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Organizational Determinants of Outpatient Substance Abuse Treatment Duration in Women

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Abstract

Longer treatment duration has consistently been related to improved substance use outcomes. This study examined how tailored women's programming and organizational characteristics were related to duration in outpatient substance abuse treatment in women. Data were from two waves of a national outpatient substance abuse treatment unit survey (n=571 in 1999/2000, n=566 in 2005). Analyses were conducted separately for methadone and non-methadone programs. Negative binomial regressions tested associations between organizational determinants, tailored programming, and women's treatment duration. Of the tailored programming services, childcare was significantly related to longer duration in the non-methadone programs, but few other organizational factors were. Tailored programming was not associated to treatment duration in methadone programs, but ownership, affiliation, and accreditation were related to longer duration. Study findings suggest evidence for how external relationships related to resources, treatment constraints, and legitimacy may influence women's treatment duration. Methadone programs may be more vulnerable to external influences.

Keywords

Substance abuse; treatment women; duration; organization

1. Introduction

Longer duration of substance abuse treatment has consistently been associated with improved outcomes (Moos & Moos, 2003; Simpson, 2004; Simpson, Joe, & Rowan-Szal, 1997). While treatment duration is important for both men and women, women face unique barriers that may hinder their participation, including greater stigma related to their use, lack of child care, fear of losing child custody, and a history of physical and sexual trauma (Blume, 1990; Finklestein,

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1994; Greenfield, 2002; Gutierrez & Tood, 1997; Wechsberg, Craddock, & Hubbard, 1998). Women also tend to progress faster to abuse and dependence than men (Hernandez-Avila, Rounsaville, & Kranzler, 2004). By the time they enter treatment, women also have more severe psychiatric and medical comorbidities (Greenfield et al., 2007). Limited research suggests that tailoring treatment to women may be related to improved retention and outcomes, particularly for subgroups of women (Ashley, Marsden, & Brady, 2003; Greenfield et al., 2007; Greenfield, Trucco, McHugh, Lincoln, & Gallop, 2007; Niv & Hser, 2006; Sun, 2006). Although organizational factors have been found to be associated with tailoring services for women (Campbell et al., 2007), little is known about how organizational factors contribute, positively or negatively, to treatment duration. This study extends previous research by examining the association between organizational factors, tailored women's programming, and treatment duration in women.

Treatment duration is an important predictor of substance abuse outcomes, but many individuals leave treatment before completion (Greenfield et al., 2007; Simpson, 2004). The duration literature is equivocal on whether women or men stay in treatment longer; some studies have found women have a shorter length of stay (Hser, Evans, Huang, & Anglin, 2004; McCaul, Svikis, & Moore, 2001), while other studies have found men have a shorter length of stay (Hser, Huang, Teruya, & Anglin, 2003), and others have found no difference (Green, Polen, Dickinson, Lynch, & Bennett, 2002; Mertens & Weisner, 2000). The literature does suggest that women face greater barriers to treatment, and that individual predictors of treatment duration vary by gender (Green, Polen, Dickinson, Lynch, & Bennett, 2002; Greenfield et al., 2007; Mertens & Weisner, 2000). A study of an HMO population entering chemical dependency treatment found that for women, higher income, unemployment, marriage, lower psychiatric severity, and ethnicity other than African American predicted longer retention (Mertens & Weisner, 2000). In another managed care sample, Green et al. found that alcohol diagnoses and legal referrals to treatment predicted longer retention for women (Green, Polen, Dickinson, Lynch, & Bennett, 2002). The Alcohol and Drug Services Study, which included inpatient, outpatient, and residential treatment settings, examined selected facility characteristics and found that women-only facilities and child care were not associated with treatment completion, but were related to longer stays in treatment (Brady & Ashley, 2005). Descriptive evidence suggested that women had shorter lengths of stay in nonhospital residential facilities; this difference disappeared in the multivariate modeling. These findings suggest services tailored to women's needs are important to duration, and that women's treatment duration also varies by some organizational factors, although these relationships have not been extensively studied.

This study's conceptual framework draws from open systems models of organizations (Scott, 1998). Such models view organizations as engaging in a series of exchanges with various external groups to obtain vital resources including funds, staff, clients, and licenses. Because substance abuse treatment organizations are dependent on external groups that control valued and scarce resources, including legitimacy (Scott, 1998), these external groups can influence features of the internal environment including staffing patterns, treatment philosophy, client characteristics, and treatment planning. We thus examine the influence of factors reflecting external dependencies (e.g., managed care, accreditation, and client characteristics) on internal treatment practices - specifically longer treatment duration in women. For example, external utilization control and payment policies from managed care plans can influence the treatment plan and services internal to a substance treatment organization. In particular, managed care utilization controls can abbreviate treatment duration (Durkin, 2002; Galanter, Keller, Dermatis, & Egelko, 2000; Larson, Samet, & McCarty, 1997; Lemak & Alexander, 2001; Sosin & D'Aunno, 2001). Further, client characteristics that correlate with treatment and service needs or prognosis could either lengthen or abbreviate treatment duration. For example, clients with more severe addictive disorders probably receive treatment plans with longer

treatment durations, but conversely their more severe addictive problems also correlate with early relapse and drop-out from treatment (D'Aunno, Folz-Murphy, & Lin, 1999). The open systems framework will be supplemented by examining internal practices that represent tailoring of treatment to the specific needs of women, on the premise that such tailored treatment will both provide incentives and motivation for women to remain in treatment longer, or alternatively, remove the disincentives that often result in women dropping out of treatment early. Such practices may operate independently of the effects of external dependencies and/or may represent an alternative explanation to such dependencies. Indeed, previous research suggests that substance abuse treatment organizational and environmental characteristics were related to tailored treatment for women (Campbell et al., 2007).

In sum, this study extends previous research by examining how organizational characteristics related to external dependencies and tailored women's programming relate to outpatient substance abuse treatment duration in women. Below we describe each study variable and its hypothesized relationship with treatment duration for women clients.

1.1 Tailored programming

Treatment duration in women clients may be related to the availability of specific tailored programming for women. Tailored programming for women refers to certain practices that address women's specific needs, which may help to increase their time in treatment (Greenfield et al., 2007). These include child care, prenatal care, and gender matching to therapist and groups, and staff training to work with women. Women tend to be the primary child rearer and often cite lack of child care as a barrier to treatment (Sun, 2006). Prenatal care is an important resource for pregnant women, and may persuade them to remain in treatment (Ashley, Marsden, & Brady, 2003; Grella, 1997). It also reflects a treatment program's orientation to serve women. Women with substance use problems are at high risk of physical and sexual abuse, and may feel more comfortable discussing these issues in same gender groups and with a female therapist (Claus et al., 2007; Finkelstein, 1996; Greenfield, 2002; Marsh, Cao, & D'Aunno, 2004). Training staff about the issues women confront can also lead to a more empathetic and female-friendly environment, with the potential to increase treatment duration (Finkelstein, 1996).

1.2 Organizational characteristics

Treatment duration may be related to specific attributes of the organization in which treatment is provided as a function of external dependencies on actors that provide resources or legitimacy to the organization or characteristics of the organization that offer protection from those dependencies. This study includes eight organizational characteristics: ownership, organizational affiliation, methadone status, managed care, program size, program age, and treatment intensity.

For-profit ownership status has been associated with less tailoring for women, and less service provision in general (Alexander, Nahra, Lemak, Pollack, & Campbell, 2007; Campbell et al., 2007), although it was not related in a study of duration for both men and women (Friedmann et al., 2006). Ownership has been associated with service delivery, with private-not-for-profit and public units being more likely to provide ancillary services (Friedmann, Alexander, & D'Aunno, 1999).

Mental health center affiliation has been associated with shorter duration across all clients, and a lower likelihood of tailoring services (Alexander, Nahra, Lemak, Pollack, & Campbell, 2007; Friedmann, Alexander, & D'Aunno, 1999).

Accreditation has been found to be associated with service delivery (Wells, Speechley, Koval, & Graham, 2007), and as an indicator of quality, may suggest units are meeting standards more likely to retain women clients in treatment.

Programs that depend on managed care as part of their resources have shown shorter treatment duration and intensity of services (Friedmann et al., 2006; Lemak & Alexander, 2001). Managed care involvement may limit service provision or women's programming as such "specialized" forms of treatment may increase costs and fall outside the prescribed set of services reimbursed under managed care arrangements.

Methadone treatment is designed to be a long-term maintenance therapy, where patients are typically required to come in daily for their dose. Methadone organizations have tended to provide more women's programming (Campbell & Alexander, 2005).

Treatment intensity could result in longer or shorter duration; greater intensity could reflect the availability of more resources and result in longer duration while some patients may find greater intensity unmanageable or overwhelming, resulting in shorter duration.

Larger programs have more resources to offer patients, including specialized staff and services, which may encourage longer treatment duration.

Older programs may be more experienced in treating and engaging women patients in treatment, have more resources, and have had more time to develop effective practices to increase treatment duration.

1.3 Client characteristics

Programs with a greater percentage of female clients offer more opportunity to connect with other women in treatment, creating a supportive environment and encouraging longer duration. The percentage of female clients at the OSAT programs represents an organizational resource which may make demands on OSAT programs. This may result in a more women-sensitive environment and culture at the unit, potentially influencing how long women remain in treatment.

Programs with a patient population with greater severity (those with prior treatment, dual diagnosis, and multidrug use) may experience shorter duration since these patients face considerable challenges staying in treatment. Similarly, programs with a higher percentage of African American patients have been shown distinct treatment patterns (Alvidrez & Havassy, 2005; Campbell, Weisner, & Sterling, 2006).

2. Materials and Methods

The study utilized data from two national samples of outpatient drug abuse treatment units, surveyed in 1999/2000 and 2005, as part of the National Drug Abuse Treatment System Survey (NDATSS). The NDATSS is a longitudinal study of outpatient drug abuse treatment unit directors and clinical supervisors conducted by the Institute for Social Research at the University of Michigan. In the NDATSS, an outpatient drug abuse treatment unit is defined as a physical facility with a majority of resources (>50%) dedicated to treating individuals with substance abuse problems (including alcohol and other drugs) on an outpatient basis. Veteran's Administration and prison units are excluded.

The sampling method and procedures of the NDATSS have been described previously (Adams & Heeringa, 2001). Briefly, the NDATSS uses a mixed-panel design, which combines elements from panel and cross-sectional designs (Adams & Heeringa, 2001). Data are collected from

the same national sample of outpatient drug abuse treatment units included in prior waves, plus a new random sample added to ensure representation of the current national population of outpatient drug abuse treatment units in each wave. Probability weights or stratification variables are necessary to adjust for over-sampling of some types of units used to achieve adequate sub-sample sizes, and for differential patterns in non-response.

There were 571 units in 1999/2000, reflecting a response rate of 89%. The 2005 wave included 566 units (an 86% response rate). Analyses use the pooled database.

2.1 Outcome measure

Duration in treatment for women was measured by the average number of months women clients remain in substance abuse treatment as reported by the clinical supervisor. This includes duration for all women clients with at least one visit. Duration in treatment is typically measured as a specific time in treatment, such as days or months (Arfken, Klein, di Menza, & Schulster, 2001; Friedmann et al., 2006). Organization level reports of average treatment duration may raise concerns about the validity. Measures of duration from the 1990 DATSS have been compared to client level reports from the 1990 Services Research Outcomes Study (SROS) (Substance Abuse and Mental Health Services Administration & Office of Applied Studies, 1998). SROS surveyed a nationally representative sample of 1,799 clients in 99 treatment programs. Data from the 333 DATSS non-methadone programs were compared against data from the 988 outpatient non-methadone clients in SROS. Mean treatment duration was very close (24.8 weeks in DATSS versus 24.1 SROS) (Friedmann et al., 2006).

2.2 Predictors

Four dichotomous variables represented whether the unit tailored services for women by the availability of: prenatal care, child care, single sex therapy groups, and same-sex therapists for individual therapy. The final measure was the percentage of staff who had participated in training on how to work with women. Staff training to work effectively with women referred to training to address the particular needs women may have that may affect treatment (i.e. higher risk of psychiatric comorbidities, higher rates of physical and sexual abuse, fear of losing child custody, greater stigma, and a preference for a non-confrontational therapeutic style) (Grella & Greenwell, 2004). These measures have been examined previously as measures of tailoring services for women (Campbell et al., 2007).

Private for-profit and private-not-for-profit dichotomous measures, with public as the referent. This was reported by the clinic director.

Dichotomous measures of affiliation with hospital affiliated programs, mental health centers, or with “other” organizations (i.e. other substance use treatment, religious, or social service organizations) were included. Freestanding is the referent group.

This dichotomous variable indicates whether or not the OSAT program has Joint Commission Accreditation of Healthcare Organization accreditation. This information is provided by the clinic director.

A dichotomous measure reported by the clinic director. This indicates whether or not a program offers methadone maintenance therapy, and has been shown to be associated with organizational factors (Campbell et al., 2007; Friedmann, Alexander, & D'Aunno, 1999).

A dichotomous variable indicating that OSAT units have more than 10 clients who are covered by managed care insurance.

Mean counseling hours per week received by each client. This measure was created by summing the mean hours of individual, group, and family therapy received per week (Friedmann et al., 2006).

Average number of clients per year represents the size of the program. This was scaled by 10 to represent a unit change of 10 clients (provided by clinical supervisor).

Program age is measured as the average number of years in existence for the program (reported by the clinic director).

The percentage of female clients treated by the OSAT program as reported by the clinical supervisor. Four measures of *client severity* are included, the percentages of African American clients, clients with dual diagnoses, prior substance abuse treatment, and poly-drug use (all reported by the clinical supervisor).

A dichotomous variable for 2005, to assess whether duration changed relative to 2000.

2.3 Data analysis

Analyses were conducted separately for methadone and non-methadone programs, since the methadone treatment modality is typically much longer than non-methadone. We compared study variables from 2000 to 2005 using chi-squares and t-tests. Univariate statistics were weighted to account for the probability of selection using Proc Surveymeans, Proc SurveyReg and Proc Surveyfreq in SAS 9.1. Given the distribution of the dependent variable, we used SAS 9.1 to fit a multivariable negative binomial generalized estimating equation (GEE) models with unstructured correlation structures and robust standard error estimates. The negative binomial distribution is a generalization of the Poisson distribution for count data, in this case the number of months of substance abuse treatment women clients received. Natural exponential transformation (*ea*) of the parameter estimate from the negative binomial regression provides the incidence rate ratio, which approximates the relative risk. GEE is a method of analyzing correlated, longitudinal data in which subjects are measured at different points in time (Liang & Zeger, 1986). GEE specifications simultaneously assess the relationship of each explanatory variable with the dependent variable, holding other independent variables constant. Missing data were multiply imputed in SAS (Schafer & Olsen, 1998).

3. Results

Descriptive results are provided in Table 1 by methadone and non-methadone status, and study waves. Women's treatment duration, the dependent variable, did not change significantly over the study period in either non-methadone or methadone programs. Women's treatment duration was essentially the same as overall duration for non-methadone programs (6.3 months in 2000 and 6.7 months in 2005) as well as methadone programs (22.0 months in 2000 and 24.1 months in 2005). The availability of single gender groups decreased in non-methadone programs (58% vs. 40%, $p < .05$) over the study period, but increased in methadone programs (54% vs. 75%, $p < .05$). In non-methadone programs, the percentage of private for-profit programs increased over the study period (12% vs. 24%, $p < .05$), with a corresponding decrease in public programs (34% vs. 22%, $p < .10$). The percentage of polydrug use clients decreased over the study period in non-methadone programs (66.3% vs. 57.4, $p < .05$).

The percentage of programs offering of single gender groups was lower in 2005 than 2000 for non-methadone units (58% vs. 40%, $p = .01$), although higher in 2005 for methadone programs (54% vs. 75%, $p = .04$). There was a higher percentage of private for-profit non-methadone programs in 2005 than 2000 ($p = .02$).

Regression results for non-methadone and methadone programs are provided in Tables 2 and 3 respectively. Overall, one measure of treatment tailoring was associated with longer duration for women among non-methadone programs, in addition to several marginally significant associations between other organizational characteristics and duration. Among methadone programs, by contrast there were a number of strong associations between organizational factors and treatment duration for women. In this set of treatment units, however, there were no significant relationships among treatment tailoring for women and treatment duration. Specific findings are described for each type of organization below.

3.1 Regression results for non-methadone units

The multivariate modeling for non-methadone units (Table 2) indicated that child care was associated with longer treatment duration. Affiliations with organizations other than hospital or mental health centers were associated with longer duration, as were a higher proportion of clients with prior treatment. Managed care was associated with shorter duration for women. There was no change across the study period in the treatment duration for women.

3.2 Regression results for methadone units

As shown in Table 3, private for-profit and private not-for profit ownership were associated with longer treatment duration, compared to public ownership. Hospital, mental health center, and other affiliations were associated with longer treatment duration, compared to freestanding. Older age of the unit was associated with longer duration. JCAHO accreditation was associated with shorter duration, as were a higher percentage of African American clients and a higher percentage of dual diagnosis clients. The time variable was significant, indicating longer duration for women in 2005 compared to 2000.

4. Discussion

This research provides some evidence that the external expectations and environments of substance abuse treatment organizations influence, albeit modestly, women's outpatient substance abuse treatment duration. The observed relationships are more pronounced among women in methadone treatment settings.

Further, descriptive results from this nationally representative sample of organizations, suggest that overall treatment duration for women did not change between 2000 and 2005. However, multivariate results indicated a modest increase in duration for women in methadone programs. This positive trend may reflect these programs' greater historical emphasis on access to services for women, particularly pregnant women, in part due to federal requirements for methadone programs as well as the current CSAT accrediting guidelines. It may also reflect the increased presence of private-for-profit status for methadone programs in the field during this time period, which was also associated with increased duration.

This study posited that internal practices that represent tailoring of treatment to the specific needs of women would increase their duration in treatment. In general, study results do not support this relationship. A single indicator of treatment tailoring, the availability of childcare services, was associated with longer duration for women and only among non-methadone programs. This finding is consistent with previous studies of treatment for women (Sun, 2006). Despite the body of evidence that providing childcare facilitates longer treatment among women, however, the availability of childcare in substance abuse treatment programs has not increased over time and may even be decreasing (Campbell et al., 2007).

There were no relationships between the other tailoring strategies and treatment duration for women in non-methadone programs, and none at all for methadone programs. This may suggest

that although tailored treatment may be important to outcomes or other aspects of care, other organizational factors may be more salient to duration. The lack of findings for tailored treatment may also suggest that our duration measure did not capture the ways in which tailored programming may be important to women. More specifically, tailored programming may engage women in treatment therapeutically, and be reflected in the quality of the relationship between clinical staff and patients, both in group and in individual sessions, or reflected in other treatment outcomes such as abstinence. Tailored programming may also lead to an overall program environment that is more women friendly, encouraging greater peer support among women patients. Future studies should explicitly examine these important dimensions of treatment.

Organizational factors associated with duration were most notable for methadone programs, supporting the study's conceptual framework regarding the dependence of drug treatment organizations on external expectations. For methadone units, ownership status was associated with treatment duration for women clients; specifically, private for-profits and not-for-profits reported longer duration compared to public programs. This could reflect patient populations with less severe substance abuse problems, or patient populations that are both more able to pay for longer treatment if needed, and which face fewer barriers to treatment (i.e. lack of childcare) relative to patient in public programs. Public programs may be challenged by more resource constraints and may not be able to offer programs of the same length, in addition to coping with a patient population with more financial and logistical barriers to treatment.

The longer duration for affiliated programs may also reflect more resource availability for their patients than freestanding programs, and more experience in treating these patients with multiple specialized needs. For example, programs affiliated with hospitals or mental health centers can draw on the resources and expertise of those organizations to supplement their own resources in order to provide the services necessary to keep women in treatment for longer periods. By contrast, freestanding organizations may not have access to such resources or may be forced to rely on less stable or less manageable referral relationships to provide such services.

Another organizational factor, JCAHO accreditation, was associated with shorter duration for women in methadone units. This finding was unexpected, given that accreditation may be considered a marker for quality of treatment and might lead to greater tailoring of services for women and enhanced treatment retention of female clients. The finding here is, however, consistent with previous research (Friedmann et al., 2006; Wells, Speechley, Koval, & Graham, 2007). This may be due to the fact that historically methadone units were typically concerned more with licensure than accreditation. Thus, more time may be needed to more carefully observe relationships among accreditation and treatment duration in this subset of treatment providers.

Similar to previous research (Friedmann et al., 2006; Lemak & Alexander, 2001), managed care was related to shorter duration for women in methadone units, which may reflect more stringent patient management techniques in place for units who must justify care plans and seek additional payment for clients covered by managed care arrangements. Further, though not specifically studied here, it may be that units with greater managed care involvement may have fewer resources to allocate to women's programming and retention efforts.

The finding reported in this study are subject to several limitations, including that the measures of tailored treatment for women do not capture therapeutic environment at the programs and cannot assess how supportive they are for women. Our measures also do not include more recent efforts in tailoring services for women, such as trauma-informed care (Substance Abuse and Mental Health Services Administration & National Center for Trauma-Informed Care,

2008). The NDATSS does not include client-level information, and cannot directly explore individual-level associations, although its program-level data has been validated against chart-abstracted data for several measures, including clients' average treatment duration (Batten, 1993; Friedmann et al., 2006). Multi-level data analyses are needed, although there are no currently available datasets that has equivalent measures on managed care and other organizational variables at both the individual and program level. Finally, findings are constrained to outpatient treatment programs, and may not generalize to residential programs.

It is possible that women may have entered outpatient treatment for follow-up care after leaving an inpatient program. In that case, shorter treatment duration may be appropriate and may vary by program characteristics. Unfortunately, we cannot determine this information from the data available in the current study. We do know that, among units in this study, 10% of all OSAT clients are referred from other substance abuse treatment programs, including those from inpatient and other outpatient settings. We do not, however, know the specific source of referral or how this varies among men and women. Future research should investigate relationships between treatment program settings and how referral patterns may affect duration for all clients and for women.

Women have severe substance use problems at treatment entry, and face considerable obstacles to remaining in treatment. Longer duration in substance abuse treatment and tailored women's programming have both been found to be positively associated with reduced substance use. However, the current study's findings did not indicate tailoring programming was related to longer duration for women in substance abuse treatment, except for child care. Other study hypotheses regarding external dependencies and institutional influences were supported, thus suggesting more evidence for how external (rather than internal) relationships related to resources, treatment constraints, and legitimacy may influence duration of treatment. Methadone program in particular seem more vulnerable to such external dependencies and relationships.

The fact that external forces may drive the potential association between tailored treatment practices and treatment duration for women does not mean that services tailored to women's needs do not matter. Providing tailored treatment services is challenging because such services are resource intensive and they require qualified staff that may be hard to find, as well as a consistent critical mass of women clients. It may also be difficult for OSAT units to retain qualified staff, with staff turnover a critical issue for the profession and these organizations (Knudsen, Ducharme, & Roman, 2006; McLellan, Carise, & Kleber, 2003). High staff turnover could relate to patient satisfaction and continuity of care (Broome, Flynn, Knight, & Simpson, 2007). More specifically, losing a relationship with a counselor who no longer works for a clinic may affect treatment duration for some women. In addition, the departure of a provider who is trained and skilled in working with women may affect the organization's overall approach to tailored treatment for women. Further, it may take considerable effort for the clinic to replace staff, which could divert resources that were previously used to provide such tailored treatment (Knudsen, Ducharme, & Roman, 2006). Tailored services may also introduce complex and expensive licensing and liability issues for treatment providers. Nevertheless, significant substance abuse problems among women require both policy and institutional attention, including additional research to identify what combinations of services are required to not only improve duration in treatment programs but to achieve other relevant treatment outcomes. A trend towards greater substance use severity among adolescent females raises the concern that such services will be even more important in the future.

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Table 1

Descriptive Statistics for All Study Variables

Dependent Variable	Non Methadone		Methadone	
	Wave 5 (n=429)	Wave 6 (n=398)	Wave 5 N=(125)	Wave 6 (154)
Women's Treatment Duration, mean (std)	6.3 (11.5)	6.7 (13.5)	22.0 (29.7)	24.1 (20.2)
Median (months)	5.0	5.0	16.0	18.0
<=3 months	33%	30%	8%	5%
4-12 months	64%	65%	37%	32%
13-24 months	3%	4%	36%	30%
>24 months	.2%	.3%	18%	33%
Predictors				
<i>Tailoring</i>				
% Staff Trained, mean (std)	36.9(51.5)	34.7 (75.5)	36.6 (55.1)	31.3 (57.1)
Prenatal Care	32%	34%	45%	50%
Childcare	23%	21%	33%	33%
Same Gender Therapist	67%	70%	77%	84%
Single Gender Groups	58%	40% *	54%	75% *
<i>Organizational Factors</i>				
Private For-Profit	12%	24% *	38%	45%
Private Not-For-Profit	54%	55%	36%	38%
Public	34%	22% ^	27%	17%
Hospital	7%	10%	23%	15%
Mental Health Center	24%	17%	6%	8%
Other Affiliated	38%	46%	39%	44%
Freestanding	31%	27%	33%	33%
JCAHO	18%	17%	27%	37%
Managed Care	36%	39%	32%	34%
Size (# Clients), mean (std)	524.8 (1999.0)	727.2 (4580.0)	563.1 (538.4)	666.8 (929.9)
Intensity (therapy hours), mean (std)	6.6 (19.2)	8.8 (21.2)	12.8 (16.2)	14.4 (26.8)
Unit Age, mean (std)	16.2 (13.3)	16.7 (24.8)	18.2 (15.8)	19.5 (16.4)
<i>Client Characteristics</i>				
% Polydrug Use, mean (std)	66.3 (53.1)	57.4 (72.0) *	63.3 (82.6)	59.2 (44.6)
% African American, mean (std)	22.5 (41.6)	23.6 (69.4)	28.0 (28.7)	22.4 (28.3)
% Female Clients, mean (std)	30.1 (31.3)	33.9 (43.9)	38.2 (31.4)	38.8 (21.0)
% Clients Prior Treatment, mean (std)	60.9 (47.0)	66.6 (58.2)	80.5 (24.3)	77.4 (46.7)
% Dual Dx Clients, mean (std)	33.5 (45.6)	38.2 (49.2)	36.3 (66.5)	42.6 (46.3)

* p<.05,

^ p<.10

Data are weighted to be nationally representative for the study year.

Bivariate associations across study waves were examined with weighted t-tests and chi-squares

Table 2

Negative Binomial Regression Results for Women's Treatment Duration, Non-methadone Programs (n=685)

	RR	95% CI	p value
<i>Tailoring</i>			
Prenatal	1.038	(0.939, 1.147)	0.462
Childcare	1.130	(1.014, 1.258)	0.027
Same gender therapist	1.087	(0.979, 1.207)	0.117
Single gender grps	1.081	(0.980, 1.193)	0.119
% Staff Training	0.999	0.993, 1.005)	0.787
<i>Organizational Characteristics</i>			
Private for-profit ¹	1.091	(0.925, 1.288)	0.302
Private not-for-profit	1.062	(0.943, 1.197)	0.322
Hospital ²	0.967	(0.782, 1.196)	0.758
Mental health center	1.027	(0.886, 1.190)	0.728
Other affiliated	1.104	(0.990, 1.232)	0.076
JCAHO	0.910	(0.790, 1.050)	0.197
Managed Care	0.912	(0.830, 1.002)	0.056
Intensity (therapy hours)	1.000	(0.997, 1.003)	0.933
Program Size	1.000	(0.999, 1.000)	0.101
Program age	0.998	(0.993, 1.003)	0.493
<i>Client Characteristics</i>			
% Polydrug use	1.001	(0.999, 1.003)	0.216
% African American	1.000	(0.998, 1.001)	0.569
% Female	1.000	(0.998, 1.003)	0.713
% Prior Treatment	1.003	(1.001, 1.005)	0.003
% Dual Diagnosis	1.000	(0.998, 1.002)	0.779
Wave 6	1.045	(0.948, 1.151)	0.377

RR=Rate Ratio, the exponent of the estimate.

¹Public is the referent²Freestanding is the referent

Table 3

Negative Binomial Regression of Women's Treatment Duration, Methadone Programs (n=205)

	RR	95% CI	p value
<i>Tailoring</i>			
Prenatal	0.978	(0.792, 1.207)	0.834
Childcare	1.077	(0.856, 1.355)	0.527
Same gender therapist	1.077	(0.837, 1.384)	0.564
Single gender grps	0.859	(0.676, 1.092)	0.215
% Staff Training	1.004	(0.991, 1.018)	0.523
<i>Organizational Characteristics</i>			
Private for-profit ¹	1.880	(1.273, 2.776)	0.002
Private not-for-profit	1.379	(1.066, 1.784)	0.014
Hospital ²	2.710	(1.858, 3.953)	<.0001
Mental health center	1.475	(0.968, 2.250)	0.071
Other affiliated	1.762	(1.383, 2.245)	<.0001
JCAHO	0.724	(0.556, 0.942)	0.016
Managed Care	0.932	(0.757, 1.146)	0.504
Intensity (therapy hours)	1.001	(0.999, 1.003)	0.374
Program Size	0.999	(0.998, 1.000)	0.033
Program age	1.021	(1.009, 1.034)	0.001
<i>Client Characteristics</i>			
% Polydrug use	0.999	(0.995, 1.004)	0.790
% African American	0.996	(0.992, 1.000)	0.055
% Female	1.003	(0.997, 1.010)	0.328
% Prior Treatment	1.003	(0.999, 1.008)	0.154
% Dual Diagnosis	0.995	(0.990, 0.999)	0.025
Wave 6	1.230	(0.992, 1.526)	0.059

RR=Rate Ratio, the exponent of the estimate

¹Public is the referent²Freestanding is the referent