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The Substance Abuse Counseling Workforce: Education, Preparation and Certification

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Abstract

The National Drug Abuse Treatment Clinical Trials Network (CTN) is an alliance of drug abuse treatment programs and research centers testing new interventions and implementation factors for treating alcohol and drug use disorders. A workforce survey distributed to those providing direct services in 295 treatment units in the CTN obtained responses from 1,750 individuals with a job title of counselor (n =1395) or counselor supervisor (n =355). A secondary analysis compares and describes both groups. Supervisors were more likely to be licensed or certified. Master's degrees were more common among counselors in outpatient and methadone programs. Counselors in residential settings tended to be on the job fewer years. Finally, higher education was associated with greater familiarity with and acceptance of evidence-based practices.

Keywords

Treatment workforce; training and development; barriers to adoption; innovative treatment

INTRODUCTION

Slow implementation of evidence-based practices prompts interest in workforce and organizational factors that inhibit diffusion and full scale adoption of addiction treatment innovations (1–5). Counselors, managers, nurses, physicians, and staff within each program contribute to the process of selecting, implementing, and sustaining the use of evidence-based practices. Early research suggests that providers with more formal education, and with higher social status, tend to have a more favorable outlook regarding change (6). Implementation research suggests that practice adoption and change have their own set of barriers and facilitators that require in-depth and careful consideration. As Fixsen et al. (7) assert, implementation of innovative practices requires comprehensive training and behavior change within the workforce, and the "core components" that drive implementation are staff selection, training, consultation, and coaching (e.g., supervision, feedback and emotional support) (7).

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The addictions counseling workforce is estimated to include 200,000 individuals (8) working in diverse settings and a variety of professions including social workers, bachelor's level counselors, certified counselors, physicians, and nurses. This workforce diversity generates a provider network with a wide range of experience, education, training, and theoretical perspectives. Counselor training varies from personal experience in recovery and on-the-job training to clinicians with extensive addictions training and academic backgrounds that include doctoral and master's degrees (8, 9). Gallon et al. (9) surveyed counselors in the Pacific Northwest, finding that 71% had a bachelor's degree or higher. Overall, workforce analysis suggests that the majority of treatment professionals are white, middle-aged, women (8, 10). The National Treatment Center Study found similar results in their study of 450 private facilities—57% of counselors were women and 48% held a master's or doctoral degree 11).

Provider opinions and beliefs may affect use of evidence-based practices (EBP) and adoption of innovative treatment approaches or process improvement efforts (12). An assessment of counselor beliefs and opinions among 317 individuals participating in the Delaware Valley Node of the Clinical Trials Network (CTN) suggested that most respondents (80%) favored increased use of research-based treatments; respondents with higher education levels were less likely to support the use of confrontational approaches and were more likely to support the use of medications (13). The CTN workforce survey (n = 3,267 treatment professionals) found that individuals in managerial or supervisory positions were more likely to endorse evidence-based practices when compared to support staff (14). Support staff, on the other hand, had less education and were more likely to endorse confrontation and coercion in treatment. Thus, including all employees in training or organizational change efforts may prove beneficial since patients may view support staff as more similar to themselves.

Adoption of medication in substance abuse treatment is an area where there is variable workforce support. For example, Thomas and colleagues (15) examined adoption of naltrexone in a mailed survey of alcoholism treatment clinicians. A lack of knowledge about naltrexone and philosophical conflicts between the use of naltrexone and the provider's personal treatment philosophy inhibited adoption, while organizational commitment to naltrexone use facilitated adoption (15). Similarly, a study of client and counselor beliefs about the use of medications found that attitudes, social norms and intentions to use the medications varied by treatment modality (outpatient, methadone, and residential); across settings counselors and clients had neutral assessments of buprenorphine for the treatment of opiate dependence, and attitudes toward the use of methadone were positive in methadone clinics and negative in outpatient and residential settings (16). If innovations and new practices such as pharmacotherapies are to be incorporated into treatment effectively, they must be perceived as effective, acceptable and socially supported by providers and staff. Collectively, counselor education and training, provider characteristics, beliefs and experiences, and organizational climate appear to be critical variables in facilitating adoption of evidence-based practices.

The National Drug Abuse Treatment Clinical Trials Networks (CTN) assesses the effectiveness of interventions in community settings and promotes transportability to community treatment settings (17). At the time data collection occurred, the CTN included sixteen nodes (i.e., an academic based Regional Research and Training Center linked with multiple Community-based Treatment Programs), a Clinical Coordinating Center, a Data and Statistical Center, and the Center for the Clinical Trials Network at the National Institute on Drug Abuse (17). As a multi-site provider and consumer-based research system, the CTN has the capacity to implement and evaluate aspects of the treatment system including the

development and adoption of science-based strategies, the role of the administrators and staff, and funding and organizational factors that enhance or detract from clinical practice.

An initial analysis examined the characteristics of the CTN workforce including medical and support staff (14). This secondary analysis, restricted to individuals providing direct services (counselor and supervisors), provides data about the individual characteristics, beliefs, experiences, professional development, and workplace qualities for clinicians working in community-based treatment programs that participate in the CTN.

METHODS

Participants

This analysis included counselors and managers/supervisors from the Clinical Trials Network workforce study. Analysis was restricted to regular-employee women and men with a job title of counselor (n = 1395) or counselor manager/supervisor (n = 355) working in 295 treatment units participating in the CTN. The total sample of 1,750 individuals was drawn from outpatient (n = 560), methadone (n = 352), residential (n = 638) and detoxification (n = 200) addiction treatment settings.

Procedures and Materials

As part of a larger study each CTN treatment organization identified the treatment facilities eligible to participate. At each CTN program site, the program director or administrator completed the *Organizational Survey* and supervisors and/or managers of each service unit completed the *Treatment Unit Survey* on site-specific information. A *Workforce Survey* assessed staff characteristics, attitudes, and beliefs about specific drug abuse treatments. Additional details on the Organizational and Treatment Unit Surveys are presented elsewhere (14).

Workforce Survey Data Collection—The research centers participating in the CTN during the study period identified protocol coordinators or research staff members who managed data collection in their agencies or network. Coordinators distributed the surveys, monitored response rates, followed-up with potential participants when appropriate, and in general provided oversight of data collection and project implementation.

The study team provided packets with information sheets and surveys to the protocol coordinator to distribute to the treatment unit workforce during staff meetings or other team/group meetings. Respondents mailed the completed survey directly to the study's data management center or returned sealed envelopes to the protocol coordinator for batch return. There was also a secure web-site that permitted on-line survey completion (17% of the returned surveys). Follow-up letters were mailed to all potential respondents approximately four weeks after the initial distribution. Individuals who completed the survey received a thank you letter; non-respondents were reminded to complete the survey. Total response rate was 71% (14).

The survey requested information on years of experience in substance abuse treatment, education, training, licensing, credentials, and primary job title. Four additional items assessed workforce opinions regarding evidence-based practice guidelines and familiarity with standardizations of care. For the first two items, participants rated statements about evidence-based practice guidelines using a 5-point Likert-type scale (strongly disagree, disagree, undecided, agree, agree strongly): "Evidence-based practice guidelines are useful to improve the quality of care" and "Evidence-based practice guidelines promote over-simplified 'cookbook care'." Respondents answered two questions on their familiarity with

standardization of care using a 3-point Likert-type scale (not at all, somewhat, and very): "How familiar are you with the *American Psychiatric Association Clinical Practice Guidelines for Treatment of Patients with Substance Use Disorders*?" and "How familiar are you with the *American Society of Addiction Medicine Patient Placement Criteria*?"

The Oregon Health and Science University (OHSU) Institutional Review Board (IRB) reviewed and approved study procedures. Local IRBs also approved study instrumentation and procedures. The study was assessed as low risk and used an information sheet except in cases where the local IRB required a signed informed consent. Local protocol coordinators stressed that programs and staff could decline to participate. Data were collected between March 25, 2002 and August 24, 2004.

Analysis

Participants' demographics and workforce characteristics were compared by job category (counselors versus supervisors/managers; Table 1); treatment modality (detoxification, long-term residential, outpatient, and methadone; Table 2); and highest educational achievement (high school or below, associate's degree, bachelor's degree, master's degree, or doctoral degree; Tables 1 and 2). Other variables of interest included gender; race; licensure and certification; years employed in substance abuse; years as a counselor, therapist, or clinician; type of professional licensure; having an addiction counseling concentration, and type of program in which additional counseling concentration was obtained; and major courses of study. Frequencies and percentages were examined and compared using χ^2 tests for categorical variables; while means were compared using independent sample t-tests or univariate generalized linear models where appropriate.

Differences in opinions about evidence-based practice guidelines and familiarity with standardization of care by job type, treatment modality, professional licensure, and graduate degree attainment were assessed using proportional odds models and partial-proportional odds models. The proportional odds model is a generalization of logistic regression model for ordinal multinomial response variables. For models where the proportionality assumption was not met, partial-proportional odds models were used. In these models, separate logits were created, dichotomizing the ordinal responses of each outcome at all possible cut-points, and interaction terms between the logits and each independent variable were tested. For proportional odds, the odds ratios presented compare the cumulative odds of having all consecutive levels of agreement or familiarity higher than any cut-point versus all consecutive levels lower than any cut-point. For partial-proportional odds, the odds ratios are presented only for specified cut-points of the response variables: 1) usefulness of EBP guidelines— strongly agree/agree/undecided versus disagree/strongly disagree; 2) guidelines promote "cookbook" care— strongly agree/agree/undecided versus disagree/strongly disagree; 3) familiarity with the American Psychiatric Association Clinical Practice Guidelines— not at all/somewhat familiar versus very familiar; and 4) familiarity with the American Society of Addiction Medicine Patient Placement Criteria— not at all/somewhat versus very familiar. Each variable was assessed first using univariate models, and then multivariate model building. Using backward elimination, any variable with $p < 0.10$ was removed from its model. All analyses were conducted using SAS version 9.2 (SAS Institute, Cary, NC), and all comparisons utilized a two-tailed $p < 0.05$ to define statistical significance.

RESULTS

Provider Characteristics

Table 1 compares counselor and manager characteristics. Women accounted for 60% of the respondents, and no significant gender difference existed between supervisors and counselors. Of those who reported race, slightly more than 70% of the sample identified as Caucasian. Seventeen percent identified as African American (n=299), 1% as Native American (n=25), and 4% did not provide information on race (n=71). Eleven percent identified as Hispanic (n=193); note that race and ethnicity were measured separately, and respondents could report being both Hispanic plus any race.

Interestingly, the greatest percentage of minorities were working in methadone programs, with 48% of staff reporting racial or ethnic minority status (compared to 25% in detoxification, 24% in outpatient, and 39% in residential clinics; Note: these data include racial and ethnic minorities, while data in Table 2 reflect only racial minorities). Managers/supervisors had significantly higher levels of education than counselors, and were more likely to have a master's degree or higher (supervisors = 61%; counselors = 42%). As compared to counselors, managers/supervisors also were significantly more likely to be credentialed at the state/national level and/or licensed (supervisors = 79%; counselors = 63%). Respondents with professional licensure were also significantly more likely to be supervisors (supervisors = 58%; counselors = 43%).

Table 2 examines treatment modality. Providers with master's or doctoral degrees were more common in outpatient (62%) and methadone (45%) programs than in residential (35%) and detoxification (38%) programs. Employment experience varied across modalities. Residential providers reported less time in their current position (Mean = 2.9 years; SD = 3.3) as compared to those in methadone programs (Mean = 4.8 years; SD = 5.8), detoxification programs (Mean = 3.8 years; SD = 3.5), or outpatient facilities (Mean = 3.9 years; 4.2). Thus, outpatient and methadone programs employed more experienced staff, as compared with those working in residential programs.

Variation was also apparent in certification and licensure across treatment modalities (Table 2). Two-thirds (66%) of the respondents were licensed and/or certified. Residential treatment settings tended to have the lowest percentage of staff with professional licensure, while outpatient centers had the highest percent of licensed providers.

Most providers who reported having professional licensure (n = 730) were licensed as alcohol and drug abuse counselors (n = 259, 36%) or social workers (n = 180, 25%). See Table 3. Others had completed the requirements for licensure as professional counselors (n = 123, 17%); a small number were licensed as psychologists (n = 34, 5%), nurses (n = 34, 5%), Licensed Marriage and Family Therapists (LMFT) (n = 16, 2%), or physicians (n = 7, 1%).

Evidence-Based Practice Guidelines and Familiarity with Standardizations of Care—In univariate models, managers/supervisors had significantly higher levels of agreement with the statement that evidence-based practice guidelines are useful to improve quality of care; were less likely to agree or strongly agree that evidence-based practice guidelines promote over-simplified “cookbook” care; and were more familiar with standardizations of care as compared to counselors. See Table 4. Similar patterns of responses were found for providers with professional licensure as opposed to no professional licensure; and those with graduate degrees as opposed to those without graduate degrees.

In multivariable models, while controlling for other covariates, job type was consistently associated with each outcome. Supervisors and managers had 1.86 (95% CI: 1.44–2.41) higher odds of having higher levels of agreement that "practice guidelines are useful to improve quality of care" than counselors. They also had lower odds of being undecided, agreeing, or strongly agreeing that "practice guidelines promote over-simplified 'cookbook' care" (OR: 0.54, 95% CI: 0.42–0.70), as compared to counselors. Additionally, supervisors and managers had higher odds of being more familiar with the American Psychiatric Association's *Clinical Practice Guidelines for the Treatment of Patients with Substance Use Disorders* (OR: 1.58, 95% CI: 1.26–2.00), and being more familiar with the American Society of Addiction Medicine Patient Placement Criteria (ASAMPPC) (OR: 1.83, 95% CI: 1.44–2.33), as compared to counselors. Similar patterns of association were found for those having a graduate degree as compared to no graduate degree. Having professional licensure was associated with level of agreement with EBP guidelines and familiarity with the ASAMPPC, while treatment modality was only associated with familiarity with the ASAMPPC. See Table 4 for full analysis results.

DISCUSSION

Access to evidence-based practices across the substance use disorder treatment continuum is critical to improving client outcomes and improving the quality of care overall. Research in other areas of medicine has suggested that the transfer of research findings into clinical practice may take up to 17 years (18). Further, translational research confirms the importance of the treatment provider workforce, organizational factors, and environmental issues in this process of implementation of new practices. Thus, in order to improve quality of care and champion adoption of evidence-based practices, a comprehensive understanding of the workforce is critical. As noted in previous research, closure of many treatment agencies and an increasing demand for effective treatment and documentation of outcomes creates enormous pressure for an already strained addiction workforce (19). The findings from this study are significant as they expand our understanding of the characteristics, experiences, and needs of the addiction treatment workforce. This information can be used to advance the quality of care and the types of services offered for clients with addictive disorders.

In terms of training and education, individuals without graduate degrees remain an important component of the counseling workforce, but managers/supervisors tend to have more education and experience and can provide guidance on implementation of evidence-based practices. Consistent with other research, nearly half of the study participants had advanced education (10), and graduate education was more common among staff in outpatient settings. Clinics that employ more staff with advanced degrees may do so to meet specific needs such as medical expertise required in methadone and outpatient settings. Finally, methadone and outpatient clinics typically offer higher pay as compared to residential programs, which may allow them to attract counselors who have more education.

The costs of retraining, hiring, and constantly retooling the addiction workforce impacts how effectively and efficiently new practices are disseminated to everyday clinical care, thus limiting clients access to the most innovative and effective services. High levels of turnover and job-related stress, coupled with low pay and increasingly complex clientele add strain to the system as counselors are constantly leaving for a new program, or a new field (11). In fact, research has shown that master's-level counselors reported significantly higher levels of emotional exhaustion as compared to a non-college reference group (20). One could speculate that this may be due in part to the multiple role expectations these individuals fill, as senior level staff reportedly spend more time in administration as opposed to clinical

services (21) and given the need for supervision, training, and leading implementation of EBPs, they may simply be pulled in too many directions.

When examining staffing patterns and implementation, Fixsen et al. (7) suggests that counselor qualities are core components or implementation drivers. More specifically, staff qualities include staff selection, training, and consultation and coaching. Because education and exposure to supervision are very important in terms of adoption of new practices, and this process begins within the providers educational experience, treatment agencies, and educational institutions must work together to advance the preparation of addiction counselors. Thus training programs that provide formal practicum, internships, and supervision, most often found in graduate school, are likely to generate the most prepared counselors.

Continued education and workforce development are also reflected in the number of providers who have certification or licensure. In this study the majority of participants were either licensed alcohol and drug counselors or social workers. Consistent with the literature, about two-thirds of our participants had either licensure or certification in addictions (19). This data is complicated, however, by the variations across states, the different types of certification and licensure (CADC I;CADC II; LPC; LMPT; MSW; etc.) as well diversity of reimbursement requirements and the paucity of addiction specific training programs.

In terms of specific counselor training experiences and beliefs, Bartholomew et al. (12) evaluated counselors' self-reported beliefs about EBPs at a training session, and then assessed the counselors six months later to see which EBPs they implemented, and how their perceptions guided this process. Counselors frequently reported *lack of time*, *not enough training*, and *lack of resources* as barriers to implementing strategies; positive opinions during the training predicted reports of later use, underscoring the impact of counselor beliefs in whether or not innovation is implemented (12). Thus when examining counselor workforce characteristics and experiences, it is important to consider their professional discipline, experience with addictions, specialized certification and licensure and so forth. Simply reviewing degrees will be insufficient within projects seeking to examine the development of the workforce and their use of EBPs.

Treatment manuals are also understood to be crucial to successful implementation of EBPs, but are often met with resistance by the substance abuse treatment workforce and community practitioners who may initially prefer less standardized approaches (22, 23). Findings from this study indicate that supervisors were less likely to find EBPs to be a method of promoting "cookbook" or overly simplified care. Thus it may be that training and education needs to demonstrate the core components of the EBP within the manual and the opportunities for some adaptations. Finally, because the majority of manualized interventions are developed with Caucasian clients, it may be that counselors do not feel that they are culturally relevant or adaptable to their client population.

Differential attitudes among counselors and practitioners towards substance use disorders and treatment present yet another issue in implementing EBPs. Various studies have shown that counselors with more education (i.e., physicians, psychiatrists) and experience support the role of medication in treating addiction (13). Further, providers that support traditional twelve-step approaches, have longer tenure in the field, and identify as being in recovery, may be more resistant to implementation of new interventions (24). In addition, counselor attitudes toward drug treatment also differ by treatment setting. Rieckmann et al. (16) found significant evidence to suggest that positive attitudes supporting the use of methadone in treatment was more prominent among counselors in methadone treatment programs than among counselors working in outpatient and residential programs.

This study has several limitations. It relies on self-report data which is subject to response and recall bias. It is also based on complete data and thus when items were unavailable the respondent was not included in the analysis. The participants for this project are also from the NIDA Clinical Trials Network, which may mean that the findings are not generalizable to programs that are smaller in size, do not participate in research or are significantly different in terms of services offered and clinical staffing. In addition, the data were collected cross-sectionally, therefore the observational nature of the data limits causal inferences. Finally, although we controlled for several covariates in the proportional and partial proportional odds models, the potential for residual confounding due to unmeasured variables still remains.

Nevertheless, in a climate of diminishing public resources with an emphasis on scientifically based treatment practices, the present study's results create a platform from which training, supervision, development of new practices, and implementation of interventions may be built.

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Table 1

Characteristics of 1,750 staff of programs participating in the National Drug Abuse Treatment Clinical Trials Network, by job category

	Total Respondents (N=1,750)		Counselors (n=1,395)		Managers and Supervisors (n=355)		
Characteristic	**n**	**%**	**n**	**%**	**n**	**%**	**χ^2**
Female	1039	60	839	61	200	57	2.56
Not white *	400	26	327	28	73	22	3.95[a]
Licensure and Certification							
State certification	816	49	630	47	186	55	5.77[a]
National certification	304	20	221	19	83	27	9.25[a]
Professional licensure	730	46	545	43	185	58	21.11 [a]
Both certification and licensure	478	28	369	27	109	31	2.29
Certification and/or licensure	1,136	66	860	63	276	79	30.97 [a]
Years employed in substance abuse (mean, SD)	(8.8)	(7.3)	(7.9)	(7.0)	(12.2)	(7.5)	−10.15 [a,b]
Years as a counselor, therapist, or clinician (mean, SD)	(7.9)	(6.8)	(7.3)	(6.5)	(10.3)	(7.3)	−7.06 [a,b]
Education							41.18 [a]
High school or less	287	17	242	18	45	13	
Associates or bachelor's degree	628	37	537	40	91	26	
Master's or doctoral degree	786	46	570	42	216	61	

NOTES: Values are number and percent, unless noted otherwise.

Percentages may not add to 100 due to rounding (rounded to nearest whole number), and were calculated excluding missing values.

[a] $p<.05$

[b] Test statistic is t-value from independent samples t-test.

* Comparisons are for racial categories only, and do not take into account ethnicity.

Table 2

Counselor and Supervisor demographics by treatment modality

	Total Respondents (N=1,750)		Detoxification (n=200)		Long-Term Residential (n=638)		Methadone (n=352)		Outpatient (n=560)		
Characteristic	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**χ^{2a}**
Female	1039	60	112	57	387	62	213	62	327	59	2.79
Not white *	400	26	27	16	169	31	112	40	92	18	58.22 *a*
Licensure and Certification											
State certification	816	49	107	56	302	50	154	46	253	47	6.54
National certification	304	20	45	26	95	18	45	15	119	24	14.07 *a*
Professional licensure	730	46	92	52	220	39	140	45	278	53	24.14 *a*
Both certification and licensure	478	28	69	36	153	25	94	27	162	29	10.09 *a*
Certification and/or licensure	1,136	66	140	73	378	61	214	62	404	73	26.82 *a*
Years employed in substance abuse (mean, SD)	(8.8)	(7.3)	(10.0)	(7.2)	(7.8)	(6.5)	(9.7)	(8.6)	(8.9)	(7.2)	7.31 *a,b*
Years as a counselor, therapist, or clinician (mean, SD)	(7.9)	(6.8)	(8.9)	(6.7)	(6.7)	(5.8)	(8.8)	(8.0)	(8.3)	(6.9)	10.98 *a,b*
Education											123.84 *a*
High school or less	287	17	36	18	162	26	46	14	43	8	
Associates or bachelor's degree	628	37	84	43	236	38	142	42	166	30	
Master's or doctoral degree	786	46	75	38	216	35	151	45	344	62	

NOTES: Values are number and percent, unless noted otherwise.

Percentages may not add to 100 due to rounding (rounded to nearest whole number) , and were calculated excluding missing values.

a p<.05

b Test statistic is F-value from generalized linear model.

* Comparisons are for racial categories only, and do not take into account ethnicity.

Table 3

Among those who reported having professional licensure, type of licensure by treatment modality

	Total Respondents (N=730)		Detoxification (n=92)		Long-Term Residential (n=220)		Methadone (n=140)		Outpatient (n=278)	
Characteristic	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
AOD Counselor	259	36	40	15	102	39	51	20	66	25
Licensed Clinical Social Worker (LCSW)	180	25	16	9	47	26	32	18	85	47
Licensed Professional Counselor (LPC)	123	17	11	9	25	20	17	14	70	57
Clinical Psychologist	34	5	5	15	6	18	5	15	18	53
Nurse	34	5	13	38	4	12	16	47	1	3
Licensed Marriage and Family Therapist (LMFT)	16	2	0	0	8	50	2	13	6	38
Rehabilitation Counselor	9	1	2	22	1	11	3	33	3	33
Clergy	8	1	2	25	3	38	1	13	2	25
Physician (MD/Psychiatrist)	7	1	1	14	0	0	4	57	2	29
Physician's Assistant	2	<1	0	0	1	50	1	50	0	0
Prevention Specialist	2	<1	0	0	1	50	0	0	1	50
Other	43	6	2	5	17	40	4	9	20	47

NOTES: Values are number and percent, unless noted otherwise. Percentages are the row percent.

Percentages may not add to 100 due to rounding (rounded to nearest whole number), and were calculated excluding missing values (N=13).

Table 4

Results of proportional odds models of workforce survey responses

Independent Variables	Evidence-based practice guidelines are useful to mprove quality of care.		Evidence-based practice guidelines promote over-simplified 'cookbook' care.		How familiar are you with the American Psychiatric ssociation's *Clinical Practice Guidelines for the Treatment of Patients with Substance Use Disorders?*		How familiar are you with the *American Society of Addiction Medicine Patient Placement Criteria?*	
	Crude OR (95% CI)	**Adjusted OR (95% CI) ***	**Crude OR (95% CI)**	**Adjusted OR (95% CI) ***	**Crude OR (95% CI)**	**Adjusted OR (95% CI) ***	**Crude OR (95% CI)**	**Adjusted OR (95% CI) ***
Job Type								
Counselor [c]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Manager/Supervisor	2.20 (1.73–2.80)	1.86 (1.44–2.41)	0.70 (0.50–0.97) *a	0.54 (0.42–0.70) *a	1.82 (1.44–2.30)	1.58 (1.26–2.00)	1.81 (1.40–2.33) *b	1.83 (1.44–2.33)
Treatment modality								
LT Residential [c]	1.00	-- [d]	1.00	-- [d]	1.00	-- [d]	1.00	1.00
Detoxification	1.05 (0.76–1.46)	--	0.93 (0.69–1.25)	--	1.01 (0.74–1.39)	--	1.70 (1.20–2.41) *b	2.02 (1.42–2.88) *b
Methadone	1.10 (0.84–;1.44)	--	0.98 (0.77–1.26)	--	1.09 (0.84–1.41)	--	0.71 (0.55–0.93) *b	0.56 (0.40–0.78) *b
Outpatient	1.36 (1.08–1.72)	--	0.75 (0.61–0.93)	--	1.16 (0.92–1.45)	--	1.26 (1.00–1.60) *b	1.41 (1.08–1.85) *b
Professional Licensure								
No [c]	1.00	1.00	1.00	1.00	1.00	-- [d]	1.00	1.00
Yes	1.87 (1.45–2.42) *a	1.51 (1.16–1.97) *a	1.03 (0.79–1.33) *a	0.81 (0.65–0.99) *a	1.18 (0.97–1.43)	--	1.56 (1.27–1.91) *b	1.80 (1.43–2.25) *b
Master's Degree or Higher								
No [c]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Yes	2.24 (1.83–2.75)	2.04 (1.65–2.53)	1.14 (0.89–1.47) *a	0.55 (0.45–0.68) *a	1.36 (1.10–1.67) *b	1.95 (1.46–2.62) *b	1.33 (1.09–1.62) *b	1.19 (0.98–1.45)

NOTES: For all odds ratios (ORs) without footnotes, OR is for the comparison of any combination of higher levels of agreement versus lower levels of agreement for evidence-based practice guidelines:

strongly agree vs. agree, undecided, disagree, strongly disagree

strongly agree, agree vs. undecided, disagree, strongly disagree

strongly agree, agree, undecided vs. disagree, strongly disagree

strongly agree, agree, undecided, disagree, vs. strongly disagree (this response grouping not valid for opinion that guidelines are useful to improve quality of care due to small sample sizes for the strongly disagree response);

or for higher levels of familiarity versus lower levels of familiarity with standardizations of care:

very familiar, somewhat familiar vs. not at all familiar

very familiar vs. somewhat familiar, not at all familiar.

*Indicates partial proportional odds model was used.

[a]ORs are for the comparison of strongly agree, agree, undecided, vs. disagree, strongly disagree.

[b]ORs are for the comparison of not at all familiar, somewhat familiar vs. very familiar.

[c]Reference category.

[d]Variable was not selected into the multivariable model.