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Service delivery and pharmacotherapy for alcohol use disorder in the era of health reform: Data from a national sample of treatment organizations

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Abstract

Background—Although there is a growing literature examining organizational characteristics and medication adoption, little is known about service delivery differences between specialty treatment organizations that have and have not adopted pharmacotherapy for alcohol use disorder (AUD). This study compares adopters and non-adopters across a range of treatment services, including levels of care, availability of tailored services for specific populations, treatment philosophy and counseling orientations, and adoption of comprehensive wraparound services.

Methods—In-person interviews were conducted with program leaders from a national sample of 372 organizations that deliver AUD treatment services in the US.

Results—About 23.6% of organizations had adopted at least one AUD medication. Organizations offering pharmacotherapy were similar to non-adopters across many measures of levels of care, tailored services, treatment philosophy, and social services. The primary area of difference between the two groups was for services related to health problems other than AUD. Pharmacotherapy adopters were more likely to offer primary medical care, medications for smoking cessation, and services to address co-occurring psychiatric conditions.

Conclusions—Service delivery differences were modest between adopters and non-adopters of AUD pharmacotherapy, with the exception of health-related services. However, the greater adoption of health-related services by organizations offering AUD pharmacotherapy represents greater medicalization of treatment, which may mean these programs are more strongly positioned to respond to opportunities for integration under health reform.

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The authors have no conflicts of interest to declare.

AUTHOR CONTRIBUTIONS

HK reviewed the literature, analyzed the data, interpreted the results, participated in writing the manuscript, and contributed to revising the manuscript. PR conceptualized and designed the overarching study, oversaw the collection of data, participated in writing the manuscript, and contributed to revising the manuscript.

Keywords

alcohol pharmacotherapy; organization of treatment services; specialty treatment for alcohol use disorder

INTRODUCTION

Within the broader promotion of the adoption of evidence-based practices (EBPs) in substance abuse treatment,[1] pharmacotherapy has received considerable attention.[2, 3] The use of medications, particularly those approved by the US Food and Drug Administration for treating alcohol use disorder (AUD), represents a substantial shift in treatment service delivery when viewed in relation to the long history of near-exclusive reliance on psychosocial interventions.[4, 5] This mode of broadening of AUD treatment may represent an important facilitator for integration of this treatment into primary and other specialty healthcare in this era of health reform.

Many studies have analyzed the diffusion of AUD pharmacotherapy. Studies of AUD pharmacotherapy diffusion have used multiple types of data: large prescription databases,[6, 7] samples of physicians,[8, 9] and organizational data from specialty SUD treatment organizations.[10] Research focused on specialty treatment has examined organizational structure, resources, and culture as correlates of pharmacotherapy adoption[11–16] as well as the influence of the environmental context.[17, 18] Such studies show *where* pharmacotherapy is more likely to be available, which can inform dissemination and implementation efforts.

What is less clear is whether pharmacotherapy adoption by a treatment organization is indicative of a broader shift in the delivery of treatment services. Although newer medications such as acamprosate (Campral®, Forest Laboratories, Inc., St. Louis, MO) and extended-release naltrexone (Vivitrol®, Alkermes, Waltham, MA) represent useful adjuncts to AUD treatment, predominant models of high-quality care still heavily emphasize counseling and psychosocial interventions[19, 20] Counseling itself encompasses a wide breadth of theoretical orientations (e.g., 12-step, cognitive behavioral models, motivational approaches) and modes of delivery, such as individual, family, and group therapy.[21] Prior research has produced mixed results regarding the hypothesis that 12-step orientation is inversely related to medication adoption.[16, 22] Researchers have rarely considered a wider array of counseling and philosophical orientations when comparing programs that offer pharmacotherapy to those that have not adopted medications.

Furthermore, efforts to improve client outcomes have pointed to the value of comprehensive wraparound services within AUD treatment organizations. Comprehensive services represent a range of social and medical services that address the multiple needs of patients believed essential to support recovery.[23] Such wraparound services may address needs specific to social functioning (e.g., educational and vocational services, family therapy), medical needs (e.g., HIV testing, primary medical care), and co-occurring psychiatric conditions (e.g., pharmacotherapy for mood disorders). Comprehensive services have been shown to improve outcomes, such as treatment retention and addiction symptom severity.[24, 25] Rogers' notion of "technology clusters" in diffusion processes would suggest

that adopters of medications for AUDs may be more likely to offer other services in the medical domain.[26] The converse question is whether a movement towards medicalization, as represented by pharmacotherapy adoption, is also associated with shifts away from social and supportive services traditionally marginal to the medical domain.

Tailoring of treatment services to meet the needs of specific populations may also improve outcomes for those individuals. Clinical practice guidelines recommend that adolescents be treated in distinct "tracks" separate from adults,[27] and women-only services have been found more effective for females than mixed-gender programs.[28] Culturally competent services for racial, ethnic, and sexual minorities may reduce health disparities in treatment access, retention, and outcomes.[29, 30] No reported studies have compared whether these types of tailored treatment services vary between programs that do and do not offer AUD pharmacotherapy.

This study presents data on service delivery collected from a large sample of specialty organizations that treat patients with AUD. The primary aim is to examine the extent to which organizations that deliver AUD medication differ in their patterns of service delivery relative to those organizations that have not adopted any of the FDA-approved AUD pharmacotherapies.

METHODS

Sample and Data Collection

Data are drawn from a nationally representative, random sample of organizations offering treatment for alcohol use disorders. The sample was initially constructed using SAMHSA's 2008 Substance Abuse Treatment Services Locator (http://findtreatment.samhsa.gov). Detailed telephone screening used four criteria to establish sample eligibility: 1) AUD treatment provision to the general public (which excluded military facilities, Veterans Administration, and correctional agencies); 2) at least one-quarter of the organization's current patients had a primary diagnosis of AUDs; 3) a minimum of 2 full-time equivalent employees (FTEs), which excluded individual counselors in private practice; and 4) AUD treatment offerings equal to or greater than the American Society of Addiction Medicine's definition of structured outpatient treatment. This last criterion excluded those organizations that only dispense medications to treat opioid use disorders (e.g., methadone programs), only offer detoxification, or only provide DUI/DWI services. Most organizations treated a mixture of patients, some with a primary diagnosis of AUD, some with primary diagnoses for other substances, and others with co-occurring alcohol and drug use disorders. This original sample (n = 307) was constructed during a round of data collection that was conducted from mid-2009 and was completed in January 2012. Details regarding the methodology of this prior study have been published.[31]

The present study draws upon a second round of data that was collected from this national sample of programs which was supplemented with additional treatment centers that were randomly selected using the same sampling strategies (described above). Data collection for the present study occurred from October 2011 to December 2013. A total of 437 organizations were identified as eligible through telephone screening. Of these, face-to-face

interviews were completed with the administrator and/or clinical director of 372 organizations (response rate = 85.1%). These organizations were located in 47 US states and the District of Columbia; the current sample does not include any programs located in Alaska, Hawaii, or Massachusetts. Prior to the site visit, informed consent forms were sent to potential participants and collected prior to the start of the interview. These study procedures were reviewed and approved by the Institutional Review Boards at the University of Georgia and the University of Kentucky.

Measures

For the primary independent variable of *adoption of AUD pharmacotherapy*, participants were first asked if their organization prescribed any medications to treat substance use disorders or psychiatric conditions. Affirmative responses were followed by queries about specific medications, including current use of four medications approved by the Food and Drug Administration (FDA) to treat AUDs: disulfiram, acamprosate, oral naltrexone, and injectable extended-release naltrexone. In this analysis, adoption of AUD pharmacotherapy was measured by current use of any of those four medications (coded “1”) while those that reported no SUD pharmacotherapy or no use of any of the four AUD medications were coded as non-adopters (coded “0”).

A battery of items measured levels of SUD care, treatment philosophy and counseling approaches, adoption of specific psycho-social EBPs, availability of comprehensive wraparound services, and delivery of tailored services for specific populations. These variables are presented in Tables 2–5. Nearly all items are dichotomous (1=yes/available, 0=no/not available) with the exception of the treatment philosophy items in Table 3. The measures of treatment philosophy asked administrators to rate the extent to which the organization’s therapeutic and counseling styles emphasized each indicator using a Likert scale that ranged from “0” representing “no extent” to “5” representing “a very great extent.” In addition, the four EBPs in Table 3 represent those centers that not only report current use of the EBP but also indicated that at least one counselor was trained in the EBP; this measure is consistent with the work of Aarons and colleagues.[32]

In addition, indicators of organizational structure and staffing were obtained to describe the sample. Organizational structure was measured by ownership (1= governmental ownership; 0=private ownership), profit status (1 = for-profit, 0 = non-profit), location in a hospital setting (1=hospital, 0 = non-hospital setting), and accreditation. For this dichotomous measure of accreditation, “1” represented accreditation (e.g., by the Joint Commission, Commission on Accreditation of Rehabilitation Facilities, or Council on Accreditation) and “0” represented no accreditation. To measure staffing, administrators were asked how many counselors were employed by the organization and how many counselors held at least a master’s-level degree, which was converted to a percentage. Access to physicians was measured by a typology of three mutually exclusive categories: (1) employing at least one physician on the center’s payroll, (2) having a contractual relationship with at least one physician but no physicians as employees, or (3) lacking any access to physicians through employment or contractual relationships. In addition, the number of nurses employed by the organization and the employment of any physician assistants was measured.

RESULTS

Of the 361 organizations providing data regarding medication adoption, 23.6% (n=85) offered at least one medication to treat AUDs. Adoption of specific medications was lower, with adoption rates of 16.9% for tablet naltrexone (n=61), 16.0% for acamprosate (n=58), 9.9% for disulfiram (n=36), and 8.3% for injectable naltrexone (n=30).

Organizational structure and staff characteristics appear in Table 1. Fewer than one in ten centers was owned by a governmental entity or located within a hospital setting. About 42.4% of the treatment centers were accredited. On average, treatment organizations employed about 9 counselors, of whom fewer than half had attained at least a master's level degree. About 40% of programs had no access to physicians through employment or contractual arrangements. The average organization employed 1.6 nurses, and relatively few organizations employed any physician assistants.

Programs that had adopted at least one AUD medication were compared to non-adopting organizations on the structural and staffing variables presented in Table 1. There were five significant differences. First, organizations offering AUD pharmacotherapy were significantly more likely to be owned by a governmental entity compared to non-adopters. Second, AUD medication adopters were more likely to be located within hospital settings than treatment programs that did not delivery pharmacotherapy. Organizations that offered AUD pharmacotherapy were also more likely to be accredited. The percentage of counselors with master's-level degrees was significantly greater in organizations that had adopted at least one AUD medication. As would be expected, medication adopters were significantly more likely to report access to physicians. It is important to note that the 12 programs reporting use of AUD medications without physician access did employ other medical personnel with prescribing privileges (e.g. nurse practitioner, advanced practice registered nurse, physician assistant). Organizations using AUD medications also reported employing significantly more nurses and were more likely to employ at least one physician assistant.

Table 2 presents descriptive statistics regarding levels of care for adults and adolescents. The most prevalent level of care was standard outpatient treatment for adults. Relatively few programs offered short-term inpatient treatment. Intensive services for adolescents, such as residential or inpatient care, were rare. Comparing programs that offered AUD pharmacotherapy to those that had not adopted AUD pharmacotherapy revealed minimal differences in levels of SUD care. For adult services, only two comparisons were significant. Organizations offering AUD pharmacotherapy were more likely to offer inpatient detoxification and more likely to offer partial hospitalization than non-adopting organizations. No differences between these two groups were detected for the five adolescent levels of care.

Descriptive statistics for the measures of treatment philosophy and adoption of psycho-social evidence-based practices (EBPs) appear in Table 3. The most strongly endorsed treatment philosophy items were measures focused on relapse prevention, patient-centeredness, supportive group therapy, supportive individual counseling, and strengths-based approaches; these items each had statistical means of 4.0 or greater on a Likert scale

where 5 was the maximum. Biofeedback, confrontational group therapy, and use of medications were the three least strongly endorsed philosophical measures. Across the 16 measures of treatment philosophy, there was only one significant difference by adoption of AUD pharmacotherapy. As expected, programs offering AUD pharmacotherapy more strongly endorsed the item measuring use of medications. Of the four specific psycho-social EBPs, there were no significant differences.

Table 4 presents data regarding the availability of health-related ancillary wraparound services and other social services. With the exception of screening and treatment for co-occurring psychiatric disorders, adoption of these services tended to be limited with rates less than 40%. Relatively few programs offered primary care services or dental care. Only 27.0% of programs had adopted on-site HIV testing, and adoption of on-site hepatitis C testing was even lower. Adoption rates for the smoking cessation interventions were all below 30%. While nearly 80% of programs indicated that they offered treatment for at least some psychiatric conditions, adoption of common classes of psychotropic medications were below 40%. The five social wraparound services (i.e., educational, housing) also showed limited rates of adoption.

Organizations offering AUD medications differed from those not offering AUD pharmacotherapy on several of the health-related services. First, adopters of AUD pharmacotherapy were significantly more likely than non-adopters to provide primary medical care to their patients. Results regarding smoking cessation services indicated no difference regarding counseling-based smoking cessation programming, but marked differences in adoption of medications for nicotine dependence. In organizations that offered AUD medications, rates of adoption of bupropion-SR and varenicline were about 9 times greater, while there was about a three-fold difference for adoption of nicotine replacement therapy (NRT).

In addition, the two groups differed in their delivery of services related to co-occurring psychiatric disorders. While both groups were highly likely to screen patients for co-occurring disorders, adoption of screening for all patients was significantly greater in organizations that offered AUD medications. Notably, the two groups differed with regard to treatment of co-occurring disorders, such that organizations offering AUD medications were more likely to have the capacity to treat patients with severe/persistent mental illness and were less likely to report that they could not treat co-occurring psychiatric conditions. Furthermore, there were very large differences in adoption of psychiatric medications, such as selective serotonin reuptake inhibitors (SSRIs) other antidepressants, and anti-psychotic medications. Such medications were nearly universally offered in organizations offering AUD pharmacotherapy; in contrast, only about one in five organizations in the non-pharmacotherapy group had adopted psychiatric medications. There were no differences between the two groups regarding availability of the social services.

The availability of tailored services for specific populations is presented in Table 5. Services for women were the most commonly offered specialized service. The other most prevalent services were specialized services for adolescents and tailored services for individuals who have relapsed. There was only one significant difference between programs offering and not

offering AUD pharmacotherapy, with those offering AUD pharmacotherapy being less likely to offer specialized services for homeless individuals.

DISCUSSION

This study compared specialty treatment organizations that had and had not adopted AUD pharmacotherapy on a wide range of treatment services using data collected between 2011 and 2013. This time period occurred after the passage of the Affordable Care Act but prior to the implementation of many of the significant reforms. As such, these data offer a significant baseline from which to track changes to the specialty SUD treatment system that are now in progress under health reform.

In many respects, these two groups of organizations were quite similar, particularly when considering psychosocial aspects of treatment. Differences across levels of care, emphasis on specific counseling approaches, tailored services, and the more socially-oriented wraparound services were very limited.

The most substantial differences were found in the domain of health-related services, including primary medical care, medications for smoking cessation, and services for co-occurring psychiatric conditions. These differences are consistent with the theoretical work of Rogers in two key ways.[26] First, Rogers emphasized the importance of organizational characteristics, particularly resources and culture, in the diffusion of innovations within a field; these features of organizations are commonly cited in other models of innovation implementation.[33, 34] As would be expected, organizations offering AUD pharmacotherapy were more likely to have access to physicians, who could then in turn support the delivery of other medical services, such as primary care, treatment for more severe psychiatric disorders, and various types of pharmacotherapy. Second, Rogers noted the importance of technology clusters, such that the adoption of a specific type of innovation then increases the probability that other similar innovations can be easily incorporated into the organization. These data suggest that medications for smoking cessation and common classes of psychiatric medications represent a technology cluster with AUD pharmacotherapy, in that rates of adoption for these two classes of medications were quite high within organizations offering medications to treat AUDs.

One interesting finding is that cultural support for the medical model and use of medications was somewhat modest even in organizations that offer AUD pharmacotherapy. Within the sub-sample of pharmacotherapy adopters, the statistical means for these medically-oriented philosophies were similar to the endorsement of the 12-step model and substantially lower than their endorsement of supportive group therapy as well as strengths-based, patient-centered, and relapse prevention orientations. These mid-level ratings of endorsement for medicalized approaches to addiction treatment may indicate that cultural beliefs about the role of AUD pharmacotherapy remain contested even within adopting organizations. Research on counselors certainly describes attitudinal variability toward medication use, even within those programs that have adopted pharmacotherapy,[35, 36] which is consistent with our interpretation of the current findings. At the same time, it may be that adopting organizations continue to view pharmacotherapy as an adjunct to treatment as opposed to *the*

treatment as argued by some in the context of other addiction pharmacotherapies.[37] Thus, contrary to what might be expected, use of medications does not appear a "gateway" to moving away from the established core technologies of treating SUDs.

When the whole sample is considered, these data may also have important implications given the context of health reform and the ongoing implementation of the Affordable Care Act. Integration between SUD treatment and mainstream health care has been strongly advocated,[38] although emerging evidence points to both opportunities[39] and challenges in implementing such changes.[40, 41] The findings of very low rates of adoption of primary care services, somewhat limited availability of treatment for co-occurring psychiatric conditions, and limited access to physicians suggest that there may be considerable constraints on the ability of specialty treatment organizations to expand their services to include medical care. However, our findings indicate that organizations that have adopted AUD pharmacotherapy may be somewhat advantaged if they intend to achieve greater integration in the era of health reform.

Although this study provides significant descriptive data on service delivery in AUD treatment, there are several limitations that should be noted. First, these data were collected at a single point in time, and therefore cannot be used to infer causal relationships. Second, our sampling eligibility criteria preclude generalization of these findings to organizations that only treat individuals with drug disorders (e.g., methadone maintenance), those located within correctional facilities, or SUD programs operated by the Veterans Administration. In addition, while our sample includes nearly all states, our approach to sampling counties from ten population-based strata means that three US states were not represented in this sample. All data were self-reported by program leadership, which may differ from the perspectives of front-line clinicians; such differences may be greater for the counseling and treatment philosophy measures than more clearly delineated services such as available levels of care.

Conclusions

The adoption of AUD pharmacotherapy remains low in specialty treatment organizations, despite efforts to promote the diffusion of EBPs in the treatment system. These data from a national sample of treatment organizations suggest that AUD pharmacotherapy does not represent a sizeable shift in many elements of service delivery and treatment philosophy. However, there were notable differences between medication adopters and non-adopters with regard to health-related services, which may be advantageous for those organizations as they respond to the ongoing implementation of health reform in the US. At the same time, these more medicalized organizations represent a minority of specialty treatment programs. The impact of the ACA remains an empirical question, particularly given the variation between states in their decisions regarding the Medicaid expansion and the structuring of their health insurance exchanges. Ongoing research is needed to understand the impact of the ACA on specialty SUD treatment organizations, but this study provides an important baseline from which to understand how the ACA may shift patterns of service delivery in this sector of the treatment system.

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TABLE 1

Organizational Structure and Staffing Characteristics of 306 Treatment Organizations with Comparison by Adoption of AUD Pharmacotherapy

	Full Sample % (N) or Mean (SD)	Offers AUD Pharmacotherapy % (N) or Mean (SD)	No AUD Pharmacotherapy % (N) or Mean (SD)	χ^2 or *t* Test (Two Tailed)
Government-owned	8.7% (32)	14.1% (12)	6.6% (18)	$\chi^2 = 4.73$, $df = 1$, $p = .030$
For-profit	23.3% (86)	24.7% (21)	23.1% (63)	$\chi^2 = 0.10$, $df = 1$, $p = .757$
Located in a hospital	6.5% (24)	16.5% (14)	3.3% (9)	$\chi^2 = 18.71$, $df = 1$, $p < .001$
Accredited	42.4% (153)	60.2% (50)	36.3% (97)	$\chi^2 = 14.86$, $df = 1$, $p < .001$
Number of counselors	8.7 (10.8)	10.1 (10.8)	8.3 (11.0)	$t = 2.92$, $df = 353$, $p = .176$
Percentages of master's-level counselors	43.0 (35.5)	54.1 (33.7)	40.0 (35.5)	$t = -3.19$, $df = 344$, $p = .002$
Access to physicians				
Employs at least 1 physician	26.9% (96)	49.4% (42)	20.1% (53)	
Contracts with at least 1 physician	32.8% (117)	36.5% (31)	30.7% (81)	$\chi^2 = 40.50$, $df = 2$, $p < .001$
No access to physicians	40.3% (144)	14.1% (12)	49.2% (130)	
Number of nurses	1.6 (4.9)	3.1 (5.3)	1.2 (4.8)	$t = -3.10$, $df = 349$, $p = .002$
Employs at least one physician assistant	4.2% (15)	11.8% (10)	1.9% (5)	$\chi^2 = 15.31$, $df = 1$, $p < .001$

AUD, alcohol use disorder. Percentages may not sum to 100% due to rounding.

TABLE 2

Available Levels of Care with Comparison by Adoption of AUD Pharmacotherapy

	Full Sample % (N)	Offers AUD Pharmacotherapy % (N)	No AUD Pharmacotherapy % (N)	χ^2 Test (Two Tailed)
Adult Services				
Inpatient detoxification	13.2% (48)	24.7% (21)	8.8% (24)	$\chi^2 = 14.83$, $df = 1$, $p < .001$
Inpatient treatment (<30 days)	10.5% (38)	14.1% (12)	9.2% (25)	$\chi^2 = 1.66$, $df = 1$, $p = .197$
Residential (>30 days)	30.0% (109)	25.9% (22)	30.8% (84)	$\chi^2 = 0.74$, $df = 1$, $p = .389$
Partial hospitalization	6.9% (25)	14.1% (12)	4.4% (12)	$\chi^2 = 9.60$, $df = 1$, $p = .002$
Intensive outpatient	52.1% (189)	60.0% (51)	50.0% (136)	$\chi^2 = 2.60$, $df = 1$, $p = .107$
Standard outpatient	70.1% (255)	70.6% (60)	70.3% (192)	$\chi^2 = 0.00$, $df = 1$, $p = .964$
Adolescent-only Services				
Inpatient treatment (<30 days)	1.1% (4)	1.2% (1)	1.1% (3)	$\chi^2 = 0.04$, $df = 1$, $p = .950$
Residential (>30 days)	6.3% (23)	2.4% (2)	7.3% (20)	$\chi^2 = 2.76$, $df = 1$, $p = .097$
Partial hospitalization	1.6% (6)	1.2% (1)	1.8% (5)	$\chi^2 = 0.17$, $df = 1$, $p = .684$
Intensive outpatient	15.1% (55)	11.8% (10)	16.1% (44)	$\chi^2 = 0.94$, $df = 1$, $p = .333$
Standard outpatient	31.4% (115)	29.4% (25)	32.0% (88)	$\chi^2 = 0.20$, $df = 1$, $p = .653$

AUD, alcohol use disorder.

TABLE 3

Treatment Philosophy and Availability of Psychosocial Evidence-Based Practices (EBPs) with Comparison by Adoption of AUD Pharmacotherapy

	Full Sample Mean (SD) or % (N)	Offers AUD Pharmacotherapy Mean (SD) or % (N)	No AUD Pharmacotherapy Mean (SD) or % (N)	χ^2 or *t* Test (Two Tailed)
Treatment Philosophy				
Twelve-step model	3.1 (1.7)	3.2 (1.7)	3.1 (1.7)	$t = -0.61$, $df = 358$, $p = .542$
Strengths-based	4.0 (1.2)	4.1 (1.0)	4.0 (1.3)	$t = -1.02$, $df = 353$, $p = .310$
Patient-centered	4.3 (1.1)	4.4 (0.9)	4.3 (1.1)	$t = -1.02$, $df = 355$, $p = .311$
Social learning/life skills	3.3 (1.5)	3.2 (1.4)	3.4 (1.5)	$t = 0.94$, $df = 353$, $p = .350$
Spiritual counseling	2.2 (1.6)	2.0 (1.5)	2.2 (1.6)	$t = 0.82$, $df = 352$, $p = .412$
Biofeedback	0.6 (1.2)	0.5 (1.2)	0.7 (1.2)	$t = 1.09$, $df = 354$, $p = .278$
Relapse prevention	4.4 (0.8)	4.4 (0.8)	4.5 (0.8)	$t = 0.89$, $df = 355$, $p = .370$
Confrontational group therapy	1.3 (1.5)	1.2 (1.4)	1.4 (1.5)	$t = 1.27$, $df = 355$, $p = .205$
Supportive group therapy	4.2 (1.2)	4.0 (1.4)	4.2 (1.1)	$t = 1.38$, $df = 355$, $p = .169$
Task-oriented and problem-solving group therapy	3.4 (1.3)	3.2 (1.5)	3.4 (1.2)	$t = 1.56$, $df = 355$, $p = .120$
Supportive individual counseling	4.0 (1.2)	3.9 (1.3)	4.1 (1.1)	$t = 1.50$, $df = 354$, $p = .135$
Individual psychotherapy	2.4 (1.8)	2.6 (1.9)	2.3 (1.8)	$t = -1.67$, $df = 354$, $p = .096$
Individual behavioral therapy	3.1 (1.6)	3.1 (1.6)	3.0 (1.6)	$t = -0.19$, $df = 354$, $p = .850$
Family counseling	2.7 (1.5)	2.8 (1.4)	2.7 (1.5)	$t = -0.72$, $df = 354$, $p = .471$
Medical model of addiction	2.8 (1.7)	3.1 (1.5)	2.7 (1.7)	$t = -1.94$, $df = 353$, $p = .054$
Use of medications	2.0 (1.8)	3.3 (1.3)	1.6 (1.7)	$t = -8.27$, $df = 354$, $p < .001$
Adoption of specific psycho-social EBPs				
Motivational incentives (contingency management)	20.9% (75)	22.6% (19)	20.7% (56)	$\chi^2 = 0.71$, $df = 1$, $p = .135$
Motivational interviewing during assessment	78.7% (277)	79.3% (65)	79.3% (210)	$\chi^2 = 0.00$, $df = 1$, $p = .996$
Motivational enhancement therapy	22.2% (78)	16.5% (14)	23.9% (63)	$\chi^2 = 2.04$, $df = 1$, $p = .153$
Cognitive-behavioral therapy	57.3% (205)	58.3 (49)	57.3% (154)	$\chi^2 = 0.03$, $df = 1$, $p = .861$

AUD, alcohol use disorder. Treatment philosophy measures extent of emphasis placed on the approach with a range from 0 (no extent) to 5 (very great extent).

TABLE 4

Availability of Comprehensive Health-Related and Social Services with Comparison by Adoption of AUD Pharmacotherapy

	Full Sample % (N)	Offers AUD Pharmacotherapy % (N)	No AUD Pharmacotherapy % (N)	χ^2 Test (Two Tailed)
Health-related services				
Primary care	12.6% (46)	27.1% (23)	8.0% (22)	$\chi^2 = 21.70$, $df = 1$, $p < .001$
Dental care	3.6% (13)	2.4% (2)	4.0% (11)	$\chi^2 = 0.48$, $df = 1$, $p = .490$
Onsite HIV testing	27.0% (98)	28.2% (24)	26.7% (73)	$\chi^2 = 0.07$, $df = 1$, $p = .786$
Onsite hepatitis C testing	11.9% (43)	17.9% (15)	10.3% (28)	$\chi^2 = 3.50$, $df = 1$, $p = .061$
Smoking cessation program with dedicated counseling sessions	29.0% (104)	36.1% (30)	27.2% (74)	$\chi^2 = 2.45$, $df = 1$, $p = .117$
Prescribes bupropion-SR for smoking cessation	11.9% (42)	36.1% (30)	3.8% (10)	$\chi^2 = 65.66$, $df = 1$, $p < .001$
Prescribes varenicline for smoking cessation	11.9% (42)	35.4% (29)	4.5% (12)	$\chi^2 = 57.67$, $df = 1$, $p < .001$
Offers nicotine replacement therapy	28.8% (102)	59.0% (49)	18.4% (49)	$\chi^2 = 51.99$, $df = 1$, $p < .001$
Screening for co-occurring disorders	85.1% (308)	94.1% (80)	82.0% (223)	$\chi^2 = 7.43$, $df = 1$, $p = .006$
Treatment for co-occurring disorders (CODs)				
Yes, including serious/persistent CODs	27.3% (94)	37.7% (32)	23.6% (60)	
Yes, but excluding serious/persistent CODs	51.7% (178)	51.8% (44)	51.6% (131)	$\chi^2 = 10.68$, $df = 2$, $p = .005$
No	20.9% (72)	10.6% (9)	24.8% (63)	
Prescribes SSRIs for depression	38.1% (139)	94.1% (80)	20.3% (56)	$\chi^2 = 150.85$, $df = 1$, $p < .001$
Prescribes other antidepressants (e.g., MAO inhibitors, tricyclics)	36.0% (131)	88.1% (74)	19.2% (53)	$\chi^2 = 133.87$, $df = 1$, $p < .001$
Prescribes anti-psychotic medications (e.g., lithium, clozipine, risperidone)	32.9% (119)	84.5% (71)	16.1% (44)	$\chi^2 = 138.21$, $df = 1$, $p < .001$
Social services				
Educational (e.g., GED)	25.7% (94)	21.2% (18)	27.5% (76)	$\chi^2 = 1.36$, $df = 1$, $p = .243$
Housing/shelter assistance	39.9% (146)	41.2% (35)	39.1% (108)	$\chi^2 = 0.11$, $df = 1$, $p = .736$
Legal assistance	8.7% (32)	4.7% (4)	10.1% (28)	$\chi^2 = 2.38$, $df = 1$, $p = .123$
Financial counseling (e.g., debt management, credit counseling)	30.7% (112)	23.8% (20)	33.3% (92)	$\chi^2 = 2.73$, $df = 1$, $p = .099$
Vocational services (e.g., job training, job search)	36.1% (132)	34.1% (29)	36.6% (92)	$\chi^2 = 0.17$, $df = 1$, $p = .677$

AUD, alcohol use disorder.

TABLE 5

Availability of Tailored Services for Specific Populations and Comparison with Adoption of AUD Pharmacotherapy

	Full Sample % (N)	Offers AUD Pharmacotherapy % (N)	No AUD Pharmacotherapy % (N)	χ^2 Test (Two Tailed)
Relapsing Individuals	31.7% (116)	35.3% (30)	30.4% (84)	$\chi^2 = 0.71$, $df = 1$, $p = .399$
Adolescents	40.3% (147)	41.7% (35)	39.9% (110)	$\chi^2 = 0.09$, $df = 1$, $p = .767$
Women	57.0% (208)	61.2% (52)	55.6% (153)	$\chi^2 = 0.81$, $df = 1$, $p = .367$
Pregnant Women	19.5% (71)	14.1% (12)	21.2% (58)	$\chi^2 = 2.05$, $df = 1$, $p = .152$
Spanish Speakers	19.3% (70)	21.2% (18)	18.6% (51)	$\chi^2 = 0.27$, $df = 1$, $p = .600$
Non-Hispanic Minorities	5.2% (19)	6.0% (5)	5.1% (14)	$\chi^2 = 0.10$, $df = 1$, $p = .758$
Lesbian, Gay, Bisexual and/or Transgendered Individuals	6.3% (23)	5.9% (5)	6.6% (18)	$\chi^2 = 0.05$, $df = 1$, $p = .827$
Individuals Living with HIV/AIDS	8.0% (29)	5.9% (5)	8.7% (24)	$\chi^2 = 0.71$, $df = 1$, $p = .400$
Homeless Individuals	5.5% (20)	0.0% (0)	6.9% (19)	$\chi^2 = 6.20$, $df = 1$, $p = .013$

AUD, alcohol use disorder. Tailored services include distinct treatment tracks exclusively for a specific population or the availability of specific group or educational sessions for a specific population.