Outcomes of a Community-Based Co-Occurring Disorders Treatment Program

Short Title: Co-Occurring Disorders Treatment Outcomes

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Abstract

Objective: The overall objective was to evaluate a treatment program for men with co-occurring serious mental illness and substance use disorder that included evidence-based integrated dual disorders interventions, family education, supported employment/education, supported housing, and assertive community treatment. Primary aims were to examine completion rates, recovery status, predictors of recovery, and reductions in hospitalization. *Methods*: In 2017, program staff identified participants admitted between 2012 and 2016 and attempted to interview both a family member and the participant, inquiring about overall functioning, family relationships, housing, education/employment, and management of mental health and substance use disorders. Independent researchers reviewed all interview transcripts, analyzed data from medical records, and rated recovery status at follow-up based on mental health, substance use, and functional status. *Results*: The final sample comprised 80 participants. Sixty-five percent of participants (52/80) completed the residential program, and 39% (31/80) completed or were still engaged in community-based, assertive community treatment. At follow-up, 60% (48/80) of participants were in recovery. The most significant predictor of recovery status was treatment completion: 97% of participants who completed the residential program and completed or remained in assertive community treatment were in recovery at follow-up, compared to 33% of non-completers (Fisher's Exact Test, $p < .001$). Other significant predictors of recovery were greater family involvement and positive discharge status on housing, education/employment, and substance use disorder. All participants showed reduced hospitalizations over time. Those who completed both programs maintained a near-zero rate of hospitalizations at follow-up, while non-completers experienced an increase in hospitalizations after discharge. *Conclusions*: Full participation in evidence-based, residential and outpatient co-occurring disorders care produces excellent outcomes.

The co-occurrence of substance use disorders and mental illness is substantial, as is the associated burden on individuals, families, communities, and society (Ahrnsbrak, Bose, Hedden, Lipari, & Park-Lee, 2017; Reeves et al., 2011; World Health Organization, 2009, 2013). Recent estimates based on the 2016 National Survey on Drug Use and Health (NSDUH) (Ahrnsbrak et al., 2017) indicate that 43% of adults who have a substance use disorder also have a mental illness, and 45% of adults who have a mental illness also have a substance use disorder. Individuals with co-occurring disorders experience negative consequences in all areas of their lives, including high rates of hospitalization and early mortality; families suffer as they attempt to help their loved ones; communities struggle to provide adequate services; and society tries to bear the enormous disease burden created by the combination of these disorders.

After 30 years of federal calls for integrated treatment (Ridgely, Goldman, & Willenbring, 1990), most people with co-occurring disorders do not receive adequate treatment. Many receive no treatment, and most of those who do receive treatment get something less than evidence-based, integrated treatment (Ahrnsbrak et al., 2017; Drake & Bond, 2010; Epstein, Barker, Vorburger, & Murtha, 2004; McGovern, Lambert-Harris, Gotham, Claus, & Xie, 2014). The NSDUH data indicate that 48% of people with co-occurring disorders received some form of treatment, but only 7% received both mental health and addiction treatments (Ahrnsbrak et al., 2017). A recent survey of 256 treatment programs (180 substance use disorder and 76 mental illness programs) found that only 18% of addiction treatment agencies and 9% of mental health programs had the capacity to provide evidence-based, integrated treatment (McGovern et al., 2014). Based on reporting from State Mental Health Authorities, only 12% of people with co-occurring disorders received evidence-based integrated treatment in 2017 (Substance Abuse and Mental Health Services Administration, 2017).

Given the impact of these disorders and the paucity of evidence-based treatment, understanding more about programs that do currently exist is critical. This paper describes a program evaluation of a private, non-profit, evidence-based co-occurring disorders treatment program. To our knowledge, no other private treatment programs have published outcomes data.

WestBridge Inc.

WestBridge provides integrated treatment to men aged 18 years and older with co-occurring mental illness and substance use disorders. These men often have not succeeded in other programs and have experienced multiple hospitalizations, school and employment disruptions, family distress, and legal problems. The program begins in a residential setting followed by continuing care in the community (Woods & Drake, 2011). Outpatient services comprise assertive community treatment (ACT), including integrated dual disorders interventions, family education, group therapy, family and individual therapy, supported employment/education, supported housing, community integration, and other evidence-based practices. As clients (called participants) move through recovery, service intensity typically lessens over time based on the individual's needs. Intensity/level of ACT services ranges from four hours weekly up to 60 hours weekly. Participants, staff, and family members make collaborative decisions regarding treatments, transitions into community-based care, and discharges using shared decision-making. More detailed descriptions of WestBridge may be found elsewhere (Luciano et al., 2014; Noel, Woods, Routhier, & Drake, 2016; Woods & Drake, 2011). Families founded WestBridge, and family members participate regularly (in person when possible and via video and teleconferencing) in family sessions and a comprehensive family education series (Fox et al., 2010). The goal for all participants is holistic recovery encompassing the areas of mental health, substance use, and physical health; healthy relationships with family, friends, peers, and staff; supported housing; competitive employment or education; and healthy behaviors (e.g., tobacco

cessation, healthy eating, exercise, and sleep hygiene). WestBridge has two locations, one in Florida and one in New Hampshire, with capacity for residential care for 32 men and outpatient care for approximately 100.

Current Study

WestBridge staff conducted a quality improvement effort to contact participants with varying amounts of experience in their program to interview them regarding their current health status. This paper presents the results of a program evaluation conducted by a national health research organization using data collected as part of that effort. We addressed four questions:

1) What proportion of participants successfully completed treatment?

2) What proportion of participants was in recovery at follow-up?

3) What predicted recovery at follow-up?

4) Was treatment associated with a significant reduction in hospitalizations?

Methods

Participants

WestBridge considered for inclusion the 121 participants who were admitted between January 1, 2012 and August 30, 2016 (index period) to allow time for treatment and follow-up at the end of 2017. Of the 99 who had left WestBridge, staff collected follow-up information on 60 (61%). For 23 of these former participants, staff obtained interviews from both a family member and the participant, and for 37 from a family member only. The others were not included for several reasons: declined the interview ($n=10$), could not be located ($n=9$), did not respond to contact attempts ($n=9$), administrative reasons for no contact ($n=7$), or the former participants were deceased ($n=4$) (see Figure 1). The mean interval between discharge and follow-up was 2.4 years ($SD = 1.3$ years). An additional 22 participants were admitted during the index period and were

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still engaged in some level of WestBridge community-based services. For 18 of the 22 still receiving services, staff conducted follow-up interviews with both the participant and a family member. For the remaining four participants, they interviewed a family member only. Participants still at WestBridge had been receiving community-based ACT services on average 2.9 years ($SD = 1.3$ years).

---Figure 1---

Procedures

Quality improvement staff used electronic health records to identify people who were admitted and discharged during the index period. For people admitted and discharged more than once during the index period, they used the most recent admission for the evaluation. Two staff members conducted the follow-up interviews by phone. A telephone service recorded and transcribed the calls. Because WestBridge is a family-centered program, staff first contacted and, with consent, interviewed the family member who had been most involved in the participant's treatment and then requested permission to contact and interview the participant. Many families provided contact information immediately, some preferred to ask the participant first, and others requested that staff not contact the participant.

Measures

We collected information on demographics, diagnoses, previous hospitalizations, treatment utilization and completion status, reason for discharge, length of stay, and family involvement (number of sessions attended by a family member) from WestBridge medical records. We used longitudinal data from the WestBridge Dual Recovery Inventory (DRI) (Noel et al., 2016) to assess 13 domains of recovery: housing, education/employment, friendship, family, mental health, substance use, spirituality, tobacco use, healthy eating, exercise, sleep hygiene, physical health, and personal hygiene. Each domain is rated on a scale that parallels the stages of change

(Prochaska, Norcross, & DiClemente, 1994), such that a rating of 1 represents pre-contemplation, 2 represents contemplation, 3 represents preparation, 4 represents action, and 5 represents maintenance (see Appendix). WestBridge staff and participants complete the DRI together at admission and quarterly throughout treatment. For all 13 dimensions of the DRI, we considered ratings of 1-3 "not functioning at recovery level" and ratings of 4-5 "functioning at recovery level." We included both inpatient and residential treatment in our measure of hospitalizations, excluding partial hospitalizations, halfway houses/sober houses, and all outpatient treatment.

Two independent researchers used the interview transcripts to rate the participant's stage of recovery at follow-up. They rated each participant on five areas of recovery: (1) living situation, (2) family relationships, (3) employment/education activities, (4) mental health, and (5) substance use. Based on these ratings we categorized a participant as either "in recovery" or "not in recovery." Participants were categorized as "in recovery" if they had achieved healthy, positive outcomes in at least three of the five areas, including either their mental health or substance use recovery as one of the three. In cases where the family member's report and the participant's report differed, the raters used clinical judgment to determine the recovery rating. The two researchers determined reliability on 15 randomly selected interviews and agreed on 13 of the 15 (87%). Because the two disagreements were borderline ratings, we determined consensus ratings on these two and another three interviews with borderline ratings.

Analyses

Data cleaning resulted in the identification of two individuals whose hospitalizations prior to entering WestBridge were more than two standard deviations from the mean; these outliers were removed from the data (final sample size = 80). We summarized the data using descriptive

analyses and, because of the relatively small sample size, used Fisher's Exact test to determine associations between 14 pre-selected key variables[1] and recovery status at follow-up. We used a median split on age and family involvement because these variables had skewed distributions. We used repeated measures analysis of variance (ANOVA) to examine the pattern of change in number of hospitalizations over time across the full sample. To identify group differences in number of hospitalizations by treatment completion status, we used independent samples t-tests at each time interval (baseline, during treatment, and follow-up). Within each completion status group, we used paired samples t-test to examine changes in the number of hospitalizations between baseline and during treatment, and during treatment and follow-up. We conducted analyses using R version 3.5.1.

Human Subjects Review

Because we analyzed de-identified data that were already collected as part of the treatment program's quality improvement efforts, this study was deemed exempt from further review (it did not involve human subjects) by the Westat institutional review board.

<div align="center">

Results

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Participant **Characteristics**

As shown in Table 1, program participants at admission were young, single, predominantly Caucasian, and had completed high school or some college. Nearly all were unemployed and not in school at intake. The most prevalent mental health diagnoses were schizophrenia spectrum disorders, followed by bipolar disorder and major depression. The majority of participants had

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[1]Age, mental health diagnosis, substance use disorder, program location, family involvement, completed residential, completed ACT, completed both/still in ACT, and the 6 domains of the DRI listed in Table 3.

polysubstance use disorder or cannabis use disorder. Despite their relatively young age, most participants had a history of multiple inpatient and residential, as well as outpatient, treatment episodes.

---Table 1---

Treatment Completion

As shown in Table 2, participants were evenly distributed between the New Hampshire and Florida sites. Most participants completed residential treatment and transitioned into the community-based ACT program. At follow-up, the majority of ACT participants had either completed the program successfully or remained in some level of ACT. The average length of stay in the program (residential and community-based services) was approximately one and one-half years. The most common reason for not completing residential treatment was leaving against medical advice, and the most common reason for not completing the ACT program was financial.

---Table 2---

Recovery Status at Follow-Up and Predictors of Recovery

Of the 80 participants with follow-up data, we rated 48 (60%) "in recovery" at follow-up and 32 (40%) "not in recovery." Baseline participant demographics and clinical characteristics, including primary diagnosis and type of substance use disorder, were unrelated to recovery status at follow-up. As shown in Table 3, completion of residential treatment, completion or continued involvement in ACT, and amount of family involvement predicted recovery at follow-up. Treatment completion and family involvement were highly correlated.

---Table 3---

Also shown in Table 3, three of the six dimensions of the DRI examined at discharge predicted recovery status at follow-up. Participants rated as "in recovery" (either 4 or 5) on Housing, Education/Employment, and Substance Use Disorder by the end of treatment were more likely to be in recovery at follow-up.

Reductions in Hospitalizations

One participant had missing pre-treatment hospitalization data and was not included in these analyses ($n = 79$). Participants who completed the residential program did not differ in baseline number of hospitalizations from those who did not complete the residential program ($t(77) = 0.16$, $p = 0.87$). Likewise, those who completed (or were still in) ACT did not differ in baseline hospitalizations from those who did not complete ACT ($t(77) = 0.55$, $p = .58$).

Repeated measures ANOVA with the full sample showed a significant change in number of hospitalizations from baseline to follow-up ($F(2,135) = 31.7$, $p < .01$). Further analysis indicated that participants had fewer hospitalizations during treatment ($M = 0.30$, $SD = 0.99$) compared to baseline ($M = 4.05$, $SD = 3.58$), but the number of hospitalizations after treatment increased ($M = 2.09$, $SD = 3.81$). See Table 4 and Figure 2.

<div align="center">---Table 4---   ---Figure 2---</div>

Participants who completed residential and ACT (or were still receiving services), as well as those who only completed residential treatment, had fewer hospitalizations during treatment ($M = 0.10$, $SD = 0.31$; $M = 0.86$, $SD = 1.77$; respectively) compared to baseline ($M = 3.77$, $SD = 2.79$; $M = 4.57$, $SD = 4.50$; respectively). Those who did not complete residential treatment also showed a decrease in hospitalizations during treatment ($M = 0.11$, $SD = 0.31$) compared to baseline ($M = 3.96$, $SD = 3.65$) but then had a significant increase in hospitalizations from

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treatment to follow-up ($M = 2.86$, $SD = 5.02$). Participants who only completed residential

displayed a trend toward an increase in hospitalizations from treatment to follow-up ($M = 1.90$,

$SD = 2.17$), whereas those who completed both residential and ACT showed no change at

follow-up ($M = 0.11$, $SD = 0.33$). See Table 4 and Figure 3.

---Figure 3---

Discussion

Recovery outcomes were similar in NH and FL. Treatment completion strongly predicted

recovery status at follow-up, as did amount of family involvement. Participants who attained

supported housing, participated in competitive employment or education, or maintained

abstinence from substances of abuse while in treatment were more likely to be in recovery at

follow-up.

The most important finding by far is that participants who completed residential services and

remained connected to ACT programs or completed ACT had excellent recovery outcomes,

approaching 100%, including almost no subsequent hospitalizations for mental or substance use

treatments. Those who only completed residential treatment had lower recovery outcomes and

higher subsequent hospitalizations. This remarkable statistic may be somewhat inflated by the

possibility that participants who were not doing well dropped out of treatment and/or were

difficult to find for follow-up, but many of their families did participate. The overall rate of

recovery was related to full participation and unrelated to participant characteristics at admission.

Further, the proposed mediating variables – family involvement, independent living, competitive

employment or education, and abstinence at the end of treatment -- indicated that the model of

integrated co-occurring disorders treatment in residential and ACT stages, complemented by

continuous family involvement, supported employment/education services, and supports for abstinence, is effective. The similarity of outcomes in NH and FL also supports the effectiveness of the model rather than of specific participant, staff, or community characteristics.

The importance of long-term, continuous services should not be a surprise. ACT has always been defined as a long-term support program (Stein & Test, 1980). Many participants who were still connected to WestBridge at follow-up had transitioned to a lower level of care, as in the flexible assertive community treatment model (Keet, 2016).

Limitations

This study utilized internal program evaluation information and was not a controlled research study. Several limitations included lack of follow-up on a substantial minority of eligible participants, use of program staff as follow-up interviewers, and small sample size. Due to the lack of information on participants who were unreachable and therefore potentially more likely to have negative outcomes, some of the reported results may be overly optimistic. However, this bias may be minimal. For example, 39 potentially eligible participants did not have follow-up information (see Participant Flowchart). Assuming that only 10 (25%) of the non-interview group would have been rated as in recovery at follow-up, the overall recovery rate would drop from 60% to 48% (58 of 121). Nevertheless, this change would not alter the fact that participants who completed residential and assertive community treatment fared very well and much better than those who did not. While information in the follow-up interviews may have been biased because they were done by WestBridge staff, this also undoubtedly enhanced the participation rate and is tempered by the fact that the recovery ratings were made by independent researchers. Other limitations include: the participants came from families with the means to pay for treatment, lacked diversity, and were all men.

Further research on private models of co-occurring disorders treatment could further elucidate effective treatment components, mediating variables, and theories of recovery. Private treatment is expensive but could actually save money over the long term by reducing the expensive consequences of the disorders, such as hospitalizations, incarcerations, loss of productivity, HIV and other health problems. A complete cost-benefit analysis would be helpful.

Conclusions

Evaluation of a private, non-profit model of treatment for co-occurring mental illness and substance use disorder demonstrated that full participation in evidence-based models of care produces excellent outcomes. A combination of residential and outpatient care that incorporated integrated dual disorders interventions, family education, supported employment/education, supported housing, and assertive community treatment was effective. Cost-effectiveness and translation to public sector programs remain to be studied.

interpreting findings, and led the writing of the manuscript. Noel was involved in data validation

and analyses and contributed to the interpretation of findings and writing the manuscript.

Gamache was involved in developing evaluation questions prior to the study based on treatment

principles and goals and contributed to writing the manuscript. Drake co-designed the study and

contributed to the interpretation of findings and writing the manuscript. Gamache and other

WestBridge staff had no role in data analyses or reporting of results.

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Table 1. Baseline Characteristics (*N* = 80)

Characteristic	Mean	Median	SD
Age (years)	28.1	26	8.55
Inpatient/ Residential Tx (lifetime)	4.05	3.00	3.58
SUD Outpatient Tx (lifetime)	1.29	1.00	1.67
Race	*n*	%	
Caucasian	76	95.0	
Hispanic	1	1.25	
Pakistani	1	1.25	
Indian	1	1.25	
Asian	1	1.25	
Education (completed)			
High School	34	42.5	
Some College	28	35.0	
College Degree	13	16.25	
Missing	5	6.25	
Marital Status			
Single	67	83.75	
Married	4	5.0	
Divorced	4	5.0	
Missing	5	6.25	
Employed (part- or full-time)			
Yes	2	2.5	
No	71	88.75	
Missing	7	8.75	
Attending School (part- or full-time)			
Yes	1	1.25	
No	73	91.25	
Missing	6	7.5	
Mental Illness (Primary)			
Schizophrenia spectrum	32	40.0	
Bipolar	18	22.5	
Major depression	15	18.75	
Anxiety	7	8.75	
Other	8	10.0	
Psychotic Disorder			
Yes	50	62.5	
No	30	37.5	
Primary Addiction			
Polysubstance	28	35.0	
Cannabis	25	31.25	
Alcohol	14	17.5	
Alcohol & Cannabis	7	8.75	
Opioid	3	3.75	
Cocaine	2	2.5	
Sex Addiction	1	1.25	

Note. Tx = treatment.

Table 2. Treatment Characteristics (*N* = 80)

Characteristic	*n*	%		
Program				
NH	46	57.5		
FL	34	42.5		
Completed Residential Treatment				
Yes	52	65.0		
No	28	35.0		
Discharge Status Res (non-completers)				
Against Medical Advice	11	13.75		
Administrative	5	6.25		
Family	5	6.25		
Financial	5	6.25		
Legal	2	2.5		
Enrolled in ACT[1]				
Yes	49	61.25		
No	31	38.75		
Completed ACT				
Yes	9	11.25		
No	18	22.5		
Still receiving ACT services	22	27.5		
Discharge Status ACT (non-completers)				
Against Medical Advice	4	5.0		
Administrative	2	2.5		
Family	3	3.75		
Financial	8	10.0		
Legal	0	0.0		
Returned to Residential Program	1	1.25		
	Mean	Median	SD	
Length of Stay in Residential (days)				
Completed residential	164.5	147	111.6	
Did not complete residential	56.7	44	47.5	
Length of Stay in ACT (days)				
Completed ACT	539.6	295	509.1	
Did not complete ACT	307.5	210	290.3	
Still in ACT	1083.8	965	486.6	
Length of Stay Total (days)				
Completed Residential and ACT	686.3	462	500.6	
Did not complete Residential/ACT	474.2	369.5	357.2	
Still in ACT	1260.9	1136.5[2]	536.2	
Family Involvement (# of sessions)	80.2	49	80.4	

Note. ACT = assertive community treatment.

[1]Of the 52 participants who completed residential treatment, 3 did not choose to continue into the ACT program (2 transferred to a different treatment provider and 1 went back home).

[2]When there are an even number of participants, the median is the mean of the two central numbers and therefore is sometimes not a whole number.

Table 3. Predictors of recovery status at follow-up ($N = 80$).

Predictor (at discharge)	Follow-up outcome				Fisher's Exact Test
	Not in recovery		In recovery		
Treatment Completion	n	%	n	%	
Residential					$p < .01$
Did not complete	17	60.7	11	39.3	
Completed	15	28.8	37	71.2	
ACT					$p < .001$
Did not complete	12	66.7	6	33.3	
Completed or still in	1	3.2	30	96.8	
Family Involvement[1]					$p < .01$
Under 47.5	23	59.0	16	41.0	
Over 47.5	9	22.0	32	78.0	
DRI Dimension ($n=43$)[2]					
Housing	5	15.2	28	84.8	$p < .01$
Recovery	6	60.0	4	40.0	
Not in Recovery					
Employ/Education	1	5.6	17	94.4	$p < .02$
Recovery	10	40.0	15	60.0	
Not in Recovery					
Friendships	6	20.0	24	80.0	*n.s.*
Recovery	5	38.5	8	61.5	
Not in Recovery					
Family	6	20.0	24	80.0	*n.s.*
Recovery	5	38.5	8	61.5	
Not in Recovery					
Mental Health	6	23.1	20	76.9	*n.s.*
Recovery	5	29.4	12	70.6	
Not in Recovery					
Substance Use	4	12.5	28	87.5	$p < .01$
Recovery	7	63.6	4	36.4	
Not in Recovery	5	15.2	28	84.8	

Note. n.s. = not significant.
[1]Family involvement was measured in number of sessions attended.
[2]There were 37 people who were missing DRI data at baseline and/or at discharge.

Table 4. Paired t-test Comparisons of Mean Hospitalizations over Time within Treatment Completion Status Group
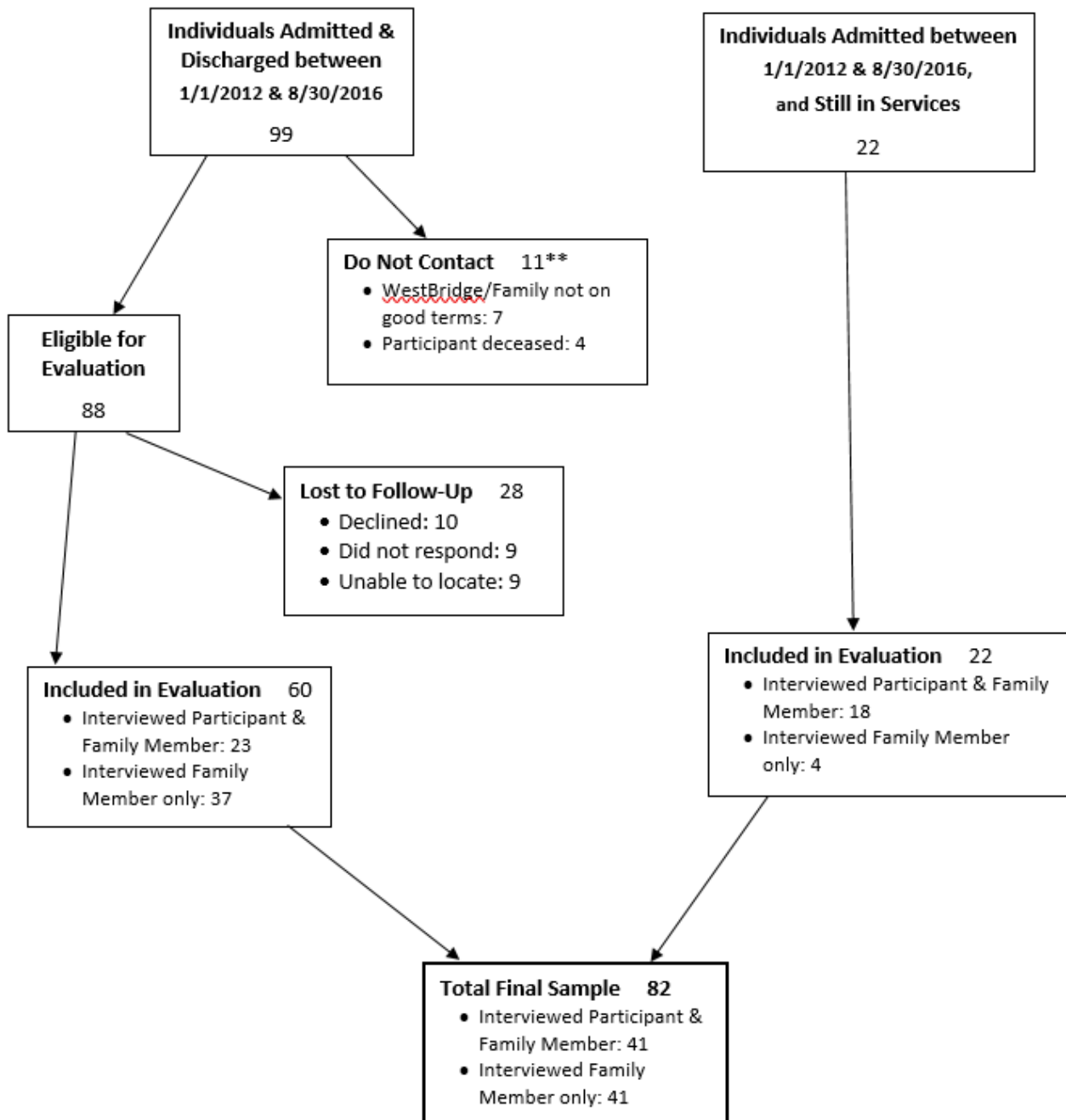
Group	Comparison	n	Mean Difference	t	[95% CI][1]	p-level
Full Sample	Before Tx to During Tx	79	3.75	10.38	[3.03, 4.47]	.001
	During Tx to After Tx	58	1.72	-3.36	[-2.75, -0.70]	.01
Completed Neither	Before Tx to During Tx	28	3.88	5.71	[5.24, 2.47]	.001
	During Tx to After Tx	28	2.75	-2.88	[-0.79, -4.71]	.01
Completed Residential Only	Before Tx to During Tx	21	3.71	4.97	[2.16, 5.27]	.001
	During Tx to After Tx	21	1.05	-1.99	[0.05, -2.15]	.06
Completed Both/Still in ACT	Before Tx to During Tx	30	3.67	7.25	[4.70, 2.63]	.001
	During Tx to After Tx	9	0.11	-1.00	[0.15, -0.37]	.35

Note. CI = confidence interval; Tx = treatment.
[1]This is the 95% confidence interval for the mean of the differences.

Figure 1.

Participant Flowchart


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Individuals Admitted &                    Individuals Admitted between
Discharged between                        1/1/2012 & 8/30/2016,
1/1/2012 & 8/30/2016                      and Still in Services
99                                        22
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Do Not Contact    11**
• WestBridge/Family not on
  good terms: 7
• Participant deceased: 4
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Eligible for
Evaluation
88
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Lost to Follow-Up    28
• Declined: 10
• Did not respond: 9
• Unable to locate: 9
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Included in Evaluation    22
• Interviewed Participant & Family
  Member: 18
• Interviewed Family Member
  only: 4
```

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Included in Evaluation    60
• Interviewed Participant &
  Family Member: 23
• Interviewed Family
  Member only: 37
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Total Final Sample    82
• Interviewed Participant &
  Family Member: 41
• Interviewed Family
  Member only: 41
```

** Prior to initiating contact with families and participants for follow-up interviews, WestBridge determined that 11 participants were not appropriate for the follow-up assessment because they either left WestBridge under difficult circumstances and would not want to be contacted, or were known to be deceased.
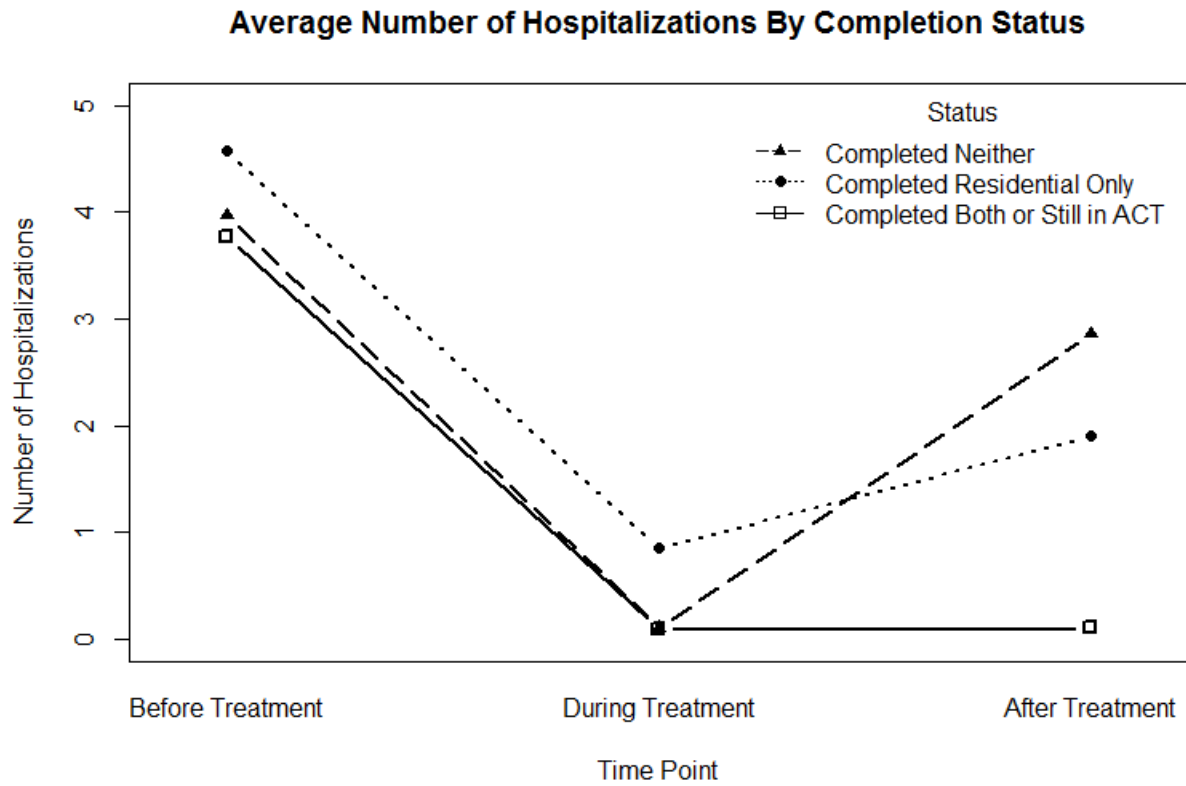
Figure 2.

Average Number of Hospitalizations Over Time (*N* = 79)

Figure 3.

Average Number of Hospitalizations By Completion Status
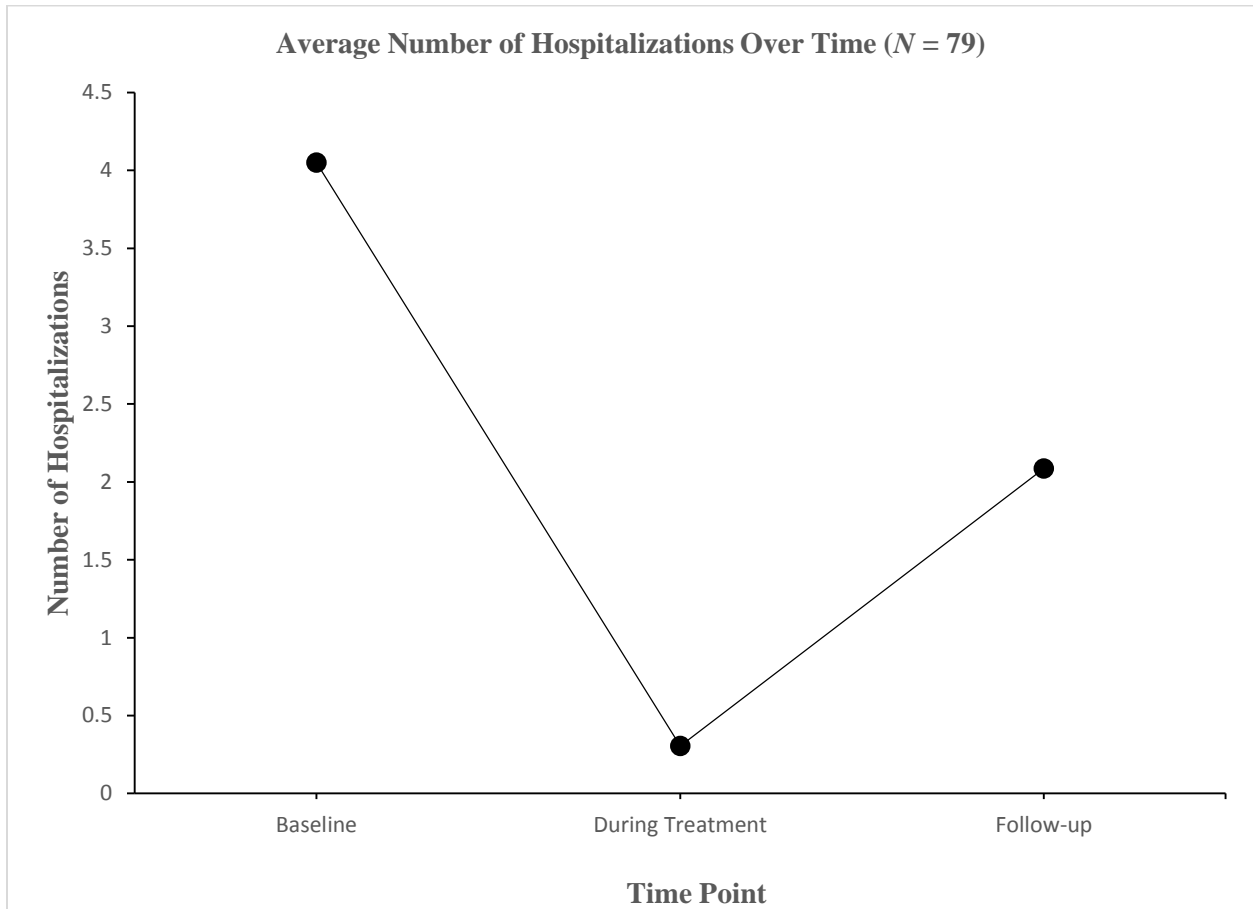
Note. "Completed Neither" $n = 28$ at all three time points; "Completed Residential Only" $n = 21$ at all three time points; "Completed Both or Still in ACT" $n = 30$ before and during treatment, $n = 9$ after treatment (the participants who were still in ACT did not have data for this time point).

Appendix: Dual Recovery Index Dimensions and Rating Anchors

Housing
1. Shelter/homeless/institution
2. Unstable housing or several moves
3. Sheltered housing: group home or with parents
4. Own apartment or home with staff assistance
5. Independent housing without staff outreach

Employment
1. None
2. Volunteer work
3. Very Part-Time (0-10 hours/week) but competitive
4. Steady part-time (11-20 hours per week) competitive
5. Half time or more competitive

Education
1. None
2. Class with no credit
3. One class for credit
4. Part-time
5. Full time

Friendship
1. No healthy friends (ones who are not using alcohol or drugs)
2. At least monthly contact with at least one healthy friend
3. At least weekly contact with one healthy friend
4. At least weekly contact with several healthy friends
5. Daily contact with healthy friends

Family
1. Overwhelmed by conflict and no contact
2. Difficulties but actively working on relationships
3. At least one positive interaction per week
4. Positive interactions per week most of time
5. Satisfying, age-appropriate interactions nearly all of the time

Mental Health
1. Overwhelmed by symptoms
2. Symptoms every day, but learning to manage symptoms
3. Needs regular assistance (e.g., help with taking meds) to manage symptoms
4. Self-monitors symptoms and seeks assistance when symptoms increase
5. Independently manages symptoms

Substance Use
1. Actively using without considering change – pre-contemplative
2. Considering pros and cons of use and contemplating change
3. Taking steps to reduce substance use
4. Actively working on abstinence with occasional slips
5. Abstinent

Spiritual
1. Does not have a strong set of values
2. Searching actively for values but uncertain
3. Strong values but difficulty living with values
4. Lives with strong values
5. Reaching out to help others as part of spiritual recovery

Tobacco
1. No attempts to quit – pre-contemplative
2. Considering pros and cons of quitting -- contemplative
3. Has abstinence as goal and has made attempts to quit -- active
4. Abstinent most of past 3 months
5. Abstinent for past 3 months

Healthy Eating
1. No interest in healthy eating – pre-contemplative
2. Considering pros and cons of healthy eating -- contemplative
3. Actively trying to change eating habits -- active
4. Regular self-monitoring and choosing healthy eating most of time
5. Daily good eating habits

Exercise
1. No exercise – pre-contemplative
2. Considering pros and cons of exercise -- contemplative
3. Trying to exercise but not regular -- active
4. Regular exercise 2-3 days a week
5. Regular exercise 5-7 days a week

Sleep
1. Sleeps poorly and no attention to sleep hygiene
2. Wants to work on improving sleep but no active changes
3. Sleeps better with lots of help
4. Actively monitoring sleep and making changes
5. Independently caring for sleep

Illness Management
1. Ignores physical health problems
2. Recognizes physical health problems, wants to manage better
3. Needs help to manage physical health
4. Actively monitors and manages physical health with lapses
5. Independently manages physical health

Hygiene
1. Daily problems with no attention
2. Recognizes problem and planning improvements
3. Improving with help at least weekly
4. Actively monitors hygiene with some lapses
5. Independently manages hygiene