limited by the small number of youth that can be served in CFSC and ILT settings. ILT youth are on campus for up to two years, so openings and turnover are infrequent even though there are 24 beds available. CFSC youth have more frequent turnover and openings due to shorter stays, but only have access to eight beds. Additionally, in order to gather data at admission, discharge, and up to 24 months



post-discharge for one student, this could require four or more years of data collection. A small sample size also makes it difficult to generalize results.

Additional limitations include instrument decay and regression toward the mean. Extremely high Y-OQ 2.0 scores at admission would tend to regress towards the mean, thus producing lower scores. In addition, some of these children were followed over the course of four years and maturation may have also produced increased psychosocial functioning and a decrease in total life distress. Also, parents and guardians that completed the Y-OQ 2.0 and responded to the phone interviews may have been inclined to distort their responses based on the amount of time and money their child spent in residential care and whether it was a voluntary placement.

One final limitation is the lack of functional outcomes data at admission and discharge. In order to assess whether youth are improving in meaningful life domains, it is important to have baseline data. Knowing how these youth were functioning before treatment and at discharge is critical to understanding the context of their functional performance post-discharge.

### **Implications**

Despite these limitations, there are implications for Intermountain and the ever growing field of research regarding residential treatment centers for youth. First, the findings in this study confirm that youth in both short and long term settings experience significant reduction in total life distress as measured by the Y-OQ 2.0. Additionally, the results from the Y-OQ 2.0's at 6 and 12 months post-discharge demonstrate that youth are still functioning significantly better than they were at admission. This demonstrates that youth are able to maintain the gains they made during treatment post-discharge. This is a significant finding due to the cost and restrictiveness associated with the residential treatment model. The field of residential treatment

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for youth has been scrutinized and criticized for their cost and restrictive settings, so the fact that youth can maintain gains a year after leaving provides evidence that these settings have a place in the continuum of mental health services for youth.

Results from Y-OQ 2.0 data collection at 24 months post-discharge indicates that youth in both settings, CFSC and ILT, were not able to maintain gains made during treatment and that mean Y-OQ 2.0 scores returned to close to mean admission scores. The implication is that youth need more support between 12 months and 24 months post-discharge in order to prevent an increase in Y-OQ 2.0 scores commensurate with admission scores.

A final implication relating to Y-OQ 2.0 scores is the significant increase experienced by CFSC youth at 6 months post-discharge. While CFSC youth experienced a significant reduction in Y-OQ 2.0 scores during treatment, the sharp increase immediately following discharge implies that the short term treatment is less likely to help youth maintain gains in treatment. Much like youth from 12 to 24 months post-discharge in both settings, CFSC youth at discharge may need additional services and supports in place in order to maintain treatment gains.

There are also implications regarding what type of data to collect and when to collect it. Functional outcomes data was at times in contrast to Y-OQ 2.0 results. It is therefore critical to gather both types of data in order to contextualize all of the information gathered and to avoid a narrow interpretation. For example, at 6 months post-discharge although CFSC youth experienced a significant increase in Y-OQ 2.0 scores, they were less likely than their ILT counterparts to have legal contact, out of home placements and were more likely to have a better relationship with their parent and to be living in a home-like setting.

### **Future Research and Recommendations**

Though the findings of this study contribute to the research on residential treatment for youth, there are areas of need for further research. First, the significant increase in Y-OQ 2.0 scores at 6 months post-discharge indicates that more information is needed about what types of services and supports are in place when youth are discharged. It is likely that these youth are returning to a level of care that does not provide adequate support, especially if only a school counselor is tasked with providing mental health support. Not only should a question be added to the functional outcomes interview about the type of services youth is receiving post-discharge, but at discharge the case manager should facilitate a transition plan and have mental health services in place for the youth upon discharge. Additionally, given the inability of youth to maintain gains for 24 months post-discharge, it may be paramount for Intermountain to more closely monitor and support families as they transition out of residential care and most importantly at the 12 to 24 months post-discharge. A continuing relationship with Intermountain in the early phases of discharge, may then also facilitate support and services for the youth and families as they begin to struggle at junctures such as 6 months post-discharge for CFSC youth and between 12 and 24 months post-discharge for CFSC and ILT youth.

More information is also needed regarding the significant number of CFSC youth demonstrating inappropriate sexualized behavior. Gathering developmental histories at admission and evaluating youth for possibly physical and sexual abuse would first allow for baseline data to be collected. It may be that youth with abuse histories fare better with longer term treatment, or that they struggle regardless of placement. This is important information for Intermountain to know as they plan and provide services for emotionally disturbed youth.

The benchmark data regarding the type of impact Intermountain had on youth would benefit from qualitative follow-up. Parents/guardians could be asked to explain what part of the treatment they perceived to be positive or negative. Simply knowing that only 40% of ILT parents reported a positive impact at 24 months does not help inform Intermountain on how to improve services, unless there is a qualitative follow-up.

Finally, with the increased attention on gathering benchmarking data on psychosocial outcomes, it will also be important to gather baseline data at admission and discharge. The phone interview questions could be modified to reflect how these youth are functioning right before admission. This is important information to have because we may find that youth who had friends before treatment, continue to report having friends after treatment whereas youth without friends beforehand are still struggling afterwards. This would help inform the types of services and supports that are vital for youth to successfully re-integrate back into their communities following treatment.

### **Conclusion**

This causal comparative non-experimental study yielded significant findings in support of both short and long term residential care for youth with severe emotional and behavioral disorders. Results from CFSC care illustrated that significant decreases in Y-OQ 2.0 scores can occur during shorter term treatment, thus providing research to support the use of shorter term treatment. However, the CFSC youth also experienced a significant increase in Y-OQ 2.0 scores by 6 months post-discharge, although scores were still significantly lower than admission scores. The benefits of shorter term care are negated however, if a higher need of care is required at 6 months post-discharge. So although ILT youth required longer initial treatment, they experienced a continued reduction in Y-OQ 2.0 scores at 6 months post-discharge and only a

modest increase at 12 months post-discharge. These results suggest that while shorter term treatment can produce symptom reduction commensurate with longer term care, CFSC youth are more likely to experience a dramatic increase in symptoms following discharge.

Shorter term treatment should remain a viable option given the dramatic reduction in symptoms while in care and also because they tend to fare better than their ILT counterparts in many functional outcome domains, such as not having contact with the legal system and having a better relationship with their parent/guardian following treatment. The reduced expense and restrictiveness of shorter term treatment coupled with positive functional results, demonstrates that it needs to remain an option in the continuum of mental health care services for youth.

The results from ILT youth's ability to maintain gains through 12 months post-discharge and to also continue to decrease their symptoms at 6 months post-discharge, illustrates the need for long term residential care to remain an alternative for youth with severe emotional and behavioral disorders. Results from functional outcomes data demonstrate that most families feel that treatment made a positive impact.

Maintaining both of these treatment options is extraordinarily important for youth with severe emotional and behavioral disorders. Without access to this effective treatment model that helps children significantly improve while in care while also helping to maintain gains 12 months post-discharge, these youth are likely to drop out of school, struggle with poverty, end up in the prison system, or succumb to suicide. With data to support significant symptom reduction, improved ability to function in society and positive functional outcomes, Intermountain has demonstrated that their treatment model is a vital asset in the provision of mental health services to youth with severe emotional and behavioral disorders.

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Appendix A: Youth Outcome Questionnaire 2.0



**Youth Outcome Questionnaire 2.0 (YOQ2)**

**Client Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Initial**                       **Annual**                       **Discharge**                       **Post Discharge**

*Purpose:*

The YOQ2 is designed to describe a wide range of troublesome situations, behaviors, and moods that are common in children and adolescents. You may discover that some of the items do not apply to your child's current situation. If so, **please do not leave these items blank**, but click the circle under the "Never or Almost Never" category.

When you begin to complete the YOQ2 you will see that you can easily make your child look as healthy or unhealthy as you wish. **Please do not do that.** If you are as accurate as possible it is more likely that you will be able to receive the help that you are seeking for your child.

*Directions:*

- Read each statement carefully.
- Decide **how true** this statement is for your child during the past **7 days**.
- Click on the square under the category that most accurately describes your child during the past week.
- You may select only one category per question.

**1. Wants to be alone more than other children of the same age**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**2. Complains of dizziness or headaches**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**3. Doesn't participate in activities that were previously enjoyable**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**4. Argues or is verbally disrespectful**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**5. Is more fearful than other children of the same age**

POST-DISCHARGE OUTCOMES FOR YOUTH

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**6. Cuts school or is truant**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
--	------------------------------------	---------------------------------------	--	---

**7. Cooperates with rules and expectations**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**8. Has difficulty completing assignments, or completes them carelessly**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**9. Complains or whines about things being unfair**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
--	------------------------------------	---------------------------------------	--	---

**10. Experiences trouble with his/her bowels, such as constipation or diarrhea**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
--	------------------------------------	---------------------------------------	--	---

**11. Gets into physical fights with peers or family members**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
--	------------------------------------	---------------------------------------	--	---

**12. Worries and can't get certain ideas off his/her mind**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
--	------------------------------------	---------------------------------------	--	---

**13. Steals or lies**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**14. Is fidgety, restless or hyperactive**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**15. Seems anxious or nervous**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**16. Communicates in a pleasant and appropriate manner**



POST-DISCHARGE OUTCOMES FOR YOUTH

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**17. Seems tense, easily startled**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**18. Soils or wets self**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**19. Is aggressive toward adults**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**20. Sees, hears, or believes things that are not real**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**21. Has participated in self-harm (e.g. cutting or scratching self, attempting suicide)**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**22. Uses alcohol or drugs**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**23. Seems unable to get organized**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**24. Enjoys relationships with family and friends**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**25. Appears sad or unhappy**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**26. Experiences pain or weakness in muscles or joints**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**27. Has a negative, disrespectful attitude toward friends, family members, or other adults**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**28. Believes that others are trying to hurt him/her even when they are not**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**29. Threatens to, or has run away from home**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**30. Experiences rapidly changing and strong emotions**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**31. Deliberately breaks rules, laws, or expectations**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**32. Appears happy with her/himself**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**33. Sulks, pouts, or cries more than other children of the same age**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**34. Pulls away from family or friends**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**35. Complains of stomach pain or feeling sick more than other children of the same age**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**36. Doesn't have or keep friends**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**37. Has friends of whom I don't approve**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**38. Believes that others can hear his/her thoughts, or that she/he can hear the thoughts of others**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**39. Engages in inappropriate sexual behavior (e.g. sexually active, exhibits self, sexual abuse towards family members or others)**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**40. Has difficulty waiting his/her turn in activities or conversations**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**41. Thinks about suicide, says she/he would be better off if she/he were dead**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**42. Complains of nightmares, difficulty getting to sleep, oversleeping, or waking up from sleep too early**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**43. Complains about or challenges rules, expectations, or responsibilities**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**44. Has times of unusual happiness or excessive energy**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**45. Handles frustration or boredom appropriately**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**46. Has fears of going crazy**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**47. Feels appropriate guilt for wrongdoing**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**48. Is unusually demanding**

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Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**49. Is irritable**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**50. Vomits or is nauseous more than other children of the same age**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**51. Becomes angry enough to be threatening to others**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**52. Seems to stir up trouble when bored**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**53. Is appropriately hopeful and optimistic**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**54. Experiences twitching muscles or jerking movements in face, arms, or body**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**55. Has deliberately destroyed property**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**56. Has difficulty concentrating, thinking clearly, or attending to tasks**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**57. Talks negatively, as though bad things are all his/her fault**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**58. Has lost significant amounts of weight without medical reason**

Never or Almost Never <input type="checkbox"/>	Rarely <input type="checkbox"/>	Sometimes <input type="checkbox"/>	Frequently <input type="checkbox"/>	Almost Always or Always <input type="checkbox"/>
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**59. Acts impulsively, without thinking of the consequences**

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Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**60. Is usually calm**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**61. Will not forgive her/himself for past mistakes**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**62. Lacks energy**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**63. Feels that he/she doesn't have any friends, or that no likes him/her**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**64. Gets frustrated and gives up, or gets upset easily**

Never or Almost Never	Rarely	Sometimes	Frequently	Almost Always or Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix B: Intermountain Phone Interview

Intermountain Residential Services Follow-up Interview

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Time Frame

CFSC  RESIDENTIAL

6 months  12 months  24 months

Respondent's Name: \_\_\_\_\_

Youth's First Name: \_\_\_\_\_

Phone # \_\_\_\_\_

Youth's Last Name: \_\_\_\_\_

Date(s) of Contact: \_\_\_\_\_

Interviewer: \_\_\_\_\_

Date(s) of Contact: \_\_\_\_\_

Hello, my name is \_\_\_\_\_ and I'm calling from Intermountain Children's Home. This is a follow-up call for [youth]. We are calling to check in with youth and families after they receive services from Intermountain because we are interested in how they are doing and because your answers may help us improve our services.

We would like to ask you some questions about [youth]. Some of these questions will be sensitive, other many not apply, but we ask the same set of question of everyone. You can refuse to answer any question, and all information will be kept private and confidential. Is it okay to begin? (if asked, interview takes 5-7 minutes.)

What is your relationship to [youth]?

Parent  Grandparent  Other Relative  Foster Parent

Family Friend

Intermountain Staff  Non-Intermountain Staff  Other (Describe) \_\_\_\_\_

How old is [youth] now? \_\_\_\_\_

I'll be asking you about the time since [youth] left Intermountain, so we will cover the past [\*months].

1. Let's start with living environment. Where is [youth] living now?

*Note: Do not read responses, rather code according to respondent's answer*

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Home or Independent Living (parent or relative home, family friend home, kinship care, school dorm, independent living with a friend or by self, supervised independent living, residential job corps, or military).

Foster Family (any non-relative foster home, including agency based and treatment foster care).

Out-of-Home Care (Out-of-home placement for the purpose of treatment or keeping youth safe, such as inpatient psychiatric, inpatient rehab, inpatient medical hospital, wilderness camp, residential treatment, emergency shelter and group home).

Lock-up (out of home placement for the purpose of confinement, such as jail, detention, or correctional center).

2. Since leaving Intermountain, how many out-of-home placements has [youth] been in? Keep in mind, an out-of-home placement may be for treatment or keeping youth safe, like a hospital or group home, but may also be for the purpose of confinement, such as any time in jail or detention, even for one night.

# of Placements     Don't know     Refused

3. Let's move on to school. Does [youth] attend school?

*Note: If on summer break, refer to last term in session.*

No (go to #6)     Yes, attends regularly     Yes, but often truant  
 Don't know     Refused

If YES

4. Is [he/she] passing most classes?

No     Yes     Don't know     Refused

5. Has [he/she] been suspended or expelled since leaving Intermountain?

No     Yes     Don't know     Refused

If NOT ATTENDING SCHOOL

6. Has [youth] earned a high school diploma or equivalency?

No     Yes     Don't know     Refused

If NOT in school

7. Since leaving Intermountain, has [youth] . . .

A. Held a job?

No     Yes, currently     Yes, not currently     Don't know     Refused

B. Served in the military?

POST-DISCHARGE OUTCOMES FOR YOUTH

No     Yes, currently     Yes, not currently     Don't know     Refused

---

**ONLY ASK IF YOUTH IS 15 or OLDER**

8. Since leaving Intermountain has [youth] . . .

A. Been pregnant or fathered a child?

No     Yes     Don't know     Refused

9. Since leaving Intermountain has the child exhibited any sexualized behavior that has become a problem?

No     Yes     Don't know     Refused

10. Since leaving Intermountain has [youth] been in contact with the legal system (i.e. juvenile probation, been arrested, appeared in court?)

No     Yes     Don't know     Refused

If Yes

11. Was there any arrest for a felony offense?

No     Yes     Don't know     Refused

---

Since leaving Intermountain, has [youth] used alcohol, tobacco, or other substances?

No     Yes     Don't know     Refused

If Yes,

A. Have there been any problems related to this?

Yes     Yes, alcohol     Yes, tobacco     Yes, other substances

Don't know     Refused

12. Turning to relationships, does [youth] have friends with whom s/he enjoys spending time?

No     Yes     Don't know     Refused

If YES

A. Are these friends, generally speaking, a positive influence on [youth]?

No     Yes     Don't know     Refused

13. Has the use of electronic media created a problem for the child? (i.e. limits or negatively impacts social relationships)

No     Yes     Don't know     Refused

14. Does [youth] have an adult, whether a family member or friend, that can be counted on for support?



POST-DISCHARGE OUTCOMES FOR YOUTH

No       Yes       Don't know       Refused

15. Does [youth] have a better relationship with parents/guardians since leaving Intermountain?

No       Yes       Don't know       Refused

16. Does [youth] attend religious services once a month or more?

No       Yes       Don't know       Refused

17. Does [youth] participate in any organized after-school or community activities, such as sports, music, drama, clubs, volunteer or faith-based groups?

No       Yes       Don't know       Refused

18. What type of impact did Intermountain have on [youth's] life? Was it . . .

Negative     Positive     Don't know       Refused

For future interviews, may I verify your address and phone information?

*Note: record only if different from contact sheet*

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For future interviews, who else is likely to know where [youth] is living?

*Note: record only if different from contact sheet*

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Thank you for your time today! Your answers will help Intermountain better serve youth and families.

In addition, I'd also like to offer you the opportunity to complete the Youth Outcome Questionnaire. It is a paper and pencil questionnaire that I would mail to you with a self-addressed stamped return envelope. It is the questionnaire that was completed at admission and discharge for [youth], and it would also be valuable information to have at post-discharge. We

POST-DISCHARGE OUTCOMES FOR YOUTH

would compensate you for your time by mailing you a \$15 gift card when a completed questionnaire is returned. The questionnaire is 64 questions and typically takes about 7-10 minutes to complete. Would you be willing to complete and return and Youth Outcome Questionnaire? \_\_\_\_\_

If YES: Thank you. That is greatly appreciated. I will mail it to the address you just confirmed for me.

If NO. No problem. I appreciate you taking the time to answer all of my questions today.

**If 6 month interview:**

We will follow up again with you again in 6 months, but if you should need assistance in the meantime you can contact . . .

**If 12 month interview:**

We will follow up with you again in 12 months, but if you should need assistance in the meantime . . .

**If 24 month interview:**

We will not be following up with you again after this, but if you should need assistance in the future . . .

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Post-Interview: Indicate below if Respondent requested no future contact at any time during interview.

DO NOT CONTACT AGAIN

Please record your **Interviewer comments and observations below**. This may include comments regarding what ways Intermountain was helpful, what Intermountain could have done better, or any other concerns.

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