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## A 10-year Study of Factors Associated with Alcohol Treatment Use and Non-use in a U.S. Population Sample

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### Abstract

**Background**—This study seeks to identify changes in perceived barriers to alcohol treatment and predictors of treatment use between 1991–92 and 2001–02, to potentially help understand reported reductions in treatment use at this time. Social, economic, and health trends during these 10 years provide a context for the study.

**Methods**—Subjects were Whites, Blacks, and Hispanics. The data were from the National Longitudinal Alcohol Epidemiologic Survey (NLAES) and the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). We conducted two analyses that compared the surveys on: 1) perceived treatment barriers for subjects who thought they should get help for their drinking, and 2) variables predicting past-year treatment use in an alcohol use disorder subsample using a multi-group multivariate regression model.

**Results**—In the first analysis, those barriers that reflected negative beliefs and fears about seeking treatment as well as perceptions about the lack of need for treatment were more prevalent in 2001–02. The second analysis showed that survey year moderated the relationship between

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**Contributors:** All authors contributed significantly to this study to justify authorship. K G Chartier conducted the statistical analysis, led the writing, and contributed significantly to the interpretation of findings; K Miller made significant contributions to the writing and provided critical editing; T R Harrison contributed to the study design and statistical analysis; R Caetano designed the study, secured the funding, and provided critical reviews and editing.

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public insurance coverage and treatment use. This relationship was not statistically significant in 1991–92 but was significant and positive in 2001–02, although the effect of this change on treatment use was small.

**Conclusions**—Use of alcohol treatment in the U.S. may be affected by a number of factors, such as trends in public knowledge about treatment, social pressures to reduce drinking, and changes in the public financing of treatment.

### Keywords

alcohol treatment utilization; national trends; perceived barriers to treatment; predictors of treatment use

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## 1. INTRODUCTION

In 1991–92 and 2001–02, respectively, 7.4 and 8.5 percent of the U.S. population were reported to have an alcohol use disorder (AUD; Grant and Dawson, 1999; Hasin et al., 2007). Most of these individuals never seek treatment or delay seeking treatment for many years (Cohen et al., 2007; Grant, 1997). On top of that, over this 10-year time period, there was a marked reduction in treatment use for White, Black, and Hispanic individuals with AUD (Chartier and Caetano, 2011). These 10-years, therefore, may offer important information about the factors that inhibit or facilitate help seeking for alcohol problems. We sought to describe the changes in factors predicting treatment use between these years, using data from the National Longitudinal Alcohol Epidemiologic Survey (NLAES) and the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). The current analysis focused on these same ethnic groups for consistency between studies in seeking potential explanations for the reduction. Socio-demographic characteristics (e.g., ethnicity and gender), public beliefs and knowledge about alcohol problems, financial resources, and comorbid psychiatric disorders are associated with treatment use in the U.S. population (Cohen et al., 2007; Grant, 1997; Kaskutas et al., 1997; Schmidt et al., 2007). Some temporal trends related to these factors were observed during the time period for these surveys. We start with a review of studies that documented these trends in order to inform the current analysis.

### 1.1 Stigma and social pressures for treatment

The U.S. general public tends to view alcoholism as a moral issue, resulting in the stigmatization and social marginalization of those who are affected (Room, 2005). The public has become more cognizant of the biological causes of psychological disorders including alcohol-related problems. Although, despite this, the prevalence of stigma and community rejection related to such conditions remains high (Pescosolido et al., 2010). Social pressures to stop drinking reportedly intensified during the 1980s and 1990s in association with the national war on drugs and drunk-driving campaigns (Schmidt and Weisner, 1993; Weisner and Schmidt, 2001). However, Korcha et al.'s (2013) analysis of national data identified an overall decline, including from 1990 to 2000, in pressures to decrease drinking from a spouse/partner, family and friends, physician, work, or the police in those seeking treatment.

## 1.2 Resources for treatment: Insurance and income

Prior to 1990, a movement to deregulate and privatize health services shifted the majority of Americans into private insurance plans (Schmidt and Weisner, 1993). State mandates sought to guarantee alcohol treatment coverage by insurance plans; however, efforts during the 1990s to contain healthcare costs saw the implementation of managed care techniques to cut spending in private insurance companies and later public programs (Steenrod et al., 2001). Coverage of alcohol treatment programs diminished, with the majority of remaining costs delegated to government programs (Cartwright and Solano, 2003; Mark et al., 2007). These government funds for alcohol treatment improve access to care for those with lower incomes. However, income is still a useful predictor when analyzing treatment utilization due to the hefty indirect costs of treatment, such as childcare, transportation, and lost work time. The 1990s was a time of strong economic growth in the U.S. Overall, households experienced a 14.7% increase in income from 1993 to 2000, with White households experiencing a 14.2% increase and Black and Hispanic households experiencing larger gains, i.e., 32.5% and 24.3%, respectively (U.S. Census Bureau, 2001).

## 1.3 U.S. rates of drug use and major depression

Drug use disorders, particularly tobacco and marijuana use disorders, are the most common comorbid psychiatric disorders among those with an AUD (Stinson et al., 2005). Based on NLAES and NESARC data, Compton et al. (2004) reported an increased prevalence of marijuana use disorders in the U.S. Treatment admissions for marijuana abuse increased, based on a 1992–2002 Treatment Episode Data Set, as well as admissions for opiates, non-prescription opiates, and stimulants (Substance Abuse and Mental Health Services Administration, 2004). Non-medical prescription drug use increased during this time period (Blanco et al., 2007). The U.S. prevalence of prescription drug use in 2001–02 was 8% among those with past-year alcohol abuse and 22% for past-year alcohol dependence (McCabe et al., 2006). Additionally, individuals with comorbid alcohol use and mood disorders are more likely to seek alcohol treatment (Cohen et al., 2007; Kaufmann et al., 2014). According to investigators comparing the NLAES and NESARC, the rate of past-year major depressive episodes increased from about 3 to 7% (Compton et al., 2006). Other psychiatric comorbidities are associated with increased alcohol treatment use (e.g., personality and anxiety disorders) (Cohen et al., 2007; Kaufmann et al., 2014), but changes in their prevalence rates in the general population were not observed during this period.

## 1.4 Study hypotheses

The aforementioned social, economic, and health changes during the 1990's lay a foundation to formulate hypotheses for this study. We hypothesized that the relationship of stigma as a barrier to treatment would remain consistent over the 10 years, while social pressures as a facilitator to seek treatment would be reduced. Due to the shift from private to public spending as the primary funding source for alcohol treatment, we hypothesized that the relationship between public health insurance and treatment use would become more significant, while the opposite was expected of the relationship between private insurance and treatment. The observed rise in household income seemed substantial, and we expected the relationships between income and treatment use would become stronger during the 10-

year period by reducing financial barriers to treatment. Based on the reported increases in drug abuse and the prevalence of major depression during the 1990s, we expected an increased effect for these variables in predicting treatment use. Some of these hypothesized relationships will be tested by examining differences by survey year in perceived barriers to seeking help for alcohol problems, while others by examining a multivariate regression model with variables predicting treatment use. The identification of changes in the barriers and predictors of treatment use could offer explanations for fluctuations in the use of alcohol treatment services during this period, as well as identifying important targets for improving rates of help seeking.

## 2. METHODS

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) sponsored the 1991–92 NLAES and 2001–02 NESARC (Chen et al., 2006, Stinson et al., 1998). The U.S. Census Bureau conducted the fieldwork for both surveys using trained, face-to-face interviewers. A multistage stratified probability sampling method was used to select the samples. The overall response rate for the NLAES was 90% and for the NESARC was 81%. The samples were representative of the U.S. civilian, non-institutionalized adult (18 years of age and older) population.

### 2.1 Study samples

Subjects were selected who self-identified as non-Hispanic White, non-Hispanic Black, and Hispanic (NLAES  $n=40,707$ ; NESARC  $n=41,060$ ). *First*, we analyzed perceived barriers to treatment use for respondents who thought they should get help for their drinking, but failed to do so (NLAES  $n=1,072$ ; NESARC  $n=1,012$ ). These respondents were 4.13% (NLAES) and 4.11% (NESARC) of selected subjects who, in both surveys, answered positively to the question, “Was there ever a time when you thought you should see a doctor, counselor, or other health professional or seek any other help for your drinking, but didn’t go?” *Second*, we examined variables for predicting treatment use in an AUD subsample (NLAES  $n=2,860$ ; NESARC  $n=3,168$ ). These were respondents who had a positive 12-month DSM-IV alcohol abuse and/or dependence diagnosis and reported at least 12 alcoholic drinks in the past year.

### 2.2 Measures

**2.2.1 Perceived barriers**—For the first analysis, the reasons for not seeking help for alcohol problems were grouped into 3 categories based on Andersen’s health services utilization model (Aday and Andersen, 1974; Andersen, 1995). The model was used to conceptually organize the barriers and factors examined across the two analyses. Under the Andersen model, predisposing factors are sociodemographic characteristics and knowledge, attitudes, and beliefs about alcohol problems and treatment; enabling or restricting factors refer to individual, family, and community resources that influence the utilization of services; and need factors are defined by health status or the illness that necessitates the use of services, whether perceived or evaluated by a professional. 1) *Predisposing factors*, for the first analysis, were related to beliefs and fears about the stigma of alcoholism, privacy, and treatment (e.g., ‘too embarrassed to discuss it’; and ‘afraid of the treatment’). 2) The *Enabling/restricting* category was primarily logistical and social support factors (e.g.,

‘couldn’t afford to pay’; and ‘family member objected’). 3) *Need* was associated with subjects’ perceptions about the need for treatment (e.g., ‘thought problem wasn’t serious enough’). NESARC respondents were asked about several barriers that were not in the NLAES (e.g., ‘stopped drinking on my own’ and ‘health insurance didn’t cover it’). These were not included in the current study.

**2.2.2 Predictors of treatment utilization—*Predisposing characteristics*** for treatment utilization, in the second analysis, were ethnicity, gender, and age. Ethnicity was coded into two variables, comparing 1) Non-Hispanic Blacks and 2) Hispanics to Non-Hispanic Whites. Gender was coded (0 female; 1 male). Age was a continuous variable from 18 to 98 years. *Enabling/Restricting resources* were family income and health insurance coverage. Annual family income included 5 categories: 1) <\$15,000; 2) \$15,000 to <\$30,000; 3) \$30,000 to <\$50,000; 4) \$50,000 to <\$75,000; and 5) \$75,000 or more. Health insurance recognized two different types of coverage: 1) public insurance (i.e., Medicare, Medicaid, or military health care) and 2) private or employee-provided insurance. Both types were compared to no insurance coverage. *Need for alcohol treatment* was defined by past-year 1) alcohol problem severity, 2) major depressive disorder (0 no; 1 yes), and 3) drug use (0 no; 1 yes). Psychiatric diagnoses were determined by the Alcohol Use Disorder and Associated Disabilities Interview Schedule-DSM-IV Version (AUDADIS-IV). Alcohol severity summed (0–11) the number of DSM-IV alcohol abuse and dependence symptoms endorsed by a respondent in the past 12 months (Dawson et al., 2010). There was some variation between surveys in the measurement of the alcohol abuse and dependence (cf. Grant et al., 2004). The NLAES and NESARC included the same core questions to assess a major depressive episode (Compton et al., 2006). Both measures excluded cases associated with bereavement or physical illness, but the NLAES did not exclude cases due to the toxic effects of alcohol. Drug use included the use of sedatives, tranquilizers, opioids, stimulants, marijuana, cocaine/crack, or heroin in the past 12 months. The NLAES survey only collected drug use data from respondents whose lifetime use occurred 12 or more times. For comparability, the NESARC data were adjusted by recoding all respondents reporting drug use less than 12 times lifetime as non-users (0).

**2.2.3 Treatment utilization**—Any past-year alcohol treatment use was a dichotomous variable (0 no; 1 yes). In both surveys, respondents indicated whether they utilized services for help with alcohol problems (Chartier and Caetano, 2011). Services included for this study were 12-step meetings, alcohol/drug detoxification or rehabilitation programs, hospital or community mental health services, employment assistance programs, social services agencies, and help provided by a health professional (e.g., physician, psychiatrist, and social worker) or clergy.

### 2.3 Data analysis

Analyses were conducted using SUDAAN (Research Triangle Institute, 2008) and *Mplus* (Muthén and Muthén, 2012), which allowed for the use of sampling weights and corrected for the complex sampling designs used by the NLAES and NESARC. The  $\chi^2$  test of independence and the independent *t*-test examined survey differences (1991–92 versus 2001–02) on characteristics for the two subsamples. *For the first analysis*, the rates of



endorsement for each perceived treatment barrier by survey year were assessed using the  $\chi^2$  test of independence. *The second analysis* tested a multiple-group multivariate probit regression model to examine the moderating effect of 'survey year' on variables predicting past-year treatment use. The variance-adjusted weighted least squares (WLSMV) parameter was used for model estimation. To test for moderation, equality constraints were placed on the full model and then each predictor was independently allowed to vary in relationship treatment use across surveys. Variance for each relationship was tested by the  $\chi^2$  difference ( $\chi^2_D$ ) test. All bivariate tests, including the  $\chi^2_D$ , were adjusted for multiple testing using the false discovery rate (FDR) procedure at .05 (Benjamini and Hochberg, 1995); the variables in the multivariate regression model were assessed as statistically significant at  $p < .05$ .

### 3. RESULTS

#### 3.1 Characteristics for study samples

**3.1.1**—Those *respondents reporting barriers to treatment* in 1991–92 and 2001–02 were similar across the assessed characteristics, with some exceptions (Table 1). In 1991–92, respondents were younger, had lower incomes, and reported lower rates of past-year major depression compared to 2001–02.

**3.1.2**—*Respondents with AUD* in 1991–92 and 2001–02 varied on some study variables. They were older and had higher incomes (i.e., higher percentages of \$50,000 or higher and a lower percentage less than \$15,000) in 2001–02 compared to 1991–92. While rates of major depression increased over the 10 years, respondents' mean level of alcohol severity and treatment use decreased.

#### 3.2 Reasons for not seeking help for alcohol problems

The perceived barriers in Table 2 are ranked, from 1 to 21, according to their rate of endorsement in the combined surveys sample. The most commonly endorsed reasons for not seeking help were related to respondents' (lack of) perception of treatment need. Barriers related to 1) predisposing beliefs and fears about treatment and 2) perceptions about treatment need generally increased over the 10-years. Respondents in 2001–02 were more likely to report that they did not seek treatment because they: 1) didn't think anyone could help; 2) were too embarrassed; 3) hated answering personal questions; 4) were afraid of being put in the hospital; 5) were afraid of treatment; 6) thought the problem would get better by itself; 7) thought they should be strong enough to handle it alone; and 8) didn't think help was necessary despite family requests. As listed here, reasons 1–5 were conceptualized as predisposing factors and reasons 6–8 were need factors. Respondents were more likely to endorse one enabling/restricting barrier in 2001–02 compared to 1991–92, i.e., lack of transportation.

#### 3.3 Factors predicting treatment use in AUD respondents

Table 3 presents the unstandardized coefficient estimates and  $p$ -values for all variables in the multivariate regression model. Across survey years, most relationships were stable. The predisposing variable, age was positively and significantly associated with past-year treatment use. Major depression and alcohol severity, both need variables, were also

positively associated with treatment use. Other predisposing and need factors were not significantly associated after accounting for the relationships of other variables in the model. One enabling/restricting variable showed variance by survey year,  $\chi^2_{D(1)}=7.21$ ,  $p=.007$ . The relationship between public insurance coverage and alcohol treatment use was stronger and positive in 2001–02 compared to being negative and non-significant in 1991–92. To quantify the strength of this effect, we calculated the probability of treatment use based on having public insurance compared to no insurance (Muthén and Muthén, 2012). The increased probability was small, from 0.5% in 1991–92 to 0.6% in 2001–02. The other two enabling/restricting variables were stable across the years and non-significant in the model.

## 4. DISCUSSION

This study examined changes from 1991–92 to 2001–02 in the factors associated with help seeking for alcohol problems in a U.S. population sample. The aim was to test hypotheses informed by social, economic, and health trends for this time period to help understand the decreased rates of treatment use previously reported by Chartier and Caetano (2011) and potentially identify actionable targets for improving treatment use. Our first analysis showed that predisposing barriers to treatment (i.e., negative beliefs and fears) and barriers related to a low perceived need for treatment increased over the 10 years. The primary result from our second analysis was a change in the relationship between public insurance coverage and treatment use. These findings and our hypotheses, as well as their implications are considered below.

### 4.1 Perceived barriers to treatment

As hypothesized, the perception that others stigmatize alcohol problems (i.e., public stigma; measured by ‘being afraid of what others would think’) did not change over the 10-year period. Conversely, being too embarrassed to discuss an alcohol problem represents self-stigma and this barrier increased significantly across survey years. This increase could be linked to higher rates of major depression for this subsample in 2001–02 versus 1991–92 (20 and 12%, respectively); Schomerus et al. (2011) reported a positive relationship between depressive symptoms and self-stigma in alcoholics. Stigmatization has consistently been linked to treatment usage (Keyes et al., 2010; Wallhed-Finn et al., 2014). Keyes et al. (2010) examined perceived stigmatization of alcoholism in adults with AUD from the 2004–05 NESARC. Individuals with higher perceptions of stigma were less likely to use alcohol services and Blacks and Hispanics compared to Whites had higher perceptions of stigma. Based on the NLAES, Grant (1997) reported lower self-stigma for Blacks than non-Blacks. These two studies are not entirely comparable, but could suggest a larger increase in stigma for ethnic minorities over this period.

Predisposing barriers related to respondents’ uncertainty about the treatment system or inadequate knowledge of treatment options also increased. Respondents’ fear of hospitalization and treatment as well as responses that subjects ‘didn’t think anyone could help’ suggest that they were unaware of the range of treatments available. This finding is consistent with Wallhed-Finn et al. (2014) who found a similar lack of knowledge of the range of successful interventions among mild to moderate alcohol dependent persons. These



results may identify the need for increased public education not only on the consequences of alcohol abuse but also the range of successful interventions.

The lack of perceived need for treatment, which represented 4 of the 5 top reported barriers, increased during the decade according to our findings. This could be evidence of reduced social pressures to curb alcohol consumption (Polcin et al., 2012) as well as affirmation of a decline in social pressures associated with help seeking (Korcha et al., 2013). Polcin et al. (2012) reported an association between having more resources (e.g., higher education and income) and receiving less pressure to change drinking. This corresponds with the 10-year increase in income observed for our respondents. The growing effort to incorporate brief interventions, including motivational interviewing, in general medical care is one possible avenue to improve perception of need and treatment utilization (Dawson et al., 2012; Jakupcak et al., 2013).

Contrary to our hypothesis, the rise in U.S. incomes during the study period (U.S. Census Bureau, 2001) was not reflected in a reduction of perceived treatment barriers linked to income. The barrier ‘couldn’t afford to pay’ was stable over the 10 years with 12 to 13% reporting. Furthermore, there was an increase in the percentage of respondents reporting transportation as a barrier to treatment. This may be because, while U.S. incomes increased overall, incomes for Hispanic and Black families remained proportionally lower relative to family incomes for Whites during the period (DeNavas-Walt et al., 2001). This was not formally tested in the current study, but Grant (1997) and Schmidt et al. (2007) previously reported more logistical barriers to treatment related to paying for Blacks and Hispanics. The 10-year rise in income could also have been offset by changes in inflation between 1992 and 2002; the dollar in 2002 had lower buying power than in 1992 (U.S. Bureau of Labor Statistics, 2015). Alternatively, the increased prevalence of major depression may have offset the rise in income. Individuals diagnosed with AUD and a comorbid mood or anxiety disorder are more likely than those diagnosed with AUD only to experience financial treatment barriers (Kaufmann et al., 2014).

## 4.2 Predictors of Treatment Utilization

We also examined the relationship of income to treatment use in our second analysis, and similarly found no support for our hypothesis. This relationship was invariant and non-significant in predicting treatment use, after accounting for other variables in the model. It seems likely that income, while important, is less predictive than treatment need for alcohol treatment use. Cohen, et al. (2007), in a U.S. sample of individuals with an AUD, found income significant in predicting treatment use; however, this analysis did not account for the severity of alcohol problems. The current study showed that alcohol severity was stable by survey year, and a significant predictor of treatment use.

We expected, over the 10 years, that the relationship between public insurance and treatment use would strengthen, while the relationship with private insurance would weaken. We found support for the first half of this hypothesis, although the strength of this effect from 1991–92 to 2001–02 was small. The second half of this hypothesis was not supported. Our measure of insurance coverage may not have adequately assessed the changes in private insurance that relate to alcohol treatment use at this time, which included the implementation of managed

care techniques (Steenrod et al., 2001). For public insurance, Cartwright and Solano (2003) provide data that validate the increased dependence on public funding for substance abuse treatment between 1987 and 1997. This included public insurance as well as federal block grants and state and local grant programs. During the study years public financing of treatment increased by 9.3% compared to 5.0% for private funding. Fully, 62.4% of substance abuse treatment in 1997 was funded by the public sector and 25.3% by public insurance programs. However, this growth in public funding was not sufficient to meet the U.S. population's treatment need (Cartwright and Solano, 2003). This could help explain why this strengthened relationship was small and paralleled by reductions in treatment use (Chartier and Caetano, 2011).

The relationships for drug use and major depression with treatment utilization did not increase over the 10 years, as hypothesized. This could be because increased rates of drug use were not well linked to alcohol treatment use; drug use was not significantly associated with treatment use in this model with other variables. Compton et al. (2006, 2004) reported that increased rates of marijuana use disorders were of smaller magnitude than the higher rates observed for major depression during this time. However, the role of major depression in treatment utilization was also not changed over the study period. Major depression was significantly and positively associated with treatment use. This is not surprising; Kaufmann et al. (2014) showed that having an AUD comorbid with a mood or anxiety disorder, compared to an AUD alone, was associated with a greater likelihood of seeking alcohol treatment. Possibly the hypothesized relationship between major depression (more common in women than men) and treatment use would be more evident if examined in women separately. In considering the findings from the two analyses together, it might alternatively be that the perceived need for treatment is more amendable to change than diagnosed treatment need (i.e., major depression and alcohol severity), which supports established work by Andersen (1995).

This study's findings should be considered with respect to several strengths and limitations. The NLAES-NESARC datasets provided significant statistical power for the current analyses. Levels of statistical significance were adjusted for multiple comparisons; this reduced, but may not have eliminated the possibility that some findings occurred by chance. Adjustments were made to improve the comparability between surveys, but it is possible that some findings reflected sample or measurement differences. We did not use an inflation adjusted measure of income; this may have limited our assessment of the relationship between income and treatment use. Our analyses were also limited by the measures available in the NLAES and NESARC. Some perceived barriers to treatment were only available in the NESARC and some predictors of treatment use were not available in either dataset. For example, alcohol-related consequences (e.g., problems with police, traffic accidents, and employment problems) are recognized as important contributory factors for treatment use (Weisner and Schmidt, 2001). Findings generated from the use of these surveys could be generalized to the U.S. population of Whites, Blacks, and Hispanics, but may not be applicable to excluded groups. We tested a combined 'any treatment use' variable, and findings may be less applicable to some types of services (e.g., 12-step meetings). And, while, using these datasets allowed us to effectively place our findings into the context of other trend studies from this time period (that are not yet available for newer datasets), the

changes we described may be different than current issues. However, some findings from this study appear actionable regardless of time period. Predisposing beliefs and fears about stigma and treatment and the lack of perceived need for treatment were amendable to change. Public education and related efforts require large initiatives and resources, but these factors represent potentially worthwhile targets to increase help seeking among individuals with alcohol problems.

In conclusion, this 10-year study observed increased barriers to treatment related to beliefs about stigma, treatment knowledge, and perceived need; these changes correspond with a reduction in treatment use for individuals with AUD for the same time period. Changes in the relationship between public insurance coverage and treatment use could reflect policy shifts in the financing of alcohol treatment at this time. These identified changes may be explained by the trends observed during the study period in social pressures to stop drinking and public funding for treatment services.

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**Highlights**

- Barriers to alcohol treatment use increased from 1991–92 to 2001–02.
- Increased barriers related to beliefs about stigma, treatment knowledge, and perceived need.
- Public insurance had a stronger relationship with treatment use at the end of the 10 years.



Table 1

Characteristics of the subjects in the two study samples

	Respondents reporting barriers to treatment			Alcohol use disorder sample		
	1991-92 N = 1,072	2001-02 N = 1,012	P	1991-92 N = 2,860	2001-02 N = 3,168	P
Mean age	38.64 (0.43)	42.87 (0.48)	<.001	31.64 (0.30)	34.86 (0.30)	<.001
Male gender	70.00 (1.59)	68.80 (1.75)	.617	71.97 (0.94)	70.26 (0.97)	.213
Ethnicity			.509			
White	83.66 (1.37)	80.91 (2.03)		82.60 (0.96)	78.98 (1.64)	.173
Black	9.11 (0.94)	9.71 (0.98)		8.42 (0.67)	9.52 (0.68)	
Hispanic	7.24 (1.06)	9.39 (1.56)		8.99 (0.72)	11.50 (1.53)	
Income			<.001			<.001
< \$15,000	31.99 (1.74)	17.71 (1.66)		31.14 (1.31)	17.82 (0.95)	
\$15,000 to < \$30,000	23.70 (1.54)	21.55 (1.59)		25.46 (1.03)	20.56 (0.89)	
\$30,000 to < \$50,000	23.90 (1.58)	25.81 (1.80)		22.15 (0.93)	22.75 (0.92)	
\$50,000 to < \$75,000	11.93 (1.21)	19.93 (1.71)		11.01 (0.70)	20.22 (0.85)	
\$75,000 +	8.47 (1.01)	15.00 (1.53)		10.23 (0.72)	18.64 (1.11)	
Health insurance coverage			.057			.472
Public	18.38 (1.28)	22.76 (1.43)		10.52 (0.66)	11.49 (0.69)	
Private	58.23 (1.87)	52.89 (1.97)		64.47 (1.05)	62.82 (1.20)	
Neither	23.39 (1.62)	24.36 (1.70)		25.00 (1.01)	25.69 (1.15)	
Drug use in past year	19.50 (1.49)	22.65 (1.72)	.174	27.84 (1.04)	24.66 (1.04)	.029
Major depression	12.16 (1.09)	20.17 (1.79)	<.001	9.40 (0.66)	13.97 (0.76)	<.001
Mean alcohol severity	2.22 (0.11)	2.21 (0.13)	.957	3.88 (0.05)	3.35 (0.06)	<.001
Past-year treatment use	29.02 (1.56)	24.48 (1.66)	.052	9.91 (0.68)	6.88 (0.51)	<.001

Notes: % Percentage or Mean (Standard Error); significant *p*-values after FDR adjustment are in boldface; 1991-92 = NLAES; 2001-02 = NESARC.

**Table 2**

Perceived barriers to treatment for alcohol problems by survey year

	Rank*	1991–1992 <i>n</i> = 1,072	2001–2002 <i>n</i> = 1,012	<i>p</i>
<u>Predisposing</u>				
Didn't think anyone could help	7	9.11 (1.06)	14.15 (1.25)	<b>.003</b>
Too embarrassed to discuss it	4	11.06 (1.13)	18.57 (1.75)	<b>&lt;.001</b>
Afraid of what others would think	11	7.26 (0.95)	7.82 (1.08)	.699
Hated answering personal questions	9	4.31 (0.70)	10.97 (1.40)	<b>&lt;.001</b>
Afraid would be put into the hospital	12	4.14 (0.69)	8.90 (1.25)	<b>.002</b>
Afraid of the treatment	13	4.19 (0.64)	8.35 (1.20)	<b>.003</b>
<u>Enabling/Restricting</u>				
Couldn't afford to pay	6	11.91 (1.23)	13.20 (1.35)	.493
Didn't know any place to go for help	14	5.16 (0.75)	7.51 (0.99)	.061
Didn't have a way to get there	16	0.62 (0.20)	3.71 (0.63)	<b>&lt;.001</b>
Didn't have time	10	7.30 (1.15)	8.29 (1.16)	.543
Had to wait too long	18	0.64 (0.22)	1.21 (0.39)	.211
Inconvenient hours	17	1.23 (0.35)	2.75 (0.55)	.024
Can't speak English well	21	00.0 (0.00)	0.18 (0.09)	.060
Couldn't arrange child care	20	0.45 (0.18)	0.35 (0.17)	.681
Family member objected	19	0.60 (0.26)	0.94 (0.31)	.417
Afraid would lose job	15	2.05 (0.45)	2.79 (0.72)	.388
<u>Need</u>				
Thought problem wasn't serious enough	3	24.64 (1.67)	20.66 (1.49)	.081
Thought the problem would get better by itself	2	20.04 (1.66)	32.90 (1.97)	<b>&lt;.001</b>
Thought should be strong enough to handle it alone	1	29.84 (1.80)	41.37 (1.95)	<b>&lt;.001</b>
Didn't think it was necessary (despite family requests)	8	4.57 (0.81)	11.09 (1.29)	<b>&lt;.001</b>
Wanted to keep drinking	5	12.78 (1.28)	15.83 (1.37)	.109

Notes:

\* According to the rate of endorsement in the combined NLAES-NESARC sample; % Percentage (Standard Error); significant *p*-values after FDR adjustment are in boldface; 1991–92 = NLAES; 2001–02 = NESARC.

**Table 3**

Multivariate model predicting past-year treatment use and variance by survey year

	<u>Unstandardized coefficients (SE)</u>		<i>p</i>
	<b>1991–92</b> <i>N</i> = 2,785	<b>2001–02</b> <i>N</i> = 3,162	
<u>Predisposing</u>			
Age	0.010 (0.003)		< .001
Gender	0.123 (0.072)		.085
Black ethnicity	0.004 (0.085)		.958
Hispanic ethnicity	–0.051 (0.096)		.599
<u>Enabling/restricting</u>			
Income	–0.052 (0.028)		.062
Public insurance	–0.021 (0.124)	0.489 (0.144)	.868 <b>.001</b>
Private insurance	–0.056 (0.077)		.464
<u>Need</u>			
Major depression	0.186 (0.085)		<b>.029</b>
Drug use	0.113 (0.065)		.085
Alcohol severity	0.231 (0.013)		< <b>.001</b>

*Notes:* Unstandardized coefficients and *p*-values are presented; Separate cells indicate variance by survey year based on FDR adjusted chi-square difference test; Combined cells show invariant relationships; 1991–92 = NLAES; 2001–02 = NESARC.