Factors Associated With First Utilization of Different Types of Care for Alcohol Problems

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ABSTRACT. Objective: The purpose of this research was to investigate whether factors associated with first obtaining care for alcohol problems vary by source of care. **Method:** This study used data from the National Epidemiologic Survey on Alcohol and Related Conditions to examine initiation of different types of care over a 3-year follow-up interval among individuals with baseline alcohol use disorders who had not previously obtained any care (n = 2,170). Three hierarchical, mutually exclusive types of care were compared: substance use disorder (SUD) specialty sources, general medical but no SUD specialty sources, and nonmedical sources only. **Results:** Having injured oneself or someone else because of drinking was associated with initiating all three types of care. Additional factors associated with initiating care from SUD specialty treatment sources (vs. no care) comprised male sex, alcohol use disorder severity, major financial problems, and nondependent tobacco/drug use. Factors associated with initiating care from general medical but not SUD specialty sources (vs. no care) comprised marriage/cohabitation, college student status, number of medical conditions, and other substance dependence. Factors associated with obtaining care only from nonmedical sources (vs. no care) comprised low income and anxiety disorder. When direct comparisons were made among types of care, factors drawing individuals into general medical care for reasons not necessarily related to alcohol problems were those that primarily distinguished utilization of general medical sources from the other two types of care. **Conclusions:** Results support the importance of screening in general medical practice and student health services as an important means of identifying individuals in need of brief intervention or more intensive SUD treatment and reiterate the importance of nonmedical sources for individuals whose alcohol problems might never be addressed in routine medical visits. (*J. Stud. Alcohol Drugs, 73,* 647–656, 2012)

CORRELATES OF OBTAINING CARE among individuals with alcohol use disorders (AUDs) have been studied in the general population (Cohen et al., 2007; Dawson, 1996; Goldstein et al., 2010; Grant, 1996; Ilgen et al., 2011; Kaskutas et al., 1997; Kessler et al., 2001; Lloyd et al., 2004; Ross et al., 1999; Zemore et al., 2009), in medical patients (Freyer-Adam et al., 2008, 2010), in convenience samples (George and Tucker; 1996), among individuals first presenting for alcohol treatment referral (Finney and Moos, 1995; Timko et al., 2000; Weisner et al., 2001), and by means of general population/treatment sample comparisons (Weisner et al., 2002). Factors associated with obtaining care have varied as a function of whether prevalent or incident utilization of care is examined. Among studies of the former type, having previously obtained care has been among the most important correlates of current treatment/12-step utilization (Goldstein et al., 2010; Grant, 1996; Kaskutas et al., 1997), potentially obscuring the role of other factors in first obtaining care. In studies of the latter type, correlates of obtaining care for the first time have varied as a function of whether retrospectively ascertained through examination of lifetime treatment/12-step utilization in cross-sectional samples (Cohen et al., 2007; Dawson, 1996) or prospectively ascertained in treatment-naïve samples (Ilgen et al., 2011).

Prospective study designs offer many advantages, including minimal effects of recall error on baseline measures. In a recent study of obtaining help for alcohol problems for the first time over a 3-year follow-up interval in the same population examined in the current study, Ilgen et al. (2011) found positive associations for male sex, non-White race, younger age, income less than U.S. $20,000, high school graduation, and having health insurance. Other positive correlates comprised comorbid anxiety, personality and drug use disorders, and baseline AUD severity. Almost half of the treatment-naïve individuals who first obtained help during the follow-up interval used more than one type of help, but this study did not examine whether correlates of obtaining care varied by type.

In fact, very few studies have examined correlates of obtaining care of different types. Among those that have

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done so, factors that distinguished utilization of formal and informal sources of care have included problems in social functioning (George and Tucker, 1996); number of drinking-related problems (Timko et al., 2000); male gender, age, and public health insurance coverage (Zemore et al., 2009); and severity of dependence, number of adverse drinking consequences, and readiness to change drinking and seek alcohol treatment (Freyer-Adam et al., 2010). In a study that assessed correlates of obtaining care for substance use disorders (SUDs) from substance specialty and mental health services (each vs. no care), Mojtabai (2005) found that AUD severity, comorbid alcohol and drug use disorders, and increasing age were positively correlated, and education was negatively correlated, with specialty SUD services. Factors that had significantly different associations with the two types of treatment modalities included numerous sociodemographic, SUD severity, psychological severity, and insurance measures.

The paucity of studies comparing factors associated with using different sources of care may reflect the frequent use of multiple sources of help (Cohen et al., 2007; Cunningham and Blomqvist, 2006; Ilgen et al., 2011; Kaskutas et al., 1997; Timko et al., 2000; Zemore et al., 2009), which necessitates large sample sizes to isolate factors uniquely associated with any single source. However, evidence that the effects of care may vary substantially by source (Dawson et al., 2006; Humphreys and Moos, 2007; Kaskutas et al., 2004; Miller and Wilbourne, 2002; Mojtabai and Zivin, 2003; Pettinati et al., 1993; Timko et al., 2000; Wang et al., 2006; Weisner et al., 2000; Witbrodt et al., 2007) offers a clear rationale for examining initiation of care for alcohol problems by type.

Accordingly, this study prospectively examined factors associated with obtaining care for alcohol problems for the first time among U.S. adults with baseline AUD who had not previously obtained any care. Potential correlates considered in the analysis reflect the three domains of the Behavioral Model of Health Services Use (Andersen, 1995, 2008; Andersen and Newman, 1973): (a) predisposing factors that determine an individual's propensity to obtain care, (b) enabling factors that reflect access or barriers to care, and (c) need factors that reflect the severity of the disorder for which care is obtained. Guided by typologies of care used in prior studies of treatment for mood, anxiety, and substance use disorders (Mojtabai, 2005; Mojtabai and Olfson, 2008; Mojtabai et al., 2002; Wang et al., 2006), we distinguished three mutually exclusive sources of care: (a) SUD specialty treatment sources, irrespective of whether general medical or nonmedical sources were used; (b) general medical sources (no SUD specialty sources but irrespective of whether nonmedical sources were used); and (c) nonmedical sources only. We examined correlates of each of these sources of care relative to no care to determine factors facilitating or impeding the use of each.

In addition, we examined factors that discriminated among the sources of care to address two research questions of interest. First, what factors distinguish individuals who use SUD specialty services from those using general medical sources usually associated with screening and brief intervention? We hypothesized that those using specialty services would have greater severity of AUD and more comorbid SUDs because the latter might also be addressed in SUD specialty treatment. Second, what factors distinguish individuals who access medical care, whether SUD specialty or general, from those who by choice or necessity obtain care exclusively outside the medical system? We hypothesized that those exclusively using nonmedical sources would have less access to medical care (i.e., lower incomes, less health insurance coverage, and geographic barriers). We also hypothesized that they would include individuals for whom the hours of service availability conflict with work or dependent care demands and individuals who, because of perceiving more stigma attached to alcohol problems and alcohol treatment, might prefer anonymous sources of help.

Method

Sample

This study used data from Waves 1 and 2 of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), a nationally representative sample of U.S. adults 18 and older living in households and noninstitutional group quarters. The 2001–2002 Wave 1 sample contained 43,093 respondents (response rate = 81.0%). At the 2004–2005 Wave 2 follow-up, 34,653 (86.7% of those eligible) of the original respondents were reinterviewed. The cumulative response rate was 70.2%. Detailed information on the sample design and weighting are available elsewhere (Grant et al., 2003b, 2007). Informed consent was obtained after potential respondents were informed in writing about the nature of the survey, uses of the survey data, voluntary nature of their participation, and confidentiality of identifiable survey information. The research protocol received full ethical review and approval.

The subsample used in this analysis comprised Wave 2 respondents who at Wave 1 were classified with past-year alcohol abuse or dependence as defined by the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV; American Psychiatric Association, 1994), who had not previously used any source of care for alcohol problems, and who continued to drink throughout at least part of the follow-up interval (n = 2,170).

Measures

Type of care used. Individuals who during the Wave 2 interview reported having gone anywhere or talked to any-

one for help with their drinking since Wave 1 were asked whether they had accessed care from 13 different sources. These 13 sources were grouped into three types. The first group comprised SUD specialty sources: detoxification units, inpatient wards, outpatient clinics (including outreach and day or partial-day programs), and rehabilitation programs. The second group comprised general medical sources: private physicians/other health professionals and emergency departments. The third group comprised nonmedical sources: Alcoholics Anonymous or other 12-step programs, family services agencies, halfway houses, crisis centers, employee assistance programs, religious figures, and other nonspecified sources of help. These three groups were then used to construct a hierarchy of three mutually exclusive types of care: (a) utilization of SUD specialty sources, irrespective of whether general medical and nonmedical sources also were used; (b) utilization of general medical sources in the absence of SUD specialty sources, but irrespective of utilization of nonmedical sources; and (c) utilization of nonmedical sources only.

Baseline alcohol use disorder. Individuals with a baseline AUD were those who in the year preceding the Wave 1 interview endorsed at least one of the four DSM-IV abuse criteria (failure to fulfill role obligations, recurrent hazardous drinking, recurrent alcohol-related legal problems, continued drinking despite interpersonal problems) or at least three of the seven dependence criteria (tolerance, withdrawal/relief of withdrawal, drinking more/longer than intended, persistent desire/unsuccessful attempts to reduce drinking, excessive time spent drinking, important activities given up, continued drinking despite physical/psychological problems). Past-year AUD showed a high degree of test–retest reliability ($\kappa = .74$; Grant et al., 2003a).

Predisposing factors. Sociodemographic and other background characteristics included age, race/ethnicity, marital status (married or cohabiting vs. all others), and educational attainment (attended/completed college vs. not). Other factors posited to affect the predisposition to initiate utilization of care included first-degree relatives with alcoholism and pre-baseline treatment for drug use or psychiatric disorders.

Enabling factors. Factors thought to enable or act as barriers to initiation of care included employment status, family income (<$20,000 vs. ≥$20,000), health insurance coverage (private and public insurance, each vs. none), presence of children younger than 5 years of age in the household, and place of residence (urban vs. rural). In addition, being a college student (Dawson et al., 2004) was considered as an enabling factor because it is associated with access to student health care service.

Need factors. Factors potentially affecting the need for help included the number of past AUD symptoms (of 33 items designed to operationalize the DSM-IV AUD criteria), number of past-year medical conditions (based on a list of 11 conditions for which respondents had to report confirmation by a health professional), average daily volume of ethanol intake (i.e., the larger of the sum of four beverage-specific volumes or the volume for all types of alcoholic drinks combined; Dawson, 2003), and maximum drinks consumed on a single day. Years since onset of the most recent AUD episode was calculated from age at baseline and age at which the most recent episode began. Having experienced major financial problems (fired or laid off, unemployed and seeking work for >1 month, experienced bankruptcy, or frequently unable to pay bills on time) and interpersonal problems (separated from a spouse or other romantic partner; serious problems with friends, family, or coworkers) were taken from a list of 12 stressful life events whose psychometric properties have been described elsewhere (Dawson et al., 2005). Injuring oneself or someone else because of drinking was based on a positive response to any of four questions that asked about injuries sustained while driving under the influence of alcohol or in any other way over the course of the 3-year follow-up interval.

Past-year mood disorders (major depressive, bipolar I or II disorders, dysthymia, or hypomania) and anxiety disorders (panic disorder with or without agoraphobia, social or specific phobia, or generalized anxiety disorder) were measured in accordance with DSM-IV criteria, as was lifetime personality disorder, comprising paranoid, schizoid, schizotypal, borderline, histrionic, narcissistic, avoidant, dependent, or obsessive–compulsive personality disorder. The derivation, reliability, and validity of these diagnoses are available elsewhere (Grant et al., 2004b, 2004c; Pulay et al., 2010). Tobacco use reflected any of five types of tobacco products, and tobacco users were divided to distinguish those with and without nicotine dependence (each vs. nonusers). Similarly, illicit drug use reflected illicit use of any of 10 types of drugs, including misuse of prescription drugs, with users subdivided into those with and without past-year drug dependence (each vs. nonusers). Nicotine dependence and illicit drug dependence were defined consistently with DSM-IV criteria; their derivation and psychometric properties have been described elsewhere (Grant et al., 2004a; Pulay et al, 2010; Stinson et al., 2005).

Analysis

Using pair-wise *t* tests of means and proportions, potential correlates of initiating care were compared across the three types of care and no initiation of care. In light of multiple comparisons, an α level of .005 was required to cite differences as statistically significant. Adjusted associations between initiating different types of care and the various correlates were obtained in multinomial logistic regression models, wherein model parameters were estimated for each of the three types of care relative to no care. Because of the large number of covariates relative to the sample size, we first reduced the predisposing variables to those for which

there was a significant association ($p < .05$) for at least one type of care, then repeated the reduction process after adding the enabling factors and again after adding the need factors. Finally, we individually retested all excluded covariates in case any of marginal significance when initially tested gained significance after the inclusion of factors tested in subsequent blocks. To avoid empty or small cell sizes, we omitted employment from the multivariate models, recoded race to White versus non-White, following the results of Ilgen et al. (2011), and combined private and public health insurance coverage. Because of small cell sizes and closely overlapping distributions for tobacco and illicit drug use, we explored many possible options for recoding these variables and, based on the option that maximized model fit (-2 log-likelihood ratio), combined them into a three-level categorical variable: any nicotine or drug dependence, any nondependent use of tobacco or drugs, and no use of tobacco or drugs. All analyses were conducted using SUDAAN (Research Triangle Institute, 2008), which uses Taylor-series linearization to obtain variance estimates that account for the NESARC's complex, multistage sample design.

Results

As shown in Table 1, 4.9% of U.S. adults with baseline AUD and no history of obtaining help for alcohol problems initiated utilization of care during the 3-year follow-up interval. This included 1.7% who used SUD specialty sources of care, 1.4% who used general medical but no SUD specialty sources, and 1.7% who used nonmedical sources only. The most common sources were Alcoholics Anonymous or other 12-step programs (2.4%), private physicians or other health professionals (2.1%), alcohol/drug rehabilitation programs (1.3%), family services agencies (1.0%), and other nonspecified sources (1.0%). The use of multiple sources of care is evident in Table 1. Among individuals who had accessed at least one SUD specialty source, fully half also reported obtaining care from a private physician or other health professional, and two thirds attended Alcoholics Anonymous or other 12-step groups. Among those who used medical sources other than SUD specialty treatment, 19.3% also reported obtaining care from family services agencies, and 13.6% attended Alcoholics Anonymous or other 12-step programs.

Table 2 compares characteristics of individuals initiating use of each of the three different types of care with each other and with those who did not initiate care over follow-up. Compared with individuals who used SUD specialty sources, those who used general medical but no SUD specialty sources were far more likely to be married or cohabiting. In addition, they were less likely to be nondependent tobacco users. Individuals who used only nonmedical sources of help were younger and much less likely to be married/cohabiting than those who used general medical but no SUD specialty sources of care.

Table 1. Prevalence of using various sources of care among U.S. adults with baseline alcohol use disorder (AUD) and no history of obtaining care for alcohol problems, by hierarchical type of care obtained in a 3-year follow-up interval

		Hierarchical type of care obtained		
Source	Total population at risk (n = 2,170) % (SE)	SUD specialty sources[a] (n = 34) % (SE)	General medical sources[b] (n = 24) % (SE)	Nonmedical sources only (n = 30) % (SE)
Any source	4.9 (0.5)	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
SUD specialty source	1.7 (0.3)	100.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Other medical source, no SUD specialty sources	1.4 (0.4)	0.0 (0.0)	100.0 (0.0)	0.0 (0.0)
Nonmedical sources only	1.7 (0.4)	0.0 (0.0)	0.0 (0.0)	100.0 (0.0)
Alcohol/drug detox.	0.5 (0.2)	27.9 (8.3)	0.0 (0.0)	0.0 (0.0)
Inpatient ward	0.3 (0.1)	17.5 (6.3)	0.0 (0.0)	0.0 (0.0)
Outpatient clinic, outreach and day/partial-day programs	0.7 (0.2)	42.1 (10.4)	0.0 (0.0)	0.0 (0.0)
Alcohol/drug rehabilitation program	1.3 (0.3)	72.2 (10.0)	0.0 (0.0)	0.0 (0.0)
Private physician or other professional	2.1 (0.5)	50.4 (11.0)	88.3 (7.1)	0.0 (0.0)
Emergency department	0.4 (0.2)	14.8 (6.8)	13.6 (7.3)	0.0 (0.0)
Alcoholics Anonymous, other self/mutual help	2.4 (0.4)	67.3 (10.0)	13.6 (6.7)	63.3 (11.2)
Family services	1.0 (0.3)	39.9 (9.9)	19.3 (9.6)	2.5 (1.9)
Halfway house	0.1 (0.1)	4.0 (2.5)	0.0 (0.0)	1.5 (1.5)
Crisis center	0.2 (0.1)	8.1 (1.2)	1.2 (1.2)	0.0 (0.0)
Employee assistance program	0.1 (0.1)	3.1 (3.1)	0.0 (0.0)	0.0 (0.0)
Clergyman, priest, rabbi	0.7 (0.2)	14.8 (7.4)	11.0 (5.8)	14.2 (7.9)
Other	1.0 (0.3)	12.1 (5.9)	6.4 (6.4)	38.5 (11.5)

Notes: Figures in parentheses are standard errors of estimates. SUD = substance use disorder; detox. = detoxification. [a]Irrespective of whether also used general medical and/or nonmedical sources of care; [b]no SUD specialty, but irrespective of whether also used nonmedical sources of care.

TABLE 2. Characteristics of U.S. adults with baseline alcohol use disorder (AUD) and no history obtaining care for alcohol problems, by hierarchical type of care obtained in a 3-year follow-up interval

Variable	SUD specialty[a] (*n* = 34)	General medical[b] (*n* = 24)	Nonmedical only (*n* = 30)	No care (*n* = 2,082)
Predisposing factors				
M (*SE*) age, in years	28.2 (1.6)	34.7 (2.5)	25.8 (1.6)[d]	34.6 (0.4)[c,e]
% (*SE*) White	58.7 (9.7)	73.1 (9.9)	61.4 (11.4)	75.2 (1.8)
% (*SE*) Black	18.4 (7.7)	7.7 (3.9)	7.1 (4.0)	8.7 (0.8)
% (*SE*) Native American	0.8 (0.8)	4.5 (4.5)	5.7 (5.5)	2.7 (0.5)[c]
% (*SE*) Asian/Pacific Islander	0.0 (0.0)	8.2 (7.8)	11.1 (10.0)	1.9 (0.5)[e]
% (*SE*) Hispanic	22.1 (9.4)	6.4 (6.2)	14.6 (7.7)	11.5 (1.5)
% (*SE*) Married/cohabiting	26.4 (8.0)	67.7 (10.3)[c]	16.5 (6.9)[d]	47.6 (1.3)[e]
% (*SE*) Attended college	42.7 (10.3)	50.7 (11.4)	37.6 (10.2)	62.7 (1.5)
% (*SE*) Familial alcoholism	50.8 (10.5)	57.2 (11.7)	33.9 (9.7)	39.8 (1.4)
% (*SE*) Any prior psychiatric or drug treatment	24.4 (8.6)	43.5 (13.1)	7.7 (3.2)	20.1 (1.1)[e]
Enabling factors				
% (*SE*) Employed	91.2 (6.8)	93.6 (4.3)	100.0 (0.0)	93.2 (0.6)[e]
% (*SE*) Family income < U.S. $20,000	41.3 (9.4)	16.5 (8.8)	48.5 (11.3)	20.5 (1.2)
% (*SE*) Private health insurance	54.8 (9.5)	77.0 (8.5)	64.5 (11.3)	72.0 (1.4)
% (*SE*) Public health insurance	13.8 (7.3)	4.3 (3.8)	0.0 (0.0)	5.1 (0.6)[e]
% (*SE*) No health insurance	31.4 (9.1)	18.7 (7.7)	35.5 (11.3)	22.9 (1.3)
% (*SE*) College student	18.0 (7.7)	31.7 (11.9)	20.6 (9.8)	22.0 (1.2)
% (*SE*) Children < 5 years	17.6 (5.0)	5.7 (5.6)	14.4 (6.3)	15.4 (1.0)
% (*SE*) Urban residence	67.0 (8.3)	70.9 (11.3)	78.9 (11.6)	79.8 (1.9)
Need factors				
M (*SE*) AUD symptoms	8.9 (1.5)	5.5 (0.7)	7.5 (1.1)	4.8 (0.1)
M (*SE*) volume ethanol/day	3.9 (1.0)	1.4 (0.4)	2.9 (0.7)	1.9 (0.1)
M (*SE*) maximum drinks/day	12.3 (2.1)	8.0 (1.4)	12.7 (1.2)	10.0 (0.2)
M (*SE*) years since onset of most recent episode of AUD	2.8 (0.9)	3.8 (1.3)	4.0 (1.1)	7.0 (0.3)[c]
M (*SE*) no. of medical conditions	0.5 (0.2)	0.9 (0.4)	0.1 (0.0)	0.3 (0.0)[e]
% (*SE*) Any mood disorder	28.3 (9.2)	29.2 (13.3)	8.2 (5.6)	16.8 (0.9)
% (*SE*) Any anxiety disorder	36.0 (10.3)	31.7 (13.9)	30.1 (10.7)	15.0 (1.0)
% (*SE*) Any personality disorder	53.4 (9.1)	54.0 (12.6)	47.8 (11.0)	34.4 (1.4)
% (*SE*) Nondependent smokers	34.7 (8.2)	5.8 (4.3)[c]	25.4 (10.5)	22.0 (1.2)[d]
% (*SE*) Nicotine dependence	46.4 (9.5)	59.6 (11.6)	37.3 (9.9)	29.6 (1.4)
% (*SE*) Nondependent drug users	53.1 (9.8)	21.8 (10.3)	44.8 (10.6)	22.1 (1.1)[c]
% (*SE*) Illicit drug dependence	0.0 (0.0)	27.7 (13.8)	14.7 (9.4)	3.1 (0.4)[c]
% (*SE*) Experiencing major financial problems	64.5 (8.8)	46.1 (13.0)	37.4 (11.7)	28.5 (1.2)[c]
% (*SE*) Experiencing serious interpersonal problems	44.3 (9.1)	38.7 (13.3)	41.7 (10.9)	32.1 (1.3)
% (*SE*) Injured self/others as a result of drinking	40.0 (10.1)	21.8 (9.4)	40.6 (10.8)	5.9 (0.6)[c,e]

Notes: Figures in parentheses are standard errors of estimates. SUD = substance use disorder. [a]Irrespective of whether also used general medical and/or nonmedical sources of care; [b]no SUD specialty, but irrespective of whether also used nonmedical sources of care; [c]significantly different ($p < .005$) from estimate for individuals using SUD specialty sources; [d]significantly different ($p < .005$) from estimate for individuals using other medical sources (no SUD specialty); [e]significantly different ($p < .005$) from estimate for individuals using nonmedical sources only.

Compared with individuals who did not initiate utilization of care, those who used SUD specialty sources were younger, were less likely to be Native American, had shorter intervals since onset of their most recent episode of AUD, were more likely to be nondependent drug users but less likely to have drug dependence, and were more likely to have experienced serious financial problems and injuries to themselves or others as a result of their drinking. Individuals who obtained care from general medical but not SUD specialty sources differed from those not initiating utilization of care only in being less likely to be nondependent smokers. Individuals who obtained care from nonmedical sources only differed from those not obtaining care in being younger, more likely to be Asian/Pacific Islander, and less likely to be married/cohabiting. In addition, they had lower rates of prior drug or psychiatric treatment, were more likely to be employed and less likely to have public health insurance, had fewer medical conditions, and were more likely to report alcohol-related injuries.

As shown in Table 3, factors that significantly increased the odds of initiating care from SUD specialty treatment sources versus no care consisted of male sex (odds ratio [OR] = 3.1), number of AUD symptoms (OR = 1.1 for each additional symptom), nondependent use of tobacco

TABLE 3. Factors associated with obtaining different types of care (vs. no care) in a 3-year follow-up interval among individuals with baseline alcohol use disorder (AUD) and no history of obtaining care for alcohol problems: Odds ratios (OR), 95% confidence intervals (CI), and *p* values from reduced multinomial regression models

	SUD specialty[a] vs. no care			General medical[b] vs. no care			Nonmedical only vs. no care		
Variable	OR	[95% CI]	*p*	OR	[95% CI]	*p*	OR	[95% CI]	*p*
Predisposing factors									
Male sex	**3.1**	**[1.0, 10.1]**	**.048**	1.0	[0.4, 2.6]	.948	2.6	[0.9, 8.1]	.091
Married/cohabiting	0.7	[0.3, 1.8]	.497	**4.8**	**[1.2, 18.8]**	**.026**	**0.3**	**[0.1, 1.0]**	**.049**
Enabling factors									
Family income <$20,000	1.5	[0.6, 4.1]	.374	0.7	[0.2, 2.6]	.586	**3.0**	**[1.2, 7.0]**	**.015**
College student	0.4	[0.1, 1.3]	.133	**3.7**	**[1.1, 12.4]**	**.032**	**0.3**	**[0.1, 0.8]**	**.021**
Need factors									
No. of AUD symptoms	**1.1**	**[1.0, 1.2]**	**.008**	1.0	[0.9, 1.1]	.912	1.1	[1.0, 1.2]	.059
No. of medical conditions	1.1	[0.7, 1.9]	.472	**1.7**	**[1.2, 2.3]**	**.003**	**0.4**	**[0.2, 0.9]**	**.032**
Any mood disorder	0.7	[0.2, 2.1]	.548	1.3	[0.4, 4.0]	.671	**0.2**	**[0.1, 0.6]**	**.004**
Any anxiety disorder	2.1	[0.7, 6.4]	.166	1.3	[0.4, 4.3]	.666	**3.8**	**[1.6, 9.0]**	**.003**
Other substance dependence	3.6	[0.8, 16.6]	.093	**6.1**	**[1.8, 20.9]**	**.004**	1.5	[0.5, 4.6]	.497
Nondependent use of tobacco or illicit drugs	**7.8**	**[1.7, 36.6]**	**.010**	0.6	[0.1, 3.5]	.530	2.6	[0.8, 9.1]	.124
Experienced major financial problems	**2.9**	**[1.3, 6.4]**	**.013**	1.6	[0.6, 4.5]	.381	0.9	[0.4, 2.2]	.841
Injured self/someone else as a result of drinking	**7.3**	**[3.3, 16.1]**	**.000**	**4.4**	**[1.2, 15.9]**	**.028**	**8.7**	**[3.5, 21.5]**	**.000**

Notes: **Bolded** figures represent statistically significant ($p < .05$) associations. SUD = substance use disorder. [a]Irrespective of whether also used general medical and/or nonmedical sources of care; [b]no SUD specialty, but irrespective of whether also used nonmedical sources of care.

or illicit drugs (OR = 7.8), having experienced major financial problems (OR = 2.9), and having injured oneself or someone else because of drinking (OR = 7.3). Factors significantly associated with increased odds of having initiated care from general medical but not SUD specialty sources, versus no care, consisted of marriage/cohabitation (OR = 4.8), being a college student (OR = 3.7), number of medical conditions (OR = 1.7 for each additional condition), other substance dependence (OR = 6.1), and having injured oneself or someone else because of drinking (OR = 4.4). Factors that significantly increased the odds of having initiated use of care solely from nonmedical sources versus no care were low income (OR = 3.0), the presence of an anxiety disorder (OR = 3.8), and having injured oneself or someone else because of drinking (OR = 8.7). Factors that significantly decreased the odds of initiating care from nonmedical sources versus no care comprised marriage/cohabitation (OR = 0.3), being a college student (OR = 0.3), number of medical conditions (OR = 0.4), and the presence of a mood disorder (OR = 0.2).

TABLE 4. Factors differentiating types of care obtained in a 3-year follow-up interval among individuals with baseline alcohol use disorder (AUD) and no history of obtaining care for alcohol problems: Odds ratios (ORs), 95% confidence intervals (CIs), and *p* values from reduced multinomial regression models

	SUD specialty[a] vs. general medical[b]			Nonmedical only vs. SUD specialty[a]			Nonmedical only vs. general medical[b]		
Variable	OR	[95% CI]	*p*	OR	[95% CI]	*p*	OR	[95% CI]	*p*
Predisposing factors									
Male sex	3.1	[0.7, 13.4]	.129	0.8	[0.2, 4.2]	.813	2.5	[0.6, 10.8]	.200
Married/cohabiting	**0.2**	**[0.0, 0.7]**	**.016**	0.5	[0.1, 2.1]	.316	**0.1**	**[0.1, 0.4]**	**.003**
Enabling factors									
Family income <$20,000	2.2	[0.5, 10.3]	.314	1.9	[0.6, 6.6]	.297	4.2	[0.9, 19.0]	.061
College student	**0.1**	**[0.0, 0.6]**	**.013**	0.7	[0.1, 3.3]	.620	**0.1**	**[0.0, 0.4]**	**.003**
Need factors									
No. of AUD symptoms	1.1	[1.0, 1.3]	.145	1.1	[0.9, 1.3]	.286	1.1	[0.9, 1.3]	.286
No. of medical conditions	0.7	[0.4, 1.4]	.311	**0.4**	**[0.2, 0.9]**	**.029**	**0.3**	**[0.1, 0.6]**	**.002**
Any mood disorder	0.6	[0.1, 2.7]	.465	0.2	[0.1, 1.2]	.074	**0.1**	**[0.0, 0.7]**	**.020**
Any anxiety disorder	1.7	[0.4, 7.5]	.509	1.8	[0.5, 6.7]	.404	2.9	[0.7, 12.2]	.141
Other substance dependence	0.6	[0.1, 4.2]	.595	0.4	[0.1, 2.5]	.320	0.2	[0.0, 1.3]	.103
Nondependent use of tobacco or illicit drugs	**13.8**	**[1.3, 143.7]**	**.028**	0.3	[0.0, 2.5]	.279	4.7	[0.52, 39.8]	.743
Experienced major financial problems	1.8	[0.5, 6.5]	.378	0.3	[0.1, 1.1]	.062	0.6	[0.1, 2.3]	.431
Injured self/someone else as a result of drinking	1.5	[0.3, 6.6]	.578	1.2	[0.4, 3.7]	.693	1.9	[0.4, 9.3]	.432

Notes: **Bolded** figures represent statistically significant ($p < .05$) associations. SUD = substance use disorder. [a]Irrespective of whether also used general medical and/or nonmedical sources of care; [b]no SUD specialty, but irrespective of whether also used nonmedical sources of care.

Table 4 presents the results of models that directly assessed factors distinguishing different types of care: (a) SUD specialty versus general medical sources, (b) nonmedical sources only versus SUD specialty sources, and (c) nonmedical sources only versus general medical sources. Individuals who initiated utilization of care from SUD specialty sources were less likely to be married/cohabiting and to be college students (OR = 0.2 and 0.1, respectively) but more likely to be nondependent tobacco or drug users (OR = 13.8) than those who initiated utilization of care from general medical sources. Compared with individuals using SUD specialty sources, those using solely nonmedical sources had fewer medical conditions (OR = 0.4); compared with those using general medical but no SUD specialty sources, they were less likely to be married/cohabiting (OR = 0.1) or college students (OR = 0.1), had fewer medical conditions (OR = 0.3), and were less likely to have a mood disorder (OR = 0.1) Thus, among the factors that were significant correlates of initiating one or more types of care versus no help seeking, most (gender, income, AUD severity, comorbid anxiety and other substance use disorders, having experienced major financial problems, and having injured oneself or someone else because of drinking) did not discriminate among types of care.

Discussion

This study demonstrated that correlates of initiating care for alcohol problems vary by type of care. Of the potential correlates examined in this study, which spanned the realms of predisposing, enabling, and need characteristics, the only factor associated with using all three types of care was having injured oneself or someone else as a result of drinking. Even this may differ in the pathways through which it is associated with different types of care. That is, help from general medical sources may have resulted from physician or emergency department care received in the event of a personal injury, whereas utilization of specialty treatment sources or Alcoholics Anonymous may have been court mandated as a result of a driving-under-the-influence offense.

With the exception of male gender, factors associated with initiating the use of SUD specialty sources (but not other types of care) compared with no care were need factors, that is, number of AUD symptoms, major financial problems and nondependent substance use. Of interest is the fact that having experienced major financial problems was a significant correlate of using SUD specialty care, whereas having experienced serious interpersonal problems was not. However, when interpersonal problems specifically attributable to alcohol were extracted from the count of AUD symptoms and considered as a separate risk factor, this factor did exhibit a significant association with alcohol specialty care (data not shown), suggesting that the perceived link with drinking is a requisite for its acting as an incentive for initiation of this type of care.

Factors that uniquely distinguished individuals accessing general medical but no alcohol specialty care from those not initiating care included a mixture of predisposing, enabling, and need factors. The positive impact of marriage/cohabitation may reflect either pressure from a spouse to obtain medical care or the fact that individuals with partners have someone to cover dependent care during medical appointments. The positive association with medical conditions is self-evident: the more doctor visits for medical conditions, the greater the chances that the doctor will address the possible role of alcohol in those conditions. The finding that other substance dependence was associated with general medical care as opposed to SUD specialty services is, on the surface, surprising. However, the great majority of other substance dependence in this sample comprised nicotine rather than illicit drug dependence. The substantial morbidity associated with smoking represents yet another reason for doctor visits, and it is not surprising that individuals who report smoking would also be asked about drinking and possibly be offered a brief intervention. (In contrast, a far larger proportion of nondependent substance use represented illicit drug use, particularly marijuana use. Its association with SUD specialty services may reflect utilization of a venue in which both types of substance use can be addressed.)

Only two factors showed unique positive associations with help seeking solely from nonmedical sources relative to not obtaining care. The positive association of low income is easily understandable because financial constraints may preclude being able to afford medical care. The positive association with anxiety disorder is surprising, given arguments that individuals with attachment anxiety may find participation in 12-step meetings challenging (Jenkins and Tonigan, 2011), and requires more research for definitive interpretation. Highly anxious people may have more concerns about their alcohol problems being divulged or affecting their health insurance and thus opt for the anonymity of 12-step programs. Negative associations of nonmedical care utilization with several factors that were positively associated with the use of general medical care (marriage/cohabitation, being a college student, and number of medical conditions) may reflect the competing risk of opting for medically based care. There was also a negative association between mood disorder and utilization of nonmedical sources of help only. One possible interpretation of this finding is that depressed individuals may lack the energy to seek treatment for their alcohol problems. However, they may seek medical help for their mood disorders, at which point they may also receive screening or advice regarding their drinking problems. Thus, the negative impact of anomie on help seeking for alcohol problems in general might be counterbalanced, for medical sources only, by alcohol help received as a by-product of seeking help for depression or other mood disorders.

Because of the broad confidence intervals surrounding estimates of association in this study (the result of small numbers of cases for each type of care), factors uniquely associated with one or another type of care versus no care did not necessarily discriminate among categories of care. Rather, they are suggestive of differences that would be meaningful if replicated in additional studies with larger numbers of individuals using the different types of care. Our analyses that directly compared correlates of different types of care suggested that factors drawing individuals into general medical care for reasons not necessarily related to alcohol problems were those that primarily distinguished the three types of help seeking. The one other factor that significantly discriminated among types of help seeking was nondependent use of tobacco and drugs, which was far more common among individuals accessing SUD specialty than general medical care—presumably because of the possibility to address dual substance problems in SUD specialty treatment. (The lack of a similar association for dependent tobacco or drug use reflects the very small number of individuals with drug dependence in our analytic sample.) Thus, although our hypotheses regarding factors that would discriminate among the three types of care were fairly consistent with the factors that were uniquely associated with each type of care versus no care, they received little support from the direct comparisons among the three care categories.

The results of this study were consistent with numerous other studies of treatment seeking in demonstrating positive associations of care utilization with AUD severity, alcohol-related social problems (Cohen et al., 2007; Duru et al., 2010; Finney and Moos, 1995; George and Tucker, 1996; Kaskutas et al., 1997; Krentzman et al., 2011; Timko et al., 2000; Weisner et al., 2002; Zemore et al., 2009), and comorbidity (Grothues et al., 2008; Orwat et al., 2011; Ross and Cunningham, 1999; Weisner et al., 2002). The positive association between dependent substance use (primarily nicotine dependence) and utilization of general medical services was supported by a recent finding that daily smokers were at increased risk of being asked about their drinking by physicians (Engdahl and Nilsen, 2011). That male sex was significantly associated with utilization of SUD specialty sources (OR = 3.1, $p = .048$) and marginally associated with utilization of nonmedical sources only (OR = 2.6, $p = .091$), but not associated with utilization of general medical sources (OR = 1.0, $p = .948$), may help to explain why gender effects have been inconsistent across the literature.

Relative to the recent findings of Ilgen et al. (2011), who examined overall initiation of care for alcohol problems, irrespective of type, in the same population used in this study, our findings showed both consistencies and inconsistencies. Four of the factors for which significant associations were reported in the earlier study showed similar associations in the present study, but only for some and not all sources of help (e.g., gender significant for SUD specialty sources only, low income and anxiety disorder significant for nonmedical sources only). Age and race effects reported in the earlier study were not significant for any individual source of help in the current study, suggesting that these effects may have been mediated through our inclusion of several severity measures not examined in the prior study. Similarly, the positive association between personality disorder and initiation of help seeking reported in the earlier study, which was not replicated in the present study, may have been mediated through greater severity of AUD, financial problems, and/or alcohol-related injury. Our inability to replicate an association with insurance status may reflect less statistical power for the individual types of care because this correlate was only weakly associated with overall initiation of care in the prior study ($p = .033$). Factors significant only in the present study reflect variables not considered in the earlier analysis.

The primary limitation of the current study is the small number of individuals who initiated utilization of care, which may have yielded insufficient statistical power to identify all potentially meaningful correlates and certainly limited our ability to identify all factors that discriminated among types of care. Moreover, our focus on initiation of care necessarily ignores any associations that might exist between the predisposing, enabling, and need factors and sources of help used before baseline. For example, any possible initiation of care related to antisocial personality disorder, whose symptoms first manifest at early ages, may already have occurred before baseline. In addition, our measures of care did not distinguish voluntary and coerced utilization of the various sources of care. Correlates of different types of care utilization may differ depending on whether care is voluntarily sought, but this question could not be addressed in our data.

Finally, our use of three mutually exclusive categories of care implies the need for cautious interpretation of the results of this study. The factors associated with utilization of general medical services are not overall correlates of this type of care but rather are correlates of this source of care in the absence of seeking help from SUD specialty sources. Likewise, the factors associated with utilization of nonmedical sources of help are not overall correlates of utilizing nonmedical sources but rather are correlates of solely using nonmedical sources. Although it would be possible to look at correlates for each individual source of care irrespective of the use of other types of care, we chose the present approach because it accounted for the competing risks of initiating other types of care and permitted contrasts between types of care that addressed the research questions previously articulated.

In summary, this study is the first of which we are aware to examine factors associated with initiation of different types of care for alcohol problems in a general population sample. Through its focus on incident rather than prevalent utilization of care, it avoided confounding correlates of treatment initiation with correlates of treatment retention.

By demonstrating that correlates of initiating care vary for different sources of help, the results of this study are useful in identifying unique barriers that must be addressed for individual sources of care. They also support the importance of screening in college health service settings and general medical practice as an important means of identifying individuals in need of brief intervention or more intensive forms of alcohol treatment, and they reiterate the importance of nonmedical sources of care for individuals whose alcohol problems might never be addressed in routine medical visits.

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