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## Disparities in the Use and Quality of Alcohol Treatment Services and Some Proposed Solutions

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### Abstract

**Objective**—To assess racial/ethnic disparities in access to quality alcohol treatment services for risky drinking and alcohol problems in the United States, and to simulate strategies to narrow the gap.

**Methods**—Three-year longitudinal data from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) were analyzed to examine the receipt of alcohol interventions in primary care and specialty treatment settings, consistent with published clinical guidelines. We compared US racial/ethnic minority and non-minority adults who were at-risk drinkers or had alcohol problems at baseline ( $N=9116$ ). Simulation analyses projected how disparities in treatment services utilization might change if guidelines promoted care in more varied health and human service settings.

**Results**—Compared to whites, racial/ethnic minorities had two-thirds the odds of receiving an alcohol intervention over the three-year period (OR=0.62, 95%CI: 0.39–0.98). This disparity increased after adjusting for socioeconomic and clinical confounders (AOR=0.47, 95%CI: 0.28–0.80). The most pronounced disparities were observed among U.S.-born and foreign-born Hispanics (vs. whites). Simulation analyses suggested that these disparities could be partially mitigated by extending care to non-medical service venues.

**Conclusions**—Given limited capacity and barriers to using specialized addiction programs, current efforts to extend evidence-based alcohol interventions into medical settings address an important need. In doing so, however, racial/ethnic disparities in access to high-quality treatment are likely to increase. Partial solutions may be found in expanding the range and quality of alcohol-related services provided in alternative delivery sites, including faith-based and social service institutions.

### INTRODUCTION

Although excessive alcohol consumption is the third leading cause of preventable death in the United States (1), only 11 percent of the 17.9 million Americans with an alcohol use disorder will receive treatment during any given year (2). Those that do will, on average, receive care 20 years following the onset of heavy drinking (3). There is thus a need for early intervention with the vast number of heavy drinkers in the general population at risk for severe alcohol problems, morbidity and mortality.

One reason for the large gap between those needing and receiving formal treatment is that very few people with an alcohol disorder think they should seek professional help (4). Another is that the demand for treatment far outstrips the supply. Even among the nation's model addiction programs, patients are often wait-listed for 17–28 days (5, 6), and a long wait-list can result in a 50% drop-out rate before patients are even able to start treatment (7).

Both the lack of perceived need for treatment and the critical shortage of treatment slots are driving the current thrust of federal health policy to expand alcohol treatment beyond specialized settings and into mainstream medical care, particularly primary care (8–10). Backed by extensive data supporting the efficacy of primary care-based alcohol screening and brief intervention (11–15), the 2009 Patient Protection and Affordable Care Act (H.R. 3590 –111<sup>th</sup> Congress) includes provisions to integrate evidence-based alcohol intervention within patient-centered medical homes, and the 2008 Mental Health and Addiction Parity Act (H.R. 6983—110<sup>th</sup> Congress) requires that health plans cover alcohol treatment services at benefit levels commensurate with other medical services (16, 17). Further, private insurers, Medicaid and Medicare have developed billing codes that reimburse primary care providers for delivering alcohol interventions (18, 19).

While these efforts hold promise for reducing the alcohol-related health burden in the overall population, they also raise some question as to what impact this might have on existing disparities in alcohol problems. With the exception of some Asian American subgroups, US racial/ethnic minorities are at greater risk for alcohol dependence symptoms, negative drinking consequences and alcohol-related morbidity and mortality compared to whites (20–23). This might partly reflect racial disparities in substance use treatment access and utilization, but evidence of such disparities is modest, and even mixed (24–28).

There may be several reasons for this, one having to do with coercion into treatment. Racial/ethnic minorities are more likely than whites to be mandated to addiction treatment by the criminal justice system, and this can have the effect of reducing disparities in treatment use (29, 30). Another reason may be that treatment studies tend to focus only on the tip of the iceberg—people with severe and diagnosable alcohol problems who are likely to experience serious personal troubles because of their drinking, and to be pressured by spouses/partners, family and friends to seek help. Both can be strong motivators of treatment seeking (31, 32), and perhaps more so for racial/ethnic minorities who are more likely to experience tangible consequences due to their drinking. Finally, health insurance coverage appears to play a lesser role in determining use of addiction treatment than it does for other health-related services, possibly because specialty treatment is largely subsidized by public funding (33, 34).

Importantly, these mechanisms that increase access and use of specialized treatment by racial/ethnic minorities might not apply to alcohol services in medical settings. Indeed, minorities may be less likely to access evidence-based treatment in primary care because of the lack of health insurance (35). Also, because medically-based alcohol screening and brief intervention is largely intended for at-risk and non-dependent drinkers to prevent severe alcohol problems (8), legal coercion and social pressuring into these interventions seem less likely.

In our prior study it was observed that African Americans and Hispanics with risky drinking and alcohol use disorders were less likely to obtain primary care services than comparable whites (36) (Native Americans and Asians were excluded from those analyses due to small numbers). From this it followed that a national effort to expand treatment through evidence-based alcohol interventions in primary care could introduce sizeable racial differences in access to high-quality treatment services, and ultimately increase the burden of alcohol problems among minorities. The current study pursues this possibility further by examining disparities in the receipt of alcohol services. Here we conduct a stronger test of this hypothesis by using longitudinal data to model the actual receipt of an alcohol intervention from primary care and specialty programs over a three-year timeframe. We also examine how disparities in treatment receipt might be mitigated by expanding evidence-based alcohol intervention into alternative, non-medical venues such as churches, social services and family counseling agencies.

## Methods

This analysis uses data from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), a nationally representative, longitudinal survey of U.S. adults residing in household and non-institutional group quarters. Wave 1 data were collected in 2001–2 from 43,093 respondents, and Wave 2 data were collected from 34,653 respondents in 2004–5, with a follow-up rate of 86.7% and a mean interval of roughly 3 years (36.6 months) between the two waves. The survey was administered through face-to-face, computer-assisted interviews. Approximately 16% of Hispanic respondents were interviewed in Spanish (37). (Additional information on the study's design is provided by Grant and colleagues (38)). The current study analyzed data from the subset of respondents who met criteria for at-risk drinking or alcohol abuse at Wave 1 ( $N=9116$ ). Alcohol dependent drinkers were excluded because the policy we focus on here—expanding treatment services by instituting alcohol screening and intervention in primary care—is not well-suited to treating dependent drinkers (8, 39). Given our concern with potential disparities in access to quality alcohol services, the analysis was restricted to non-dependent drinkers for whom these interventions have demonstrated effectiveness. The prospective, longitudinal design is an improvement over the more common approach of assessing lifetime treatment utilization, as the latter precludes assessment of temporal ordering and can mask long delays in obtaining treatment.

Following guidelines of the National Institute on Alcohol Abuse and Alcoholism (NIAAA), at-risk drinkers were defined as men who consumed more than 4 drinks in a day or more than 14 drinks in a week, and women who consumed more than 3 drinks in a day or more than 7 drinks in a week during the 12 months prior to baseline (8). Alcohol abuse was defined as the presence of at least one of four diagnostic criteria during the 12 months prior to baseline, including hazardous alcohol use, social problems, legal problems, or failure to fulfill important roles due to one's drinking (40), and was assessed using NIAAA's Alcohol Use Disorder and Associated Disabilities Interview Schedule-DSM-IV (AUDADIS-IV).

## Measures

The key outcome was whether the respondent received an alcohol intervention during the 12 months prior to baseline and/or at any time during the three-year follow-up period. Our outcome measure was informed by NIAAA guidelines designed to promote best practices in screening, brief intervention, and referral to specialty treatment of people who are at-risk drinkers or have an alcohol use disorder (8). Respondents were coded as receiving an alcohol intervention if they received services for their drinking from a physician or mental health clinician (i.e., “a doctor, psychiatrist, psychologist, social worker”) or a specialty treatment program (detoxification, outpatient, inpatient, rehabilitation facility, or therapeutic community/halfway house), the two recommended sources of alcohol treatment services. Alcohol-related services received in alternative settings (i.e., Alcoholics Anonymous, family services/social service agency, emergency department, crisis center, employee assistance program, and from clergy) were also examined in separate analyses.

Racial/ethnic groups were categorized as non-Hispanic white, non-Hispanic black, foreign-born Hispanic, US-born Hispanic, Asian American/Pacific Islander, and Native American. Due to limited *N*, racial/ethnic minority groups were pooled in multivariate analyses. Selection of baseline covariates was informed by the extant literature and preliminary analyses indicating significant, bivariate associations with minority status and/or the key outcome. Final models adjusted for sex, age, education, income, health insurance, any prior lifetime alcohol treatment, and severity of need for alcohol intervention, including frequency of heavy drinking (defined as 5+/4+ drinks in a day for men/women) and negative consequences of drinking (interpersonal, legal, and/or role-related problems).

## Analysis

Racial/ethnic group differences in demographic characteristics and severity of need at Wave 1 were assessed using chi-square tests and t-tests. To assess racial disparities in the receipt of an alcohol intervention, prospective analyses were conducted using logistic regression models adjusting for covariates. To assess whether expanding alcohol interventions into alternative service venues could potentially reduce racial disparities, logistic regression was used to estimate racial differences in services received from an expanded array of settings, including federally recommended clinical providers and specialty settings, as well as non-medical venues where study participants reported receiving alcohol counseling. STATA version 10 was used in all analyses to account for the complex survey design (41).

## Results

Table 1 shows the characteristics of the sample of at-risk drinkers and persons with alcohol abuse. Racial/ethnic minorities constitute 23% of the overall sample, with African Americans comprising roughly one-third of the minority sample, and US-born and immigrant Hispanics each comprising one-fourth. Asian Pacific Islanders (APIs) and Native Americans each make up an additional 9%. Compared to whites, minorities were more likely to be male, younger, of lower socioeconomic status, and without health insurance. Minority respondents were also more likely than whites to drink heavily on a weekly basis

or more often, and were two times more likely to experience negative drinking consequences.

Despite indications of greater need for alcohol services, racial/ethnic minorities as a group were less likely to receive an alcohol intervention during the study period (see Table 1). Compared to whites, they had less than two-thirds the odds of receiving care (OR= 0.62,  $p<.05$ ) (see Figure 1). African Americans and Asian/Pacific Islanders (APIs) both had lower odds relative to whites, although these were not statistically significant, and striking disparities were seen between Hispanics and whites (ORs = 0.38 and 0.13 for US-born and foreign-born Hispanics, respectively,  $p<.05$ ). By contrast, Native Americans had nearly two times the odds of receiving an alcohol intervention compared to whites (OR=1.96), but this was non-significant due to their small numbers.

Table 2 shows minority-white differences in the odds of receiving an alcohol intervention. In all cases, the minority-white disparity not only persisted but increased when we took into account group differences in demographic characteristics, severity of need for treatment, and prior treatment history (adjusted ORs ranged from 0.43 to 0.52, all  $p$ 's<.01).

### Alternative Venues for Alcohol Intervention

Given these disparities in services utilization, an important question for policymakers is whether evidence-based alcohol interventions should be extended beyond primary care to alternative settings, and whether doing so might help to reduce these disparities. Figure 2 shows alternative providers of alcohol counseling. Not surprisingly, Alcoholics Anonymous (AA) was by far the most commonly reported venue among white and minority drinkers. But because AA serves persons with severe alcohol problems who are already trying to become clean and sober, it is more appropriate as a complement to primary care-based intervention and specialty treatment rather than as an alternative site for screening and brief intervention (42, 43). Social service programs and clergy were the next most common sources of alcohol counseling. Racial/ethnic minorities were four times more likely than whites to receive alcohol counseling from clergy (16.1% vs 4.6%,  $p<.05$ ). Additionally, 1–2% of minorities and 3–7% of whites received counseling from each of the following three sources: emergency departments, employee assistance programs, and crisis centers.

Table 3 presents the results of our analysis simulating the effects of expanding evidence-based alcohol intervention into these alternative settings (other than AA). While the estimated disparity in the receipt of an alcohol intervention changed very little for most groups, there was a 39% reduction in the disparity between US-born Hispanics and whites, from AOR=0.38 (0.15–0.96) to AOR=0.53 (0.26–1.09). U.S.-born Hispanics still have lower odds of obtaining care than whites, but the difference is no longer statistically significant.

### Discussion

In this study we considered what the widespread provision of evidence-based alcohol intervention in medical settings, especially primary care, might mean for racial/ethnic disparities in access to high-quality alcohol services. Results show that over a three-year

period, racial/ethnic minorities as a group had roughly half the odds of receiving an alcohol intervention from primary care providers and/or specialty treatment programs compared to whites. This suggests that federal efforts to promote routine alcohol screening and intervention in primary care might not benefit racial/ethnic groups equally. Indeed, such efforts could have the unintended consequence of increasing disparities in access to quality treatment and, ultimately, exacerbating disparities in alcohol problems.

The most striking disparity was observed between whites and US- and foreign-born Hispanics, consistent with the results of our previous study based on the US National Alcohol Survey indicating that Hispanic at-risk and problem drinkers were far less likely to obtain primary care (36). Notably, Hispanics have some of the highest rates of heavy drinking and alcohol dependence, and low rates of dependence remission (44–47). Ensuring that they have access to high-quality early intervention is therefore important, especially for US-born Hispanics whose rates of alcohol disorder significantly exceed those of immigrant Hispanics (37, 48, 49).

While most efforts have focused on providing alcohol services in primary care settings, there is growing interest in a wider range of venues ranging from hospital emergency departments and hospital wards, to the criminal justice system and college settings (50). Our study results highlight the need to consider still other settings. Specifically, when our simulation analysis redefined the study outcome as the receipt of an alcohol intervention in primary care, specialty treatment *or non-medical service setting*, the disparity between US-born Hispanics and whites was reduced and no longer statistically significant.

Special consideration should be given to the role that social and family service agencies and clergy or faith-based organizations might play in promoting, linking and providing evidence-based alcohol interventions to minority communities, as these were common sources of alcohol counseling among minorities. Faith-based organizations have a long history of serving disadvantaged communities (51, 52), and churches have become increasingly involved in health promotion and intervention in African American and Latino communities (53). Their commitment to improving the welfare of their communities, and the trust and respect with which faith-based institutions are often held (54), may be critical to linking underserved minority populations with high-quality alcohol interventions.

Reaching Hispanic immigrants might require special efforts in light of the formidable barriers they face, including lack of health insurance, fear of mistreatment, limited English proficiency and logistical issues related to transportation and child care (55–59). Some health and social service agencies have successfully partnered with local bicultural and bilingual organizations to engage Hispanic immigrants in mental and physical health programs. This has been achieved partly through community building, enrichment and social support activities that appeal to broader individual and family interests (60). Of note, the involvement of local, volunteer *promotoras de salud* has been vital to such efforts to increase services utilization by these communities.

Several study limitations should be considered when interpreting the results presented here. First, the very low rates of treatment utilization during the study period, combined with

relatively small samples of racial/ethnic minority subgroups, required that we pool minority groups in multivariate analyses. Such sample size issues are common to racial disparities research focused on treatment utilization and often motivate analyses of lifetime treatment use, which are associated with a different set of limitations as noted earlier. Another limitation was the lack of data on the respondent's primary language and language of interview, which precluded analysis of Hispanic subgroup differences by language. Spanish-speaking Hispanics are far less likely than English-speaking Hispanics to access health care services generally (61). Interestingly, a recent study found that Spanish language/Hispanic social group preference predicted lower mental health services use, but was unrelated to alcohol or drug treatment utilization (62). Third, the NESARC does not distinguish among primary care providers, in particular community health centers which are a key source of health care for low-income, and uninsured and underinsured racial/ethnic minority populations (63). To the extent that evidence-based alcohol screening and intervention is integrated into routine care at community health clinics, these settings hold promise for mitigating disparities in treatment access and quality. Funding provided to federally qualified community health centers through the Affordable Care Act (ACA) might be instrumental in this regard (64). Further, increased insurance coverage under the ACA might also reduce disparities in access to medically-based alcohol intervention. Yet this might depend upon the presence of community health centers and their implementation of quality alcohol interventions. Even among persons with health insurance, racial disparities in the use of substance use treatment and other mental health services have been significant given the absence of a neighborhood health clinic (65). Finally, as noted earlier, the present analysis included persons with diagnosable alcohol abuse but excluded those with dependence, as primary care-based alcohol intervention appears less effective for the latter group. With the change to the DSM-5, alcohol abuse and dependence will no longer be distinguished and thus it is unclear how our study findings will translate. But if lower utilization among minorities is fundamentally related to logistical, attitudinal, and social barriers to primary care, it seems likely that racial disparities will persist.

## CONCLUSIONS

It has recently been recognized that well-intentioned public health interventions might not benefit all segments of the general population, partly due to differential access to knowledge and health services (66–69). To offset the risk of unintended health disparities, policymakers must carefully consider whether innovations to improve health can be developed and disseminated in ways that increase, rather than detract from, health equity (70). The present study suggests that widespread implementation of evidence-based alcohol screening and intervention in primary care settings is another example of an innovation that can improve overall population health while also, potentially, exacerbating alcohol-related disparities. Efforts to adapt, link and disseminate these “state of the art” alcohol interventions to alternative, non-medical service settings, particularly those utilized by Hispanics, may be thus warranted.

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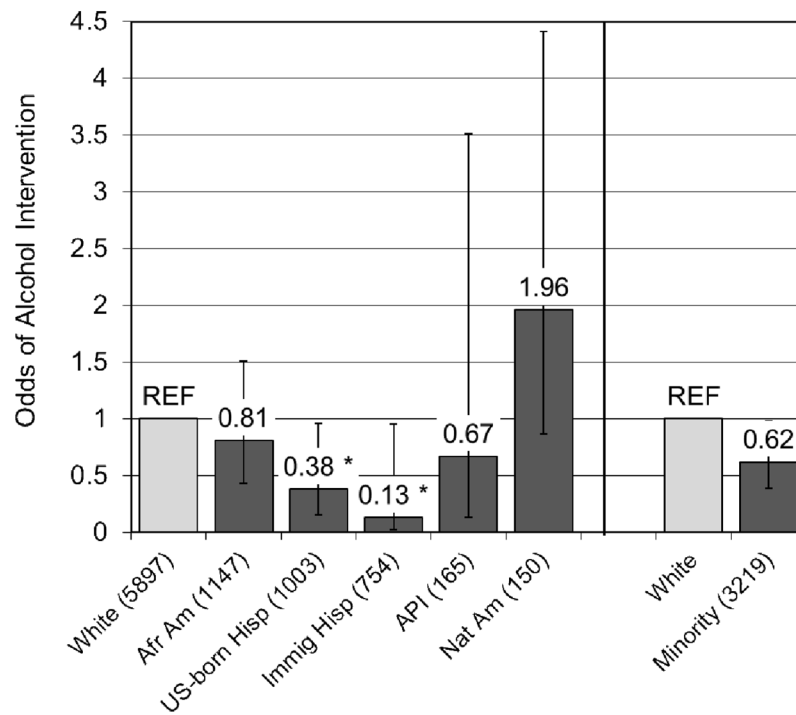
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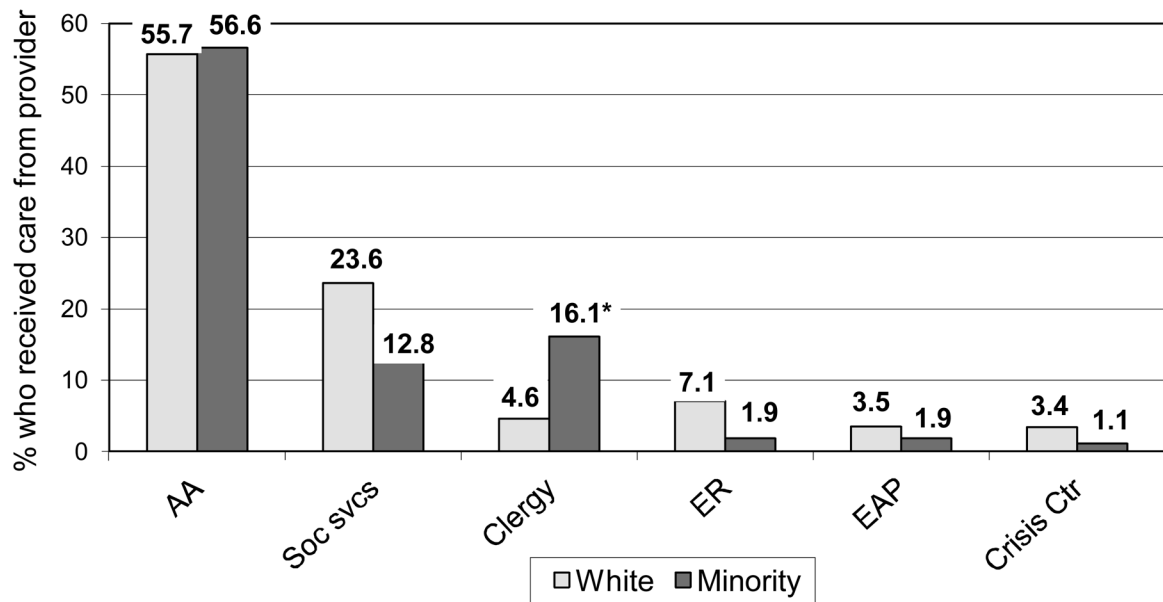
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**Figure 1. Racial/ethnic differences in the odds of receiving an alcohol intervention over 3 years (Reference group: white)**

*Note.* Unweighted N shown in parentheses. \*  $p < .05$



**Figure 2. Non-medical providers of alcohol counseling received by at-risk drinkers and persons with alcohol abuse who used any alcohol services over 3 years**

*Note.* AA, Alcoholics Anonymous or other 12-step program; ER, Emergency Room; EAP, Employee Assistance Program

\*  $p < .05$

**Table 1**

Sample Characteristics (NESARC Wave 1, 2001–2)

Variable	White (N=5,897)	Racial/ethnic minority (N=3,219)	F	df	p
	Wtd. %	Wtd. %			
<b>Demographics</b>					
Racial/ethnic minority subgroup	n/a				n/a
African American		32.1			
US-born Hispanic		25.1			
Immigrant Hispanic		25.1			
Native American		8.7			
Asian/Pacific Islander		8.9			
Male	58.1	66.2	32.7	1,65	<.001
Mean age ± SD	39.9 ± .2	35.4 ± .3	t = -11.6		<.001
Education			135.1	2,7,173.4	<.001
< HS grad	6.9	25.5			
HS grad	27.9	27.4			
Some college	35.0	31.2			
College grad +	30.2	15.9			
Income			102.8	2,9,186.4	<.001
<20k	15.4	31.1			
20–40k	23.8	30.1			
40–60k	20.2	17.7			
60k+	40.6	21.1			
Health Insurance			77.1	2,0,128.9	<.001
None	16.4	32.3			
Public	13.2	14.3			
Private	70.4	53.4			
<b>Severity of Need for Alcohol Intervention (at baseline)</b>					
At-risk drinker	97.2	96.2	5.09	1,65	.027
Alcohol abuse	20.4	19.7	.41	1,65	.526
Frequency of 5+/4+ drinks per day			6.40	2,9,187.9	<.001
Never	12.3	11.9			
Up to 11 time, past year	41.3	35.9			
Monthly	20.1	21.5			
Weekly or more	26.3	30.7			
Negative consequences of drinking <sup>a</sup>	3.0	6.3	34.8	1,65	<.001
<b>Receipt of Alcohol Interventions</b>					
Any lifetime alcohol intervention, prior to baseline <sup>b</sup>	5.7	5.3	.43	1,65	.515
Received alcohol intervention over the 3-year study period	2.1	1.3	4.51	1,65	.038
Medically-based intervention only	1.4	0.9	3.97	1,65	.051

Variable	White (N=5,897)	Racial/ethnic minority (N=3,219)	F	df	p
	Wtd. %	Wtd. %			
Specialty treatment	1.2	0.7	3.24	1,65	.077

Note. df: design-based degrees of freedom

<sup>a</sup>Negative consequences of drinking include the subset of alcohol abuse symptoms that relate to actual problems experienced due to drinking (interpersonal or legal problems, failure to fulfill roles and obligations). Hazardous drinking is excluded.

<sup>b</sup>Includes specialty, medical, and non-medical providers

**Table 2**

Racial/ethnic disparities in the odds of receiving an alcohol intervention over 3 years

Model	Racial/ethnic minority vs. white		
	OR	95% CI	p
Unadjusted	.62	.39 – .98	.039
Model 1 <sup>a</sup>	.46	.28 – .76	.003
Model 2 <sup>b</sup>	.47	.28 – .77	.003
Model 3 <sup>c</sup>	.43	.26 – .72	.002
Model 4 <sup>d</sup>	.52	.32 – .85	.009
Model 5 <sup>e</sup>	.48	.28 – .81	.006

<sup>a</sup> Base model: adjusted for sex, age, education, income, health insurance

<sup>b</sup> Base model also adjusted for weekly 5+/4+ drinking

<sup>c</sup> Base model also adjusted for negative consequences of drinking

<sup>d</sup> Base model also adjusted for prior receipt of any alcohol treatment services

<sup>e</sup> Fully adjusted model: adjusts for sex, age, education, income, health insurance, severity of need (weekly 5+/4+ drinking and negative drinking consequences), and any prior alcohol treatment



**Table 3**

Simulation: Estimated racial disparities in the receipt of an alcohol intervention when non-medical providers are included

Racial/ethnic group (referent: white)	Currently recommended: Medical providers and specialty treatment		Hypothetical expansion to include non- medical providers <sup>a</sup>		Change in OR <sup>b</sup>
	OR	95% CI	OR	95% CI	
African American	.81	.44 – 1.51	.79	.44 – 1.43	2.5%
<b>US-born Hispanic</b>	<b>.38</b>	<b>.15 – .96 *</b>	<b>.53</b>	<b>.26 – 1.09</b>	<b>-39%</b>
Immigrant Hispanic	.13	.02 – .95 *	.15	.03 – .69 *	-15%
Asian/Pac Islander	.67	.13 – 3.51	.57	.11 – 2.97	15%
Native American	1.96	.87 – 4.41	1.83	.86 – 3.88	6.6%
Minority overall	.62	.39 – .98 *	.63	.43 – .93 *	-1.6%

<sup>a</sup>These include currently recommended providers (physicians, mental health clinicians and specialty treatment settings) and venues such as social services, clergy, ERs, Employee Assistance programs, and crisis centers

<sup>b</sup>Calculated as  $(OR_{hyp} - OR_{rec})/OR_{rec}$

\* p<.05