RESEARCH BRIEF

Center for Practice TRANSFORMATION
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Client Characteristics Associated with Change in an Intensive Outpatient Program

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Abstract

Intensive outpatient programs (IOPs) can be an effective treatment setting for adults struggling with co-occurring mental health and substance use disorders (SUD). Pulling from a sample of 7107 adults attending an intensive outpatient program, the present research brief sought to explore what client demographic, substance use, legal, housing, and psychiatric characteristics were associated with improvement and deterioration in overall recovery, substance use, depression severity, anxiety severity, and days abstinent from a substance from IOP intake to discharge, as well as discharge status and admission length. A range of characteristics were associated with improvement and deterioration, including client self-reported diagnostic categories, age, being court ordered to treatment, a lifetime felony history, age of first substance use, treatment setting prior to IOP intake, use of certain substances in the last year, identifying with certain racial identities, living in a recovery residence, and time in IOP treatment.

Background

Intensive outpatient programs (IOPs) have been demonstrated to provide benefit to people living with co-occuring mental health and substance use disorders. This benefit includes decreased substance use and improved symptoms of depression and anxiety (Watkins et al., 2023; McCarty et al., 2014).

The present brief sought to answer the following question:

1. What client demographic, substance use, legal, housing, and psychiatric characteristics are associated with improvement and deterioration in overall recovery, substance use, depression severity, anxiety severity, and days abstinent from a substance from IOP intake to discharge, as well as discharge status and admission length?

Methods

The present data was collected through a study partnership from 2019 to 2024 between the Center for Practice Transformation and a Midwest non-profit offering IOP with financial support for a recovery residence option for those in need, examining recovery residence utilization and outcomes. Clients (n=7107) receiving IOP services were given the option to enroll in the study at the time of their admission. Electronic surveys were completed at intake and discharge, and then at three, nine and sixteen months after discharge. Surveys included demographic questions and outcome-related questions. Identifying information was removed for analysis to protect the privacy of participants.

Outcomes

There were seven dependent variables of interest: overall recovery (Substance Use Recovery Evaluator (SURE) total score, Neale et al., 2016); substance use and cravings (Substance Use Recovery Evaluator (SURE) substance use score, Neale et al., 2016); depression severity (PHQ-9 total score, Kroenke, Spitzer & Williams, 2001); anxiety severity (GAD-7 total score, Spitzer et al., 2006), days abstinent from a substance (days elapsed since last use of a substance), IOP discharge status (successful (with treatment staff approval) vs. unsuccessful (against staff approval, against staff recommendation, a transfer elsewhere, lost finances, incarceration, or death)); and IOP admission length (number of days between IOP intake and discharge).

For overall recovery, substance use and cravings, depression severity, and anxiety severity, a change variable was created: no change, deterioration, and improvement. Using Jacobson & Truax (1991), a reliable change index was calculated for each outcome to determine reliable change in score for each participant: SURE total score (+/-1.29), SURE use score (+/-0.70), PHQ-9 (+/-0.53), GAD-7 (+/-1.15). Change was measured between IOP intake and discharge. IOP admission length was defined with a binary variable set at the median of 75 days or fewer or more than 75 days.

Client characteristics

Participant demographics included sex (male or female), age (categories were set at quartiles: 18-28, 29-34, 35-42, and above 42), race (included White *only* (only designated no other racial identification), Black only, American Indian/Alaska Native only, Asian only, Other category only, and Multiracial (identification with more than one racial category above)), ethnicity (Hispanic/Latinx or not), and education (included some high school, high school diploma/GED, some college, associate's or technical degree, bachelor's degree, or at least some graduate school).

Substance use characteristics included age of first substance use (set at quartiles: 0-13, 14-15, 16-17, and above 17), number of prior treatment attempts for a SUD (included zero, 1-3, or 4 or more), substances used most frequently in the past year (participants could select up to three substances including cannabis, alcohol, amphetamines, opioids, cocaine, hallucinogens, and sedatives and response categories were no or yes for each), treatment setting prior to IOP intake (no treatment, hospital setting/inpatient/detox, other outpatient, or other setting), and days abstinent from a substance (quartiles of days elapsed since last use of a substance: 0-15 days, 16-41, 42-77, and above 77).

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Housing, legal, and psychiatric characteristics included whether clients lived in a recovery residence at any time for any length of time while admitted to the IOP (yes/no), whether they were unhoused in the past six months (yes/no), their IOP treatment was court-ordered (yes/no), or they had ever been convicted of a felony (yes/no), and self-reported diagnostic categories received in the past year (depression, anxiety, bipolar, post-traumatic stress, schizophrenia/schizoaffective, ADD/ADHD, eating, or personality).

Statistical Analysis

Multinomial logistic regression was used to examine associations between change in overall recovery, substance use, depression severity, and anxiety severity and client characteristic, adjusting for all other characteristics. For these four outcomes, those who showed no change were the reference/comparison group. Relative risk ratios (RRR) and 95% confidence intervals are reported and significance was set at $p<0.05$. Binary logistic regression was used to examine associations between days abstinent from a substance (no increase vs. increase), discharge status (not successful vs. successful discharge), and admission length (75 days or fewer or more than 75 days). Odds ratios (OR) and 95% confidence intervals are reported and significance was set at $p<0.05$. Participants were included in analyses if they attended the IOP for at least seven days and no more than 365. Analyses of overall recovery, substance use, depression severity, anxiety severity, and days abstinent from a substance included intake score for each to account for client baselines, as well as admission length in days to account for the effect of time in treatment.

Results

Tables 1 and 2 summarize the different changes that clients made from IOP intake to discharge for each outcome. For overall recovery, 59.8% of clients improved in their score, about a third (33.7%) improved their substance use score, and almost half improved in their depression severity (47.7%), and anxiety severity (45.9%). Almost a quarter (23.0%) deteriorated in their overall recovery score and a fifth (19.7%) did so in their substance use score. Over a third (39.1%) deteriorated in their depression severity, and almost a quarter (23.7%) did so in their anxiety severity. Most (79.9%) reported an increase in the number of days abstinent from a substance during their admission. Just over half (52.2%) discharged successfully, and most (64.2%) were admitted to the IOP for more than 75 days. Tables 4-9 include only significant relationships between outcomes and client characteristics.

Overall recovery:

Clients who identified as Black only compared to those who identified as White only were more likely to deteriorate in overall recovery relative to showing no change (RRR, 3.71, 1.24-11.2). Clients who self-reported a depression diagnosis compared to those who did not were more likely to deteriorate relative to showing no change (RRR, 2.60, 1.15-5.87), and those who reported a personality diagnosis compared to those who did not were less likely to improve in overall recovery score relative to showing no change (RRR, 0.38, 0.15-0.99). For every day admitted, clients were also 0.99 times less likely to deteriorate (relative to showing no change) by discharge ($p<0.01$).

Substance use and cravings:

Clients who identified as Black only compared to those who identified as White only were more likely to deteriorate in substance use and cravings relative to showing no change (RRR, 4.58, 0.83-4.22). Clients who self-reported a bipolar diagnosis compared to those who did not were less likely to deteriorate relative to showing no change (RRR, 0.34, 0.14-0.80), but those who reported an ADD/ADHD diagnosis were more likely (RRR, 3.14, 1.60-6.17). Perhaps unsurprisingly, those with above 82 days of abstinence from a substance compared to those with 18 days or fewer were less likely to improve in their substance use and cravings score relative to showing no change (RRR, 0.37, 0.17-0.77) given that they likely already scored high on the scale. Moreover, for every day admitted, clients were 0.98 times less likely to deteriorate (relative to showing no change) by discharge ($p<0.001$).

Depression severity:

Clients who identified as American Indian/Alaska Native only compared to those who identified as White only were less likely to improve in depression severity relative to showing no change (RRR, 0.30, 0.10-0.90). Moreover, those who had been in an inpatient, hospital, or detox setting prior to IOP admission compared to those who had been in no treatment setting were less likely to improve in depression severity (RRR, 0.17, 0.04-0.73). In contrast, those who were 14-15 years old when they first used a substance compared to those who were 13 or younger (RRR, 2.64, 1.02-6.87), those who reported using alcohol in the last year compared to those who didn't (RRR, 2.60, 1.11-6.06), and those who reported an anxiety diagnosis versus not (RRR, 2.74, 1.16-6.48) were more likely to improve.

Interestingly, those who were 14-15 years old when they first used a substance compared to those who were 13 or younger (RRR, 5.26, 1.99-13.9), as well as those who were above 17 were more likely to deteriorate in depression severity (RRR, 3.64, 1.40-1.77). Moreover, those who reported using alcohol in the last year compared to those who didn't (RRR, 2.49, 1.06-5.88), and those with a lifetime felony history compared to those without one (RRR, 2.22, 1.02-4.86) were more likely to deteriorate. Those who self-reported a diagnosis of anxiety, although only marginally significant ($p=0.06$), also appeared more likely to deteriorate. Reporting more than 18 days abstinent from a substance also appeared to make clients more likely to deteriorate, although these results should be taken cautiously as these standard errors were high (>2.0).

Anxiety severity:

Similar to change in depression severity, clients who identified as American Indian/Alaska Native only compared to those who identified as White only were less likely to improve in anxiety severity relative to showing no change (RRR, 0.27, 0.10-0.72). Clients who reported using cannabis in the last year compared to those who had not (RRR, 1.82, 1.09-3.03) were more likely to improve in anxiety severity relative to showing no change. While those who reported an anxiety diagnosis compared to those who did not were more likely to improve (RRR, 2.79, 1.45-5.36), those who reported an eating diagnosis were less likely (RRR, 0.18, 0.05-0.64). For every day admitted, clients were 1.005 times more likely to improve in anxiety severity by discharge ($p<0.05$).

Clients who received treatment at an inpatient, hospital, or detox level of care (RRR, 0.33, 0.11-0.98) or who received care at another outpatient treatment facility (RRR, 0.14, 0.04-0.48) prior to IOP admission

both were less likely than those who had received no treatment to deteriorate in anxiety severity relative to no change. Clients, however, who had a felony history compared to those who did not were more likely to deteriorate relative to no change (RRR, 2.41, 1.26-4.60). For every day admitted, clients were 0.90 times less likely to deteriorate in anxiety severity by discharge (p<0.01).

Days abstinent from a substance

Compared to those 18-28 years old, those 29-34 (aOR, 2.18, 1.10-4.31) and older than 42 (aOR, 2.56, 1.18-5.58) were more likely to increase their days abstinent from a substance from intake to discharge. Moreover, for every day admitted, clients were 1.01 times more likely to increase their days abstinent by discharge (p<0.001). In contrast, those at a moderate or worse level of anxiety according to the GAD-7 at intake were less likely than those with none or mild anxiety to increase their days abstinent from a substance (aOR, 0.45, 0.23-0.89), as were those who reported a personality diagnosis compared to those who did not (aOR, 0.40, 0.18-0.90).

Successful discharge

As with days abstinent from a substance, compared to those 18-28 years old, those 29-34 (aOR, 1.97, 1.24-3.14) and older than 42 (aOR, 2.11, 1.25-3.56) were more likely to discharge successfully. Those who lived in a recovery residence while attending the IOP (aOR, 1.57, 0.99-2.46, p=0.05) and those who were court ordered to IOP treatment (aOR, 2.15, 1.42-3.26) were more likely to successfully discharge. Although only marginally significant (p=0.06), those with a bachelor's degree compared to those who did not finish high school appeared more likely to discharge successfully. Moreover, for every day admitted, clients were 1.03 times more likely to end with a successful discharge (p<0.001). Those who reported a depression diagnosis were less likely than those who did not to successfully discharge (aOR, 0.59, 0.38-0.92).

Admission length

Compared to those with 18 days or fewer abstinent from a substance, those with 19 days or more were more likely to be admitted to the IOP for more than 75 days (aORs, 1.68-1.57). Those who lived in a recovery residence while attending the IOP were admitted for longer (aOR, 1.96, 1.35-2.83). Clients, however, who reported using hallucinogens in the past year were less likely to stay for more than 75 days (aOR, 0.39, 0.18-0.86). There were also several marginally significant associations with a longer admission length: being court ordered (p=0.07), having attended an outpatient facility prior to IOP admission (p=0.08), identifying as Black (p=0.07), being older (p=0.07), and reporting an eating diagnosis (p=0.07).

Conclusions

The present brief examined associations between client characteristics and change in health status from intake to discharge among clients attending an IOP. A few trends may be noted. First, many client characteristics do not appear to be associated with outcome in the present sample. This is perhaps unsurprising given the extensive literature on numerous other determinants of outcome in therapy, such as therapeutic alliance, expectations, specific treatments, and extra-therapeutic factors (Wampold, 2015). Some characteristics, however, appeared to be associated with various outcomes. A reminder that the associations described in this brief do not equate to causality or provide an understanding of the pathway to the association, but are instead descriptive. Some self-reported diagnoses appeared to be associated with increased likelihood of improvement/decreased likelihood of deterioration in this sample (e.g., anxiety, bipolar), and some were associated with decreased likelihood of improvement/increased likelihood of deterioration (e.g., depression, ADD/ADHD, personality, eating). Some characteristics, such as older age, being court ordered to treatment, and living in a recovery residence during treatment were associated with increased likelihood of improving. Moreover, for nearly all outcomes, time in treatment appeared to facilitate a likelihood of improvement and, in some cases, appeared to protect against the likelihood of deterioration. On the other hand, some characteristics, such having a lifetime felony history or belonging to certain racial identities appeared to be associated with deteriorating outcomes from intake to discharge. Still other characteristics, such as age of first substance use, treatment setting prior to IOP intake, and certain substance use in the past year (e.g., alcohol), had mixed associations with both improvement and deterioration.

Although the present research brief is notable for including a large and somewhat diverse sample, several limitations should be acknowledged. There was significant loss to follow-up after the intake survey, and small sample sizes in some groups. Secondly, the study likely did not account for all possible characteristics of interest that would likely impact outcome. Third, additional outcomes would likely be beneficial to capturing the impact of IOP treatment (e.g., changes in coping skill, hope). The characteristics studied here, and others, warrant further study to better understand how exactly they are associated with various outcomes, including how they interact with other variables.

Table 1. Percentage of clients achieving each change status

Outcome	Indicator of change (intake to discharge)		
	No change	Deteriorated	Improved
Overall recovery (SURE total)	239 (17.2%)	319 (23.0%)	829 (59.8%)
Substance use (SURE use)	649 (46.6%)	274 (19.7%)	469 (33.7%)
PHQ-9 depression severity	180 (13.2%)	536 (39.1%)	654 (47.7%)
GAD-7 anxiety severity	416 (30.4%)	324 (23.7%)	627 (45.9%)

Table 2: Percentage of clients associated with each change indicator

Outcome	Indicator	
	No increase	Increase
Days abstinent from a substance	118 (20.1%)	468 (79.9%)
	Not successful	Successful
Discharge status	968 (47.8%)	1055 (52.2%)
	75 or fewer days	More than 75 days
Admission length	727 (35.8%)	1303 (64.2%)

Table 3. Significant associations between change in overall recovery (SURE total score) and client characteristics

	No change		Deteriorated		*Adjusted RRR*			Improved		*Adjusted RRR*		
					RRR	95% CI	p^a			RRR	95% CI	p^a
Race		*N* =231		*N* =225					*N* =802			
	n	%	***n***	%				***n***	%			
White only	178	77.1	225	71.7	Ref			594	74.1	Ref		
Black only	19	8.2	30	9.6	3.71	1.24-11.2	*	95	11.9	1.59	0.54-4.68	0.41
Amer Indian only	13	5.6	19	6.1	1.09	0.37-3.26	0.87	43	5.4	0.73	0.26-2.07	0.55
Other only	12	5.1	21	6.7	1.02	0.16-6.49	0.98	33	4.1	1.35	0.27-7.31	0.69
Multiracial only	9	3.9	19	6.1	1.42	0.41-4.93	0.58	37	4.6	0.58	0.16-2.11	0.41
Psych category		*N*=204		*N*=289					*N*=728			
Depression												
No	80	39.2	82	28.4	Ref			229	31.5	Ref		
Yes	124	60.8	207	71.6	2.60	1.15-5.87	*	499	68.5	1.19	0.60-2.53	0.65
Personality												
No	176	88.3	254	87.9	Ref			658	90.4	Ref		
Yes	23	12.7	35	12.1	0.90	0.35-2.35		70	9.6	0.38	0.15-0.99	*

[a] *<0.05, **<0.01,***<0.001

Table 4. Significant associations between change in substance use (SURE use score) and client characteristics

	No change		Deteriorated		*Adjusted RRR*			Improved		*Adjusted RRR*		
					RRR	95% CI	p^a			RRR	95% CI	p^a
Race		*N* =630		*N* =268					*N* =453			
	n	%	***n***	%				***n***	%			
White only	481	76.4	185	69.0	Ref			333	73.5	Ref		
Black only	48	7.6	37	13.8	4.58	0.83-4.22	**	61	13.5	1.28	0.56-2.91	0.56
Amer Indian only	38	6.0	14	5.2	0.91	0.28-2.94	0.88	23	5.1	1.09	0.42-2.81	0.86
Other only	31	4.9	17	6.3	0.54	0.11-2.67	0.45	18	4.0	1.14	0.27-4.79	0.86
Multiracial only	32	5.1	15	5.6	2.81	0.84-9.40	0.09	18	4.0	1.05	0.30-3.68	0.93
Days abstinent		*N* =287		*N* =124					*N* =224			
0-18 days	30	10.5	29	23.4	Ref			91	40.6	Ref		
19-44 days	93	32.4	43	34.7	1.54	0.62-3.82	0.35	57	25.5	0.52	0.25-1.06	0.07
45-82 days	74	25.8	32	25.8	2.17	0.85-5.55	0.11	37	16.5	0.47	0.22-1.01	0.05
Above 82 days	90	31.4	20	16.1	0.54	0.20-1.47	0.23	39	17.4	0.37	0.17-0.77	**
Psych category		*N=565*		*N*=247					*N*=414			
Bipolar												
No	475	84.1	209	84.6	Ref			324	78.3	Ref		
Yes	90	15.9	38	15.4	0.34	0.14-0.80	*	90	21.7	0.91	0.49-1.68	0.76
ADHD/ADD												
No	400	70.8	163	66.0	Ref			300	72.5	Ref		
Yes	165	29.2	84	34.0	3.14	1.60-6.17	**	114	27.5	1.11	0.61-2.00	0.74

[a] *<0.05, **<0.01,***<0.001

Table 5. Significant associations between change in depression severity (PHQ-9) and client characteristics

	No change		Deteriorated		*Adjusted RRR*			Improved		*Adjusted RRR*		
					RRR	95% CI	p^a			RRR	95% CI	p^a
Race	*N* =172		*N* =519					*N* =639				
	n	%	***n***	%				***n***	%			
White only	125	72.7	380	73.2	Ref			485	75.9	Ref		
Black only	11	6.4	56	10.8	2.14	0.58.7.87	0.25	71	11.1	2.03	0.56-7.30	0.28
Amer Indian only	18	10.5	30	5.8	0.44	0.15-1.29	0.14	27	4.2	0.30	0.10-0.90	*
Other only	11	6.4	23	4.4	0.28	0.04-2.20	0.23	30	4.7	0.59	0.08-4.44	0.61
Multiracial only	7	4.1	30	5.8	7.99	0.88-72.5	0.58	26	4.1	4.32	0.45-41.8	0.21
Age first use (yrs)	*N* =180		*N* =536					*N* =651				
0-13	64	35.6	164	30.6	Ref			220	33.8	Ref		
14-15	40	22.2	153	28.5	5.26	1.99-13.9	**	172	26.4	2.64	1.02-6.87	*
16-17	41	22.8	90	16.8	1.70	0.67-4.33	0.26	118	18.1	1.75	0.71-4.33	0.23
Above 17	35	19.4	129	24.1	3.64	1.40-1.77	**	141	21.7	2.34	0.91-6.05	0.08
Prior tx setting	*N* =180		*N* =536					*N* =654				
None	22	12.2	53	9.9	Ref			127	19.4	Ref		
Inpati., hosp, detox	135	75.0	412	76.9	0.27	0.06-1.22	0.09	401	61.3	0.17	0.04-0.73	*
Other outpatient	17	9.4	50	9.3	0.28	0.05-1.51	0.14	95	14.5	0.33	0.07-1.59	0.17
Other	6	3.3	21	3.9	0.55	0.03-8.82	0.67	31	4.7	0.55	0.04-7.56	0.65
Felony history	*N* =180		*N* =536					*N* =654				
No	101	56.1	313	58.4	Ref			420	64.2	Ref		
Yes	79	43.9	223	41.6	2.22	1.02-4.86	*	234	35.8	1.46	0.68-3.13	0.33
Days abstinent	*N* =77		*N* =201					*N* =347				
0-18 days	14	18.2	26	12.9	Ref			108	31.1	Ref		
12-44 days	24	31.2	71	35.3	4.20	1.32-13.4	*	94	27.1	1.41	0.48-4.12	0.53
45-82 days	20	26.0	49	24.4	4.03	1.22-13.4	*	73	21.0	1.76	0.58-5.37	0.32
Above 82 days	19	24.7	55	27.4	7.93	2.39-26.3	**	72	20.8	2.63	0.86-8.07	0.09
Substances used	*N* =180		*N* =536					*N* =654				
Alcohol												
No	88	48.9	244	45.5	Ref			238	36.4	Ref		
Yes	92	51.1	292	54.5	2.49	1.06-5.88	*	416	63.6	2.60	1.11-6.06	*
Psych category	*N* =146		*N* =479					*N* =581				
Anxiety												
No	52	35.6	120	25.0	Ref			161	27.7	Ref		
Yes	94	64.4	359	75.0	2.32	0.97-5.55	0.06	420	72.3	2.74	1.16-6.48	*

[a] *<0.05, **<0.01,***<0.001

Table 6. Significant associations between change in anxiety severity (GAD-7) and client characteristics

	No change		Deteriorated		*Adjusted RRR*			Improved		*Adjusted RRR*		
					RRR	95% CI	p^a			RRR	95% CI	p^a
	N =403		*N =312*					*N =612*				
Race	***n***	%	***n***	%				***n***	%			
White only	298	74.0	229	73.4	Ref			461	75.3	Ref		
Black only	41	10.2	32	10.3	0.78	0.31-1.92	0.58	65	10.6	1.04	0.47-2.32	0.92
Amer Indian only	26	6.5	25	8.0	0.63	0.24-1.64	0.35	23	3.8	0.27	0.10-0.72	**
Other only	18	4.5	13	4.2	1.14	0.19-6.91	0.88	33	5.4	4.25	0.81-22.3	0.09
Multiracial only	20	5.0	13	4.2	0.69	0.21-2.33	0.55	30	4.9	0.49	0.14-1.63	0.24
Prior tx setting	*N =416*		*N =324*						*N =627*			
None	49	11.8	44	13.6	Ref			109	17.4	Ref		
Inpati., hosp, detox	302	72.6	242	74.7	0.33	0.11-0.98	*	402	64.1	0.74	0.28-1.94	0.54
Other outpatient	48	11.5	27	8.3	0.14	0.04-0.48	**	86	13.7	0.64	0.22-1.82	0.40
Other	17	4.1	11	3.4	0.31	0.05-1.74	0.18	30	4.8	0.58	0.13-2.69	0.49
Felony history	*N =416*		*N =324*						*N =627*			
No	258	62.0	173	53.4	Ref			401	64.0	Ref		
Yes	158	38.0	151	46.6	2.41	1.26-4.60	**	226	36.0	0.93	0.52-1.68	0.81
Substances used	*N =416*		*N =324*						*N =627*			
Cannabis												
No	267	64.2	192	59.3	Ref			368	58.7	Ref		
Yes	149	35.8	132	40.7	1.56	0.89-2.73	0.12	259	41.3	1.82	1.09-3.03	*
Psych category	*N =354*		*N =287*						*N =563*			
Anxiety												
No	119	33.6	76	26.5	Ref			137	24.3	Ref		
Yes	235	66.4	211	73.5	1.58	0.78-3.23	0.21	426	75.6	2.79	1.45-5.36	**
Eating												
No	341	96.3	270	94.1	Ref			542	96.3	Ref		
Yes	13	3.7	17	5.9	1.36	0.42-4.35	0.61	21	3.7	0.18	0.05-0.64	**

[a] *<0.05, **<0.01,***<0.001

Table 7. Significant associations between change in days abstinent from a substance and client characteristics

	No Increase		Increase		*Adjusted OR*		
					aOR	95% CI	p^a
	N=118		*N*=458				
Age (years)	***n***	%	***n***	%			
18-28	41	34.8	110	23.5	Ref		
29-34	28	23.7	136	29.0	2.18	1.10-4.31	*
25-42	28	23.7	109	23.3	1.09	0.90-4.04	0.09
Above 42	21	17.8	113	24.2	2.56	1.18-5.58	*
GAD-7 severity	*N*=118		*N*=468				
None or mild (<10)	68	57.6	330	70.5	Ref		
Moderate or worse (10+)	50	42.4	138	29.5	0.45	0.23-0.89	*
Psych category	*N*=115		*N*=447				
Personality dx							
No	96	83.5	407	91.1	Ref		
Yes	19	16.5	40	9.0	0.40	0.18-0.90	*

[a] *<0.05, **<0.01,***<0.001

Table 8. Significant associations between successful discharge and client characteristics

	Not Successful		Successful		*Adjusted OR*		
					aOR	95% CI	p^a
	N=968		*N*=1055				
Age (years)	***n***	%	***n***	%			
18-28	297	30.7	262	24.8	Ref		
29-34	249	25.7	300	28.4	1.97	1.24-3.14	**
25-42	229	23.7	228	21.6	1.49	0.90-2.45	0.12
Above 42	193	19.9	265	25.1	2.11	1.25-3.56	**
Recovery housing	*N*= 968		*N*=1055				
No	968	25.7	149	14.1	Ref		
Yes	719	74.3	906	85.9	1.57	0.99-2.46	0.05
Court Ordered	*N*= 968		*N*=1055				
No	747	77.2	776	73.4	Ref		
Yes	221	22.8	279	26.5	2.15	1.42-3.26	***
Psych category	*N*= 885		*N*=992				
Depression dx							
No	251	28.4	327	35.5	Ref		
Yes	634	71.6	595	64.5	0.59	0.38-0.92	*

[a] *<0.05, **<0.01,***<0.001

Table 9. Significant associations between admission length and client characteristics

	75 or fewer days		More than 75 days		*Adjusted OR*		
					aOR	95% CI	p^a
	N=386		*N*=633				
Days Abstinent	***n***	%	***n***	%			
0-18 days	143	37.1	127	20.1	Ref		
19-44 days	105	27.2	180	28.4	1.68	1.08-2.60	*
45-82 days	69	17.9	166	26.2	2.54	1.57-4.09	***
Above 82 days	69	17.9	160	25.3	1.95	1.22-3.11	**
Recovery housing	*N*=727		*N*=1303				
No	208	28.6	192	14.7	Ref		
Yes	519	71.4	1111	85.3	1.96	1.35-2.83	***
Substances used	*N*=727		*N*=1303				
Hallucinogens							
No	696	96.0	1269	97.4	Ref		
Yes	29	4.0	34	2.6	0.39	0.18-0.86	*

[a] *<0.05, **<0.01,***<0.001

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