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Drinking, Alcohol Use Disorder, and Treatment Access and Utilization among U.S. Racial/Ethnic Groups

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Abstract

Data from approximately 140 articles and reports published since 2000 on drinking, alcohol use disorder (AUD), correlates of drinking and AUD, and treatment needs, access and utilization were critically examined and summarized. Epidemiological evidence demonstrates alcohol-related disparities across U.S. racial/ethnic groups. American Indians/Alaska Natives generally drink more and are disproportionately affected by alcohol problems, having some of the highest rates for AUD. In contrast, Asian Americans are less affected. Differences across Whites, Blacks and Hispanics are more nuanced. The diversity in drinking and problem rates that is observed across groups also exists within groups, particularly among Hispanics, Asian Americans, and American Indians/Alaska Natives. Research findings also suggests that acculturation to the U.S. and nativity affect drinking. Recent studies on ethnic drinking cultures uncover the possible influence that native countries' cultural norms around consumption still have on immigrants' alcohol use. The reasons for racial/ethnic disparities in drinking and AUD are complex and are associated with historically-rooted patterns of racial discrimination and persistent socioeconomic disadvantage. This disadvantage is present at both individual and environmental levels. Finally, these data indicate that admission to alcohol treatment is also complex and is dependent on the presence and severity of alcohol problems but also on a variety of other factors. These include individuals' sociodemographic characteristics, the availability of appropriate services, factors that may trigger coercion into treatment by family, friends, employers and the legal system, and the overall organization of the treatment system. More research is needed to understand facilitators and barriers to treatment to improve access to services and support. Additional directions for future research are discussed.

Keywords

review; race/ethnicity; drinking; treatment access

Introduction

From 2006 through 2010, alcohol consumption ranked as the fourth leading preventable cause of death in the U.S., causing an estimated 88,129 deaths, representing 2,830,608 years of potential life lost for all age groups (0–65+ years; Centers for Disease Control, 2013). Research has shown differential alcohol-related social and health effects across U.S. racial/ethnic groups. The relationship of race/ethnicity to alcohol-related harms is attributed, in part to differences in patterns of drinking. Other individual, interpersonal, and environmental-level factors also play a role. For example, while some groups have higher rates of alcohol consumption, a risk factor for drinking-related harms, others experience harms from drinking despite having similar or lower rates of consumption (Mulia et al., 2009; Witbrodt et al., 2014).

In this critical review, we begin by describing the most current literature on drinking and alcohol use disorder (AUD) among major U.S. racial/ethnic groups: Whites, Blacks, Hispanics, Asian Americans/Pacific Islanders, and American Indians/Alaska Natives. We also provide a selective review of the literature addressing additional factors associated with drinking and AUD. In particular, the effects of nativity, acculturation, the “immigrant paradox,” and ethnic drinking cultures. Further consideration is given to the effects of discrimination, neighborhood disadvantage, residential segregation, and neighborhood ethnic density. Next, we describe alcohol treatment needs in relation to race/ethnicity and factors associated with access and utilization. We conclude this review with directions for future research.

While we focus on different U.S. racial/ethnic groups, we acknowledge significant subgroup differences within these populations. These general categories introduce limitations since ethnicity encompasses a complex combination of factors including birthplace, national origin, language, tribe, and ancestry; any of which may have distinct associations with patterns of drinking and alcohol-related outcomes. Further, individuals of multiethnic backgrounds are not well represented by these categories. The very concept of race has been questioned too, in light of recent genomic discoveries (Foster & Sharp, 2004; Yudell et al., 2015). However, studies that examine race/ethnicity and alcohol-related outcomes serve to understand patterns of alcohol use and the development of AUD, and target at-risk groups for prevention, intervention, and treatment. Figure 1 shows the complexity of the domains that influence alcohol use/misuse and its consequences. However, an exhaustive discussion of all these factors is beyond the scope of this review.

Method

We used several different strategies to identify papers for this review. First, we decided a priori, to report data from the most recently published reports on drinking and AUD in relation to race/ethnicity from federally funded surveys with large representative samples of the U.S. population: The Substance Abuse and Mental Health Services Administration’s (SAMSHA) 2014 National Survey on Drug Use and Health (NSDUH), the longitudinal 2001–2002 (Wave 1) National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), the 2012–2013 NESARC-III, and the cross-sectional NESARC-III. We discuss

drinking and AUD among U.S. Hispanic national groups by reporting data from the 2010–2012 NSDUH and 2006 Hispanic Americans Baseline Alcohol Survey (HABLAS). Data on U.S. Asian national groups are reported from the 2002–2003 National Latino and Asian American Study (NLAAS). Data on the differences in drinking and AUD among American Indians by tribe and geographic region are reported from the American Indian–Service Utilization, Psychiatric Epidemiology, Risk and Protective Factors Project (AI-SUPERPPF). We also decided that large treatment surveillance data sets would be included such as the Treatment Episode Data System (TEDS) which is a compilation of state-collected client-level data to monitor substance abuse treatment systems. Apart from the NSDUH, which includes 12+ year olds, we focus on studies of adults 18+ years of age.

Second, in our discussion of the literature addressing additional factors associated with drinking and AUD (i.e., acculturation, nativity, ethnic drinking cultures, discrimination and neighborhood), as well as factors associated with treatment access and utilization, we restricted our review to epidemiological research with adults (excluding college populations). We searched the English-language literature in PubMed beginning with the year 2000. These PubMed searches employed a combination of key words such as “drinking” and “alcohol” together with key words identifying the main racial/ethnic groups in the U.S. population (e.g., Hispanics, Blacks, American Indians, Asian Americans, Mexican Americans, Puerto Ricans, etc.).

We also searched our own Endnote database, which presently contains 3,443 references from our research and that of others on drinking among U.S. ethnic groups. We then selected papers for inclusion in this review based on a number of criteria: (1) national representativeness of the sample or sample coverage of a large geographical area or racial/ethnic group; (2) content related to one of the areas of focus in the review (e.g., acculturation); (3) comprehensiveness and effectiveness of the analyses (e.g., multivariate methods controlling for confounders); and (4) importance of the findings. We identified approximately 140 studies for inclusion, all of which are in this review.

Drinking across U.S. Racial/Ethnic Groups

Two high-risk consumption patterns that contribute to alcohol-related problems include binge and heavy drinking (Naimi et al., 2003; Rehm et al., 2003). The Substance Abuse and Mental Health Services Administration (SAMHSA; 2015a, 2015b) defined binge drinking in the NSDUH as the consumption of 5+ drinks on the same occasion (at the same time or within a few hours of each other) on at least one day in the previous month (a standard drink being 12 ounces of beer, 5 ounces of wine, or 1½ ounces of liquor). Heavy drinking was defined as the consumption of 5+ drinks on the same occasion on 5+ days in the past month (SAMSHA 2015a). The 2014 NSDUH (Table 1) showed that rates of previous 30-day binge and heavy drinking were highest among American Indian/Alaska Natives and lowest among Asian Americans (SAMSHA, 2015a). Utilizing data from the 2001–2002 Wave 1 NESARC and the 2012–2013 NESARC-III, Dawson et al. (2015) reported increases in average daily ethanol intake over the decade across racial/ethnic groups (Table 1). Similar to the NSDUH findings in Table 1, in 2001–2002 and 2012–2013, American Indians had the highest

average daily intake, while Asian Americans/Pacific Islanders had the lowest (Dawson et al., 2015).

Regarding the prevalence of heavy episodic drinking (HED; drinking 5+/men and 4+/women drinks of any alcoholic beverage once or more per month), increases across race/ethnicity over the decade were also observed. In the 2001/2002 Wave 1 survey, the proportion of American Indians who engaged in HED was greatest, followed by Hispanics (Dawson et al., 2015). In the 2012/2013 NESARC-III, however, the prevalence of HED among American Indians was slightly less than that of Hispanics, but higher than that of Whites, Blacks, and Asian Americans/Pacific Islanders (Dawson et al., 2015). An important limitation of the NESARC Wave 1 and NESARC-III analysis, however, is that Asian Americans were not differentiated from Pacific Islanders, presumably due to small sample sizes for these groups.

Sociodemographic Correlates of Drinking

In addition to race/ethnicity, there are several additional factors associated with increased drinking. Men drink more than women, a common difference among most U.S. racial/ethnic groups (SAMHSA, 2015a; Dawson et al., 2015). Younger age is also a factor of risk (SAMHSA, 2015a; Dawson et al., 2015). U.S. cross-sectional and longitudinal data have shown an increase in drinking during the twenties followed by declines in the thirties that are sustained in older age groups (SAMHSA 2012a; Dawson et al., 2015). However, among Blacks and Hispanics consumption has been shown to decrease less dramatically with age (Ramisetty-Mikler et al., 2010). Other predictors of increased drinking include lower levels of education, unemployment, and single or divorced marital status (Caetano et al., 2010; Dawson et al., 2015).

Alcohol Use Disorder across U.S. Racial/Ethnic Groups

Cross-sectional data across racial/ethnic groups from the 2012–2013 NESARC-III showed any past 12-month Diagnostic and Statistical Manual (DSM-5) AUD (see <https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/alcohol-use-disorders>) to be highest among American Indians, lowest among Asian Americans/Pacific Islanders, and similar among Whites, Blacks, and Hispanics (Table 2). The prevalence of lifetime AUD was also highest among American Indians, lowest among Asian Americans/Pacific Islanders, and was approximately 10% higher for Whites than for Blacks and Hispanics (Grant et al., 2015).

Sociodemographic Correlates of Alcohol Use Disorder

AUD does not affect all individuals equally. Data from the 2012–2013 NESARC-III showed that the prevalence of any 12-month AUD was 17.6% (men) and 10.4% (women). In multivariate analyses, men were approximately twice as likely as women to have past 12-month AUD (Grant et al., 2015). Nationally representative data from the 2005–2010 National Alcohol Survey (NAS) have demonstrated how racial/ethnic disparities in alcohol dependence are also gender-specific. Compared to White women, Black women were at greater risk for dependence at all levels of heavy drinking. Black-White as well as Hispanic-White disparities were also seen among men: Blacks were at increased risk of dependence at no and low levels of heavy drinking whereas Hispanics were at increased risk at low and

moderate levels of heavy drinking (Witbrodt et al., 2014). Like many telephone surveys, however, the NAS is limited by challenging response rates (i.e., in the 2000, 2005, and 2010 surveys, response rates ranged from 52% to 58%; Zemore et al., 2013).

The odds of developing an AUD have been shown to decrease with increasing age. For example, NESARC-III data showed that compared to 65+ year olds, the odds of developing any past 12-month AUD were 13.9 (99% CI: 11.57–16.67), 8.7 (99% CI: 7.11–10.57), and 4.8 (99% CI: 3.94–5.84) for 18–29, 30–44, and 45–64 year olds, respectively (Grant et al., 2015). Never married individuals and those who were separated, divorced, or widowed were also at greater risk (Grant et al., 2015). Studies have also shown that socioeconomic status (SES) is associated with AUD (see Collins, 2016 for a thorough review of this literature).

While informative, direct comparisons between the NSDUH and NESARC studies are limited. First, and importantly, the NESARC studies failed to provide data that differentiated between Asian Americans and Native Hawaiian/Pacific Islanders. In contrast, the NSDUH provided data separately for both groups. The NSDUH, however, combined data on American Indians and Alaska Natives. This is problematic because significant differences in drinking in relation to tribe and geographic region have been identified (Whitesell et al., 2012; O’Connell et al., 2005, Beals et al., 2005, Beals et al., 2003; Koss et al., 2003). A second hindrance is the way in which alcohol consumption was reported across studies. For example, the NSDUH reported on binge drinking (i.e., 5+ drinks on the same occasion at the same time or within a couple of hours of each other on 1 day in the previous 30 days). The NESARC studies, on the other hand, reported on HED (i.e., 5+/men and 4+/women) drinks once or more per month in the previous 12 months). Assessment of past-30 day intake is problematic because if large quantities of alcohol are consumed per occasion, but in an infrequent manner, the amount of drinking may be underestimated. Third, the NSDUH reported data for persons 12+ years of age whereas the NESARC included data from adults 18+ years of age.

Drinking and Alcohol Use Disorder among U.S. Hispanic National Groups

There are few publications utilizing nationally representative data examining differences in drinking and AUD among different U.S. Hispanic national groups. Examining such differences is important because of the diversity of this population. Utilizing 2010–2012 NSDUH data, Jetelina et al., (2016) found no statistically significant differences in binge drinking among Puerto Ricans (29%), Mexican Americans (27%), South/Central Americans (25%), and Cuban Americans (24%). There were, however, statistically significant differences in past 12-month DSM-IV alcohol dependence. The rate for Puerto Ricans was 7%, followed by South/Central Americans (6%), Puerto Ricans (4%), and Cuban Americans (3%; Jetelina et al., 2016). Other data on differences across Hispanic national groups are from the 2006 HABLAS. This study identified marked differences across groups. Puerto Rican and Mexican American men (Table 3) reported greater weekly consumption, more binge drinking (consumption of 5+ drinks within a 2-hour period), and higher rates of past 12-month DSM-IV alcohol abuse and dependence than South/Central and Cuban Americans (Caetano et al., 2009; Ramisetty-Mikler et al., 2010). Among women, Puerto Ricans drank more, binged (4+ drinks within a 2-hour period) more frequently, and had a higher

prevalence of past 12-month DSM-IV alcohol dependence than women of other national groups (Caetano et al., 2009; Ramisetty-Mikler et al., 2010). A limitation of HABLAS is that data were collected in five metropolitan areas of the U.S., thus rural Hispanic populations were not represented.

Drinking and Alcohol Use Disorder among U.S. Asian National Groups

Data from the 2002–2008 NSDUH have demonstrated the heterogeneity of Asian Americans in drinking practices. Lee and colleagues (2013) found that the prevalence of past 30-day binge drinking was highest among Korean Americans (24.8%), followed by Filipino and Japanese Americans (14.5% and 14.2%, respectively), Asian Indian Americans (10.1%), and finally Chinese Americans (8.1%). They further showed that among past 30-day drinkers, Japanese Americans had the highest number of past-month drinking days (8.8), followed by Korean and Asian Indian Americans (7.1 and 6.9, respectively), then Chinese Americans (5.7) and Filipino Americans (5.1). On those drinking days, all groups consumed an average of just over 2 drinks per day (range of 1.7 for Chinese Americans to 2.6 for Korean Americans; Lee et al., 2013).

Chea and colleagues (2008) analyzed data on any lifetime DSM-IV AUD from the 2002–2003 NLAAS and found that prevalence rates varied widely across national groups. The lowest prevalence was among Vietnamese Americans at 2.5%. The rates among Chinese and Filipino Americans were 10.3% and 20.2%, respectively. “Other” Asian Americans had the highest rate at 39.3%. However, this “other” Asian American category included respondents representing 17 different national groups, with widely varying cultures and languages. Unfortunately, these NLAAS data are more than 10 years old and to our knowledge, no more recent data are available. Further research on drinking and AUD among Asian Americans is clearly needed to identify groups at greatest risk for culturally and linguistically appropriate targeted prevention and intervention efforts.

Drinking and Alcohol Use Disorder: Tribal and Regional Differences among American Indians

When viewed as a whole, American Indians appear to drink more and have higher rates of AUD compared to other racial/ethnic groups (SAMHSA, 2015a; Dawson et al., 2015). However, several American Indian/Alaska Native groups have lower rates of substance use than the U.S. general population, including higher rates of abstinence and lower rates of past 12-month alcohol dependence (Cunningham et al., 2016; Whitesell et al., 2012; Spicer et al., 2003; Beals et al., 2003). Drinking and AUD differ widely in relation to tribe and geographic region (Steele et al., 2008; O’Connell et al., 2005; Beals et al., 2005; Koss et al., 2003; Denny et al., 2003) which is not surprising since there are 566 federally recognized tribes and communities in the U.S. (Bureau of Indian Affairs, 2015).

The AI-SUPERPPF collected data from randomly selected American Indians in the Southwest and Northern Plains. Rates of heavy drinking (5+ drinks per day) were lower in the Southwest (men: 86.6% and women: 67.2%) than the Northern Plains (men: 92.5% and women: 87.1%; O’Connell et al., 2005). There were also differences in rates of DSM-IV AUD across regions. The rate of past 12-month abuse was lower among Southwest men and

women (7.4% and 1.5%, respectively) than Northern Plains men and women (8.2% and 5.1%, respectively; Beals et al., 2005). Similar differences were observed for 12-month alcohol dependence (Southwestern tribe men and women, 8.9% and 1.1%, respectively and Northern Plains tribes men and women, 12.7% and 7.0%, respectively; Beals et al., 2005). Although informative, the AI-SUPERPPF results reported here are dated. Further epidemiological investigations that may serve to complement existing and ongoing qualitative and ethnographic studies among American Indians/Alaska Natives are warranted.

This previous section has described findings on drinking and AUD among U.S. racial/ethnic groups. This epidemiological evidence demonstrates the considerable alcohol-related disparities across U.S. racial/ethnic groups. American Indians/Alaska Natives generally drink more and are disproportionately affected by alcohol problems, having some of the highest rates for AUD. In contrast, Asian Americans are less affected. The diversity in drinking and problem rates that is observed across groups also exists within groups, particularly among Hispanics, Asian Americans, and American Indians/Alaska Natives.

There are several notable additional factors associated with drinking and AUD in relation to race/ethnicity. In the following section, the association between drinking and related outcomes are further discussed in relation to important findings in the research literature. These include acculturation, nativity, the “immigrant paradox,” and ethnic drinking cultures. The effects of discrimination, neighborhood disadvantage, residential segregation, and ethnic density are also discussed.

Acculturation and Nativity

There exists an expansive literature on the relationship between acculturation to the U.S. and behavioral and health outcomes. Acculturation refers to how immigrants adopt and adapt to the values, traditions, behaviors, and language of the new culture following their entry and settlement to the host country (Berry, 2005). Many acculturation scales are conceptually based on a view that acculturation takes place on a single continuum where the loss of attitudes, values, and behaviors of the culture of origin are replaced by adopting those of the host society. These measures place individuals on a continuum between highly acculturated to U.S. culture at one end to highly traditional to the heritage culture at the other.

Two hypotheses have been proposed in explaining the effect of acculturation to American society and increases in alcohol consumption among Hispanics (see Zemore, 2007 for a thorough review of this literature). The first is that the acculturation process is associated with more liberal and favorable drinking norms and attitudes, and thus, increased drinking. The second is that immigrants are thought to drink alcohol as a way to cope with acculturative stressors due to discrimination, language barriers, and family cultural conflicts. Past research supports the first hypothesis that more acculturated Hispanics have more liberal attitudes and positive norms toward drinking (Mills and Caetano, 2012; Zemore, 2005). Research findings on the association between acculturation stress and drinking outcomes have been less consistent. For example, Mills and Caetano (2012) found no support for acculturation stress serving as a mechanism to explain the relationship between acculturation and drinking. In contrast, Lee and colleagues (2013) found that greater acculturative stress was associated with alcohol problems but that acculturation alone was

not. These same conceptual frameworks are also utilized to explain the increase in alcohol consumption among Asian Americans. (Park et al., 2014; Iwamoto et al., 2016).

Among Hispanics, acculturation effects on drinking behaviors among women are noteworthy and more consistent than those for men. Research evidence shows that acculturation among women is positively associated with increased probabilities of several drinking outcomes: current drinking status, higher average weekly/monthly consumption, frequency of drunkenness, binge drinking, drinking problems, and AUD (Vaeth et al., 2012; Zemore, 2007; Zemore, 2005; Caetano and Clark, 2003). Birthplace or foreign nativity also strongly impacts drinking and related outcomes, particularly among men (Vaeth et al., 2012; Mills and Caetano, 2012; Caetano et al., 2012; Szaflarski et al., 2011; Caetano et al., 2009; Borges et al., 2006; Grant et al., 2004; Vega et al., 2003).

Among Asian Americans, research on acculturation and foreign nativity on alcohol consumption patterns is more limited than investigations among Hispanics. A number of such studies use small convenience samples (largely among college students), rather than randomly selected general population samples. In general, acculturation has been shown to be associated with greater alcohol use among Asian immigrants (Park et al., 2014). Moreover, foreign-born Asians are less likely to drink in the past month, engage in binge and heavy drinking, and have a lower prevalence of AUD than U.S.-born Asians (Lee et al., 2013; Lo et al., 2014; Breslau and Chang, 2006). Longer length of U.S. residence is also associated with heavy drinking among immigrant Asians (Lo et al., 2014). In fact, Szaflarski and colleagues (2011) found that foreign-born Asians and their U.S.-born counterparts had the largest threefold difference in rates of excessive drinking compared to other groups, including Hispanics, Blacks, and Whites.

The “Immigrant Paradox”

A consistent finding in the research literature is that of the “immigrant paradox” whereby immigrant groups in the U.S. have better health indices, including substance use, than U.S. born generations (Alegria et al. 2006; Vega et al. 2009; Rios-Bedoya and Freile-Salinas, 2014a, 2014b). However, the reasons for the existence of this paradox are still debated. Many have proposed that immigrant groups are self-selected and as such, physically and psychologically healthier (Alegria et al., 2008; Salas-Wright et al., 2014a; Salas-Wright et al., 2014b). Others suggest that some immigrant groups possess protective characteristics such as family cohesion that may be lost in future generations of the U.S.-born (Marsiglia et al., 2009b; Rivera et al., 2008; Canino et al., 2008; Estrada-Martinez, et al., 2011). Some have suggested that the poorer health indices of subsequent U.S.-born members of immigrant groups are due to the frustration associated with difficulty in fulfilling ambitions of socioeconomic betterment due to segregation and discrimination, all factors of risk for increased involvement with substance use (Smedley et al., 2003; Mason et al., 2011; Cooper et al., 2007; Williams and Collins, 2001; Landrine and Klonoff, 2000; Gilbert and Zemore, 2016; Brondolo et al., 2009; Tran et al., 2010).

Ethnic Drinking Cultures

An increasing number of studies have examined the impact of ethnic drinking cultures on the drinking patterns of Hispanics and Asian Americans (Cook et al., 2015; Cook and Caetano, 2014; Cook et al, 2013; Cook et al., 2012). Ethnic drinking cultures refer to the cultural norms, values, and behavioral practices associated with drinking in an immigrant's home country (Cook et al., 2012). The underlying premise of this construct is that immigrants often maintain ties with their native countries and preserve their cultural heritage so that the drinking practices in their countries of origin still influence their drinking in the U.S. (Cook et al., 2012). Cook et al., (2012) found that U.S. Asians from countries characterized by higher per capita alcohol consumption were more likely to be current drinkers, annually consume larger volumes of alcohol, and drink more frequently. In another study that examined the associations of ethnic drinking cultures on alcohol drinking patterns among Asian Americans and Hispanics, Cook and Caetano (2014) similarly found that for Asians in the U.S., per capita alcohol consumption in the countries of origin was significantly and positively associated with usual drinking quantity, frequency of heavy drinking, and the volume of past 12-month consumption. Per capita consumption level, however, was only associated with usual drinking quantity among Hispanics. The more prominent role of ethnic drinking cultures among Asian Americans than Hispanics may be due to the wider range of drinking patterns among Asian countries than among Latin American countries (Cook and Caetano, 2014).

Racial/Ethnic Discrimination

Two interrelated frameworks serve to explain the relationship between minority status in the U.S. and alcohol-related behaviors. One is a framework referring to social disadvantage, encompassing both racial discrimination and poverty (Mulia et al., 2008). With this model, considerations of discrimination and poverty are necessary to understand alcohol use and its consequences. A related framework, the minority stress model, emphasizes that discrimination and prejudices are stressors that may explain minority drinking behaviors (Keyes et al., 2012, Keyes et al., 2011). An additional framework, the social resistance framework, implies that the discrimination experienced by racial/ethnic minority groups, along with their low social status and sense of alienation from society, leads to active resistance which may include poor health behaviors such as alcohol misuse (Factor et al, 2013; Factor et al., 2011).

Research findings have generally demonstrated a positive association between experiences of racial/ethnic discrimination, drinking and alcohol-related consequences among minorities (Martin et al., 2003, Gee et al., 2007; Mulia et al., 2008, Chae et al., 2008, Mulia et al., 2009; Tran et al., 2010; Borrell et al., 2010; Zemore et al., 2011; Mulia and Zemore, 2012; Borrell et al., 2013; Otiniano Verissimo et al., 2014; Zemore et al., 2016; Gilbert and Zemore, 2016). For example, Martin et al. (2003) found that among a national sample of Blacks, reports of discrimination more than doubled the odds of problem drinking. In another study, high levels of awareness of racial/ethnic stigma among Blacks and Hispanics were associated with a 2-fold greater risk of problem drinking compared to those who reported low levels of stigma (Mulia et al., 2008). Borrell et al. (2010) found that Hispanics who self-reported experiences of racial/ethnic discrimination had a 62% greater odds of

drinking heavily. Among Asian Americans with low levels of ethnic identification, racial/ethnic discrimination was associated with an increased likelihood of past-year AUD (Chae et al., 2008). In a recent literature review of 97 scientific articles on the association between discrimination and alcohol outcomes, 71 of which specifically focused on racial/ethnic discrimination, Gilbert and Zemore (2016) concluded that the research generally affirms that experiences of discrimination are positively linked to alcohol misuse and related consequences. However, they note that the quality of research in this area varies widely and that the literature primarily focuses on Blacks with an under-representation of research on other U.S. racial/ethnic minority groups.

Neighborhood Effects: Residential Segregation Disadvantage, and Ethnic Density

Beyond the individual-level effects from personal experiences of racial discrimination on drinking, institutionalized discrimination creates racially segregated neighborhoods (Borrell et al., 2013) that may also impact alcohol use. Racial residential segregation is especially severe among Blacks compared to Hispanics and Asian Americans (Massey, 2001a); and among Hispanics, Puerto Ricans are more segregated than other national groups (Iceland et al., 2008; Wahl et al., 2007). Research suggests that these highly segregated neighborhoods negatively impact the health and substance use behaviors of residents and this is particularly so in predominantly Black neighborhoods (Mason et al., 2011; Cooper et al., 2007; Williams and Collins, 2001; Acevedo-Garcia et al., 2003).

These segregated neighborhoods are generally characterized by concentrated poverty, violence, and crime (Massey, 2001b). Moreover, disadvantaged minority communities are often heavily targeted by alcohol advertisers (Hackbarth et al., 2001; Kwate, 2007; Kwate and Lee, 2007), and disproportionately bear higher densities of retail alcohol outlets (Berke et al., 2010; Romley et al., 2007). Research has consistently demonstrated that residing in disadvantaged neighborhoods is associated with poorer physical and mental health, above and beyond individual sociodemographic characteristics (Galea et al., 2007; Matheson et al., 2006; Truong and Ma, 2006; Pickett and Pearl, 2001). Although, there is some inconsistency across studies (Karriker-Jaffe, 2011), neighborhood disadvantage also appears to influence substance use/misuse (Karriker-Jaffe et al., 2016; Brenner et al., 2015; Karriker-Jaffe et al., 2012; Mulia and Karriker-Jaffe, 2012; Cerdá et al., 2010; Karriker-Jaffe, 2013; Bernstein et al., 2007; Jason et al., 2001).

In contrast to research showing that racial residential segregation results in health disparities, especially for African Americans, other research findings indicate that there may be an “ethnic density effect” whereby racial/ethnic minorities are healthier when they live in areas with high concentrations of people of the same ethnicity and this appears to be particularly evident among Hispanics: notably, older Mexican Americans (Bécares et al., 2012; Alvarez and Levy, 2012; Alba et al., 2014; Lee et al., 2007; Ostir, et al., 2003; Patel et al., 2003). With regard to alcohol use/misuse, research indicates that for Hispanics, as the neighborhood composition of co-ethnics increases, the risk of heavy/problem drinking and AUD decreases (Stroope et al., 2015; Molina et al., 2012; Markides et al., 2012). Although Markides et al., (2012) found this to be the case for Mexican American women, but not men. Hypothesized mechanisms by which ethnic density leads to health and well-being include

enhanced social cohesion (Hong et al., 2014), social support (Shell et al., 2013), community participation or civic engagement (Stafford et al., 2010; Bécaries et al., 2009), and collective efficacy (Frank et al., 2007; Vega et al., 2011). In addition, ethnic density may buffer the effects of discrimination (Bécaries et al., 2009), and the stigma of both disadvantaged and minority status (Pickett and Wilkinson, 2008).

In summary, research suggests that acculturation to the U.S. increases alcohol consumption among Hispanic and Asian immigrants through adopting more liberal attitudes and norms toward drinking or to cope with stress from adjusting to life in the host country. At the same time, however, recent immigration or less acculturation among Hispanics and Asian Americans may be associated with protective factors, such as family cohesion. Recent studies on ethnic drinking cultures uncover the possible influence that native countries' cultural norms around consumption still have on immigrants' alcohol use. Understanding the degree to which immigrants adopt the drinking norms and attitudes of the U.S. or continue to adhere to the norms and attitudes of their country of origin that are gender-specific, may lead to a deeper explanation of immigrants' alcohol consumption patterns.

The reasons for racial/ethnic disparities in drinking and AUD are complex and are associated with historically-rooted patterns of racial discrimination and persistent socioeconomic disadvantage. This disadvantage is present at the individual level with regard to fewer opportunities for higher education, professional training, secure employment, and access to health care. Socioeconomic disadvantage at the neighborhood level also affects the health and well-being of residents. These disadvantaged neighborhoods are frequently in inner city areas, which are racially and economically segregated and characterized by substandard housing, poor schools, high crime, excessive alcohol advertising and alcohol outlets, and general social disorganization.

Race/Ethnicity and Treatment Access and Utilization

Given the levels of drinking and in some cases, racially/ethnically-specific factors of risk identified in the sections above, there is clearly a need for appropriate and adequate access to alcohol treatment programs for racial/ethnic minority groups. The following section examines the extent to which racial/ethnic minorities have access to and utilize these treatment programs.

Treatment for alcohol and other SUDs is a cornerstone of a comprehensive policy to address alcohol and drug problems worldwide (Babor et al., 2010). However, treatment utilization is not only determined by need, as defined by the prevalence of AUD in a particular racial/ethnic group and the severity of disease, but also by a number of other factors which may or may not be connected with such need. For instance, substance use treatment is frequently triggered by pressures from family, friends, employers, and the legal system (Weisner and Schmidt, 2001; Weisner et al., 2002). Therefore, those who have jobs, family, or friends are more likely to be led to or coerced into treatment than those who do not.

Treatment utilization can also be affected by proximity of services to one's home and by potential barriers such as inability to cover treatment costs, loss of income while in treatment, or child care and transportation availability/expenses. Interestingly, medical

insurance does not seem to be associated with treatment utilization when the influence sociodemographic factors are taken into account (Weisner et al., 2002), perhaps due to the availability of public programs for SUD treatment.

The availability of culturally and linguistically appropriate services is also important. For example, evidence suggests that American Indians/Alaska Natives are more comfortable with services that integrate tribal customs, traditions, and spirituality (Venner et al., 2016; Novins et al., 2011 Spicer et al., 2007). Among Asian Americans, fear of shame or losing face has been identified as a barrier to treatment receipt (Masson et al., 2013).

Receipt of Treatment

Data by race/ethnicity from the 2014 NSDUH show that a slightly higher percentage of Whites (21.9%) than Blacks (19.1%) and Hispanics (19.3%) who were in need of treatment actually received it (SAMHSA, 2015a). Proportions for American Indians/Alaskan Natives, Native Hawaiians/Pacific Islanders, and Asians were not reported due to low precision in the estimates. Combined 2003–2010 NSDUH data comparing Hispanics and non-Hispanics indicated that among those 12+ years of age who met criteria for substance abuse or dependence, 9% of Hispanics versus 10.5% of non-Hispanics received treatment (SAMHSA, 2012b). Treatment was considered only if it occurred in drug or alcohol rehabilitation facilities, hospitals, and mental health centers. The majority of Hispanics (94.4%) and non-Hispanics (94.8%) with a positive diagnosis of DSM-IV abuse or dependence, did not feel they needed treatment.

SAMHSA's TEDS provides trend data by race/ethnicity from 2002–2012 (SAMHSA, 2014b). The racial/ethnic composition of these admissions did not change much during that time period (Table 4). White admissions increased slightly and Black admissions decreased by nearly 5%, comprising about a fifth of all admissions in 2012. Hispanic admissions were basically stable, representing a little over a tenth of all admissions from 2002 to 2012. Admission for American Indians/Alaskan Natives, Asians/Pacific Islanders, and "other" were also relatively stable throughout the period and comprised between 4% and 6.1% of all admissions. Compared to the U.S. population (Table 4), Whites and American Asians/Pacific Islanders were underrepresented in admissions, while Blacks and Native Americans were overrepresented. Hispanic representation in admissions was similar to their proportion in the population. However, given that the prevalence of AUD varies across these groups, their representation in treatment should not necessarily be equal to their proportion in the population.

TEDS data also indicate that there is variation in the primary substance used at admission across race/ethnicity (Table 5). Among all racial/ethnic groups, the majority of admissions were due to alcohol alone or in combination with a secondary drug. Opiates constituted the second most common drug at admission among Whites and Hispanics. Among American Indians/Alaska Natives, both opiates and marijuana/hashish were the second most common drug. Marijuana/hashish was also the second most common drug among Blacks and Asian Americans/Pacific Islanders. The third most common drug at admission was marijuana/hashish for Whites and Hispanics, cocaine for Blacks, and methamphetamine/amphetamines for American Indians/Alaska Natives and Asian Americans/Pacific Islanders.

Other Literature on Access and Utilization

Apart from the federal data discussed above, there is also a peer-reviewed literature on alcohol treatment access and utilization by U.S. racial/ethnic minority groups (e.g., see Chartier and Caetano, 2010). Research findings on need and utilization of treatment by racial/ethnic groups are sometimes contradictory. Utilizing NAS data, Schmidt et al., (2007) reported no major differences in the rate of lifetime treatment utilization across Whites (15.8%), Blacks (14.7%), and Hispanics (16.3%) with a lifetime diagnosis of alcohol abuse or dependence. Further, Blacks and Hispanics with higher problem severity were less likely than Whites to receive treatment. Among individuals with an AUD, Hispanics were less likely than Whites to use alcohol/drug treatment programs or receive help from health professionals (physician, psychiatrist, psychologist, or social worker). At higher levels of severity, Blacks and Hispanics with an AUD were also less likely to use certain types of services (mental health, self-help). Contradictorily, Keyes et al. (2008), found no evidence of differential treatment utilization of alcohol treatment services between Whites and Blacks.

Zemore et al., (2014) reported on data from the NAS on the effects of both race/ethnicity and gender on alcohol treatment utilization among Whites, Blacks, and Hispanics with a lifetime AUD. Among men, Hispanics less likely to use specialty treatment and Alcoholics Anonymous (AA) than Whites. Among women, Blacks and Hispanics utilized any services, specialty treatment, and AA less than Whites. Weisner et al. (2002) analyzed data from a Northern California county and reported that compared to Whites, Blacks were almost three times more likely to have received treatment and Hispanics were half as likely. Oleski et al. (2010) also reported that Blacks and Hispanics with a lifetime AUD were about 1.7 times more likely than Whites to seek help. In contrast, Alvanzo et al. (2010) reported null findings for differences in time between first drink and alcohol-related service use across Whites, Blacks, and Hispanics. With regard to Hispanics, Zemore et al. (2009) reported a rate of lifetime utilization among individuals with a lifetime AUD of 19.2%, but most included utilization of self-help groups and not specialty treatment. Hispanics who were less acculturated were less likely to use treatment than those highly acculturated.

Utilizing data from the AI-SUPERPPF, Beals et al. (2005) reported rates of lifetime help-seeking for American Indians with a diagnosis of lifetime SUD from two geographical populations: the Southwest and Northern Plains. The rate for help-seeking was 55.8% for those in the Southwest and 40.1% for those in the Northern Plains. A considerable proportion of help (37.7% Southwest Tribe; 16.9% Northern Plains Tribes) was sought from traditional healers; demonstrating that many American Indians seek both Western and traditional healing modalities. Comparing lifetime help-seeking in these two American Indian groups with national data, Beals et al. (2003) reported higher rates for help-seeking from specialty providers for American Indians (16.4% and 18.9%) than for the U.S. national sample (7.8%).

These data indicate that admission to alcohol treatment is complex and is dependent on the presence and severity of alcohol problems but also on a variety of other factors. These include individuals' sociodemographic characteristics, the availability of appropriate services, factors that may trigger coercion into treatment by family, friends, employers and the legal system, and the overall organization of the treatment system.

A full understanding of access to and utilization of treatment among different racial/ethnic groups requires consideration of the characteristics of the SUD being treated, the individual to be treated, and the characteristics of the treatment system. Results on need and utilization of treatment by racial/ethnic minorities depend on the settings and modalities of treatment and the time frame under consideration for the receipt of treatment. For immigrant groups, the availability of culturally and linguistically appropriate services is crucial in determining utilization. Making generalizations about which racial/ethnic group is over- or underrepresented in treatment generally, and by modality or setting, is difficult. This is true for those racial/ethnic groups for which data on need and utilization are available, Whites, Blacks, Hispanics, and to a lesser extent, American Indians/Alaskan Natives, as well as for groups that have not been the focus of much research: Asian Americans and Pacific Islanders. Consequently, more research is needed to understand facilitators and barriers to treatment to improve access to services and support.

Directions for Future Research

The path ahead for research with racial/ethnic minority groups presents both challenges and opportunities. Given that many racial/ethnic groups are also immigrants, future research opportunities include both a better understanding of the characteristics of immigration and life upon arrival to the U.S. for immigrants. There are also research opportunities that focus on non-immigrant groups such as Blacks and American Indians/Alaskan Natives. This research should be guided by multiple theoretical frameworks based on specific disciplinary perspectives. Several areas of inquiry are important to all racial/ethnic groups, such as those focusing on psychological risk factors and socioeconomic status. Others, given the cultural and historical diversity of these groups are specific, for example, developing a better understanding of the influence of historical trauma and racism among American Indians/Alaska Natives and Blacks.

Future research requires many foci in order to identify risk and protective factors at both personal and environmental levels. For instance, there have been considerable advances in understanding how the neighborhood environment exacerbates risk behavior (e.g., residential segregation and disadvantage; Mason et al., 2011; Cooper et al., 2007; Williams and Collins, 2001; Acevedo-Garcia et al., 2003; Karriker-Jaffe et al., 2012; Mulia and Karriker-Jaffe, 2012; Cerdá et al., 2010; Karriker-Jaffe, 2013; Jason et al., 2001). There is also an increased understanding of the potentially protective effects of neighborhoods such as social cohesion, social support, and collective efficacy (Hong et al., 2014; Shell et al., 2013; Frank et al., 2007; Vega et al., 2011). But further knowledge is needed to fully understand how these neighborhood factors interact with personal characteristics across racial/ethnic groups to increase or decrease risk for drinking and problems. Personal ecologies (i.e., interactions with different actors in different drinking related settings, such as at home, bars, or parties, can also bring risk or protection; Gruenewald 2007). Personal behaviors, alcohol availability, and the defining characteristics of these settings can influence drinking and an increased understanding of these factors is needed. It is likely that moderating effects of race/ethnicity on these associations will exist.

Research directions such as those outlined above often demand testing of hypotheses about complex systems of associations, which may require large samples as well as longitudinal studies with multiple points of measurement. Such research endeavors, however, are costly. At a time of reducing National Institutes of Health budgets, the tension between the costs of studying larger and more representative samples of diverse racial/ethnic groups, and more economically efficient and smaller but non-representative samples is quite real. The path ahead calls for a variety of methodological strategies to further advance research. Mobile device-based data collection offers a strategy that is both effective and economic. Online data collection with a first stage of randomly selected panels of respondents also offer economic advantages over face-to-face and telephone interviewing. Some U.S. racial/ethnic groups are relatively large (e.g., Blacks, Hispanics and Whites). But even such groups are not randomly distributed across the U.S. For instance, in spite of growing numbers and dispersion, Mexican Americans are still largely concentrated in the Southwest (Pew Research Center, 2014). Focusing data collection with this group in large Southwestern cities and some carefully selected rural areas can answer research questions with generalizability and can provide important results for local public health officials. Such a strategy can be similarly applied to research on other Hispanic and Asian national groups, Pacific Islanders, Native Americans, and Alaskan Natives.

While the primary thinking behind these suggestions has been guided by the epidemiological research reviewed herein, many concerns and solutions apply to clinical studies of treatment access and utilization, or lack thereof, and treatment efficacy and effectiveness. Here too, there are general themes that cut across racial/ethnic groups (e.g., certain treatment barriers) and that co-exist with group specific questions. While the study of national samples is informative for the country as a whole, data at the local level are also less costly to collect and, and will provide information about local populations. This, of course, is of great value for treatment providers and public health authorities.

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Figure 1. Conceptual Framework of Alcohol Consumption, Alcohol-Related Problems, and Treatment (adapted from Alegría et al., 2002).

2014 NSDUH: * Prevalence of binge and heavy drinking among persons 12+ years of age. The 2001–2002 Wave 1 NESARC and 2012–2013 NESARC III: ** average daily intake and heavy episodic drinking among past year drinkers 18+ years of age.

Table 1

	2014 NSDUH						2001 Wave 1 NESARC and 2012–2013 NESARC III					
	Binge Drinking (%)		Heavy Drinking (%)		Daily Intake, oz (se)		Heavy Episodic Drinking (%)		Daily Intake, oz (se)		Heavy Episodic Drinking (%)	
	2001–2002	2012–2013	2001–2002	2012–2013	2001–2002	2012–2013	2001–2002	2012–2013	2001–2002	2012–2013	2001–2002	2012–2013
White	23.5	7.1	0.62 (0.015)	0.73 (0.02)	21.3	24.8						
Black	21.6	4.5	0.75 (0.05)	1.03 (0.05)	19.0	27.7						
Hispanic	24.7	5.1	0.59 (0.035)	0.685 (0.03)	25.9	31.6						
American Indian	27.7	9.2	0.95 (0.13)	1.09 (0.125)	28.1	30.4						
Asian American	14.5	2.0	0.435 (0.06)	0.49 (0.04)	15.3	17.2						
Native Hawaiian/Pacific Islander	18.3	4.6	-	-	-	-						

* In the NSDUH, the American Indian category also included Alaska Natives; binge and heavy drinking were defined as the consumption of 5+ drinks on the same occasion (i.e., at the same time or within a few hours of each other) on at least one day in the previous month and the consumption of 5+ drinks on the same occasion on 5+ days in the past month, respectively.

** In the NESARC Wave 1 and NESARC III, the Asian American and Pacific Islander categories were combined; daily intake refers to average daily ethanol intake, one fluid ounce is equivalent to approximately 23.3 g of ethanol. Figures in parentheses are standard errors of estimates; heavy episodic drinking was defined as the consumption of 5+ drinks (men)/4+ drinks (women) of any alcoholic beverage once or more per month.

Adapted from:

SAMHSA, Center for Behavioral Health Statistics and Quality (2015), 2014 National Survey on Drug Use and Health: Detailed Tables. SAMHSA, Rockville, MD. Table 2.42B Dawson, DA, Goldstein RB, Saha TD, & Grant BF (2015) Changes in alcohol consumption: United States, 2001–2002 to 2012/2013. Drug and Alcohol Dependence 148:56–61.

Table 2

2013 NESARC III: Prevalence of any 12-month and lifetime DSM-5 alcohol use disorder (AUD) by race/ethnicity among persons 18+ years of age.

	Any 12-month AUD[*] (%)	Any Lifetime AUD^{**} (%)
White	14.0	32.6
Black	14.4	22.0
Hispanic	13.6	22.9
Native American	19.2	43.4
Asian American or Pacific Islander	10.6	15.0

*
N=5,133

**
N=10,001

Adapted from: Grant BF, Goldstein RB, Saha TD, Chou SP, Jung J, Zhang H, Pickering RP, Ruan WJ, Smith SM, Huang B, & Hasin DS. Epidemiology of DSM-5 Alcohol Use Disorder. Results from the National Epidemiologic Survey on Alcohol and Related Conditions III. *JAMA Psychiatry* (2015); 72(8):757–766.

2006 HABLAS: Number of drinks consumed per week, binge drinking,* and past 12-month DSM-IV abuse, and dependence, among men and women 18+ years and older by Hispanic national group (means and proportions).

Table 3

Hispanic National Group	Mean number of drinks per week (se)		Binge Drinking (%)		Past 12-month DSM-IV Abuse (%)		Past 12-month DSM-IV Dependence (%)	
	Men	Women	Men	Women	Men	Women	Men	Women
Puerto Ricans	16.9 (1.6)	9.5 (2.3)	48.6	51.1	5.2	0.7	15.3	6.4
Mexican Americans	15.9 (1.7)	3.0 (1.0)	46.2	26.1	5.6	0.8	15.1	2.1
Cuban Americans	8.4 (0.9)	3.4 (1.1)	27.3	22.4	1.8	1.1	5.3	1.6
South/Central Americans	8.9 (0.8)	3.8 (0.6)	42.9	27.3	4.2	0.2	9.0	0.8

* Binge drinking is defined as: consumption of 5 or more (men) or 4 or more (women) standard drinks within a 2-hour period.

Adapted from: Ramisetty-Mikler S, Caetano R, Rodriguez LA (2010). The Hispanic Americans Baseline Alcohol Survey (HABLAS): Alcohol consumption and sociodemographic predictors across Hispanic national groups. *J Subst Use* 15: 402–416.

Table 4

Admissions aged 12 and older by race and ethnicity: 2002 to 2012 and U.S. population 12 years of age and older. [Based on administrative data reported to TEDS by all reporting states and jurisdictions (excl. Puerto Rico).]

Race/ethnicity	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	U.S. pop. (000s) ¹
	Number											
No. of admissions	1,874,278	1,847,737	1,793,533	1,871,558	1,946,923	1,941,589	2,014,888	1,975,194	1,910,439	1,915,333	1,736,926	254,306
<i>Percent distribution</i>												
White (non-Hispanic)	58.5	58.6	59.6	59.2	59.9	60.2	60.2	60.2	60.8	60.9	61.0	69.1
Black (non-Hispanic)	24.3	24.0	22.8	22.4	21.6	21.1	21.1	21.1	20.5	20.5	19.6	12.1
Hispanic origin	12.8	12.8	12.8	13.6	13.3	13.2	13.2	13.1	12.7	12.7	13.3	12.8
Mexican	5.2	5.2	5.3	5.4	5.5	5.6	5.5	5.4	4.3	4.0	4.5	n/a
Puerto Rican	4.4	4.1	3.9	4.0	3.6	3.5	3.5	3.5	3.4	3.5	3.6	n/a
Cuban	0.3	0.4	0.3	0.5	0.4	0.2	0.2	0.2	0.2	0.3	0.3	n/a
Other/not specified	2.9	3.1	3.3	3.8	3.8	3.9	3.9	4.0	4.8	4.8	4.9	n/a
Other	4.4	4.5	4.8	4.8	5.2	5.5	5.6	5.6	6.0	5.9	6.1	6.1
American Indian/Alaska Native	2.1	1.9	2.0	2.1	2.2	2.3	2.2	2.2	2.3	2.2	2.4	0.7
Asian/Pacific Islander	0.9	1.0	0.9	1.0	1.0	0.9	0.9	0.9	1.0	1.0	1.0	4.9
Other	1.4	1.7	1.9	1.7	2.1	2.3	2.4	2.4	2.7	2.7	2.7	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ U.S. Bureau of Census, for population projections by state, age, gender, race.

n/a Not applicable.

SOURCE: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS). Data received through 10.17.13. Population: U.S. Bureau of the Census. Population projections by state, age, gender, race, 2000–2050.

Table 5

Admission aged 12 and older, by race/ethnicity according to primary substance of abuse: 2012
 [Based on administrative data reported to TEDS by all reporting states and jurisdictions.]

Race/ethnicity	Primary substance at admission											Other/ none speci- fied											
	Alcohol		Opiates		Cocaine		Mari- juana/ hashish	Metham- phetamine/ amphet- amines	Tran- quil- izers	Seda- tives	Hallu- cino- gens		Inhal- ants	PCP									
All admis- sions	Alcohol only	With secondary drug	Heroin	Other opiates	Smoked cocaine	Other route						No. of admissions			373,293	305,709	284,678	169,220	82,871	37,799	304,110	123,922	17,353
All admissions	1,739,977	21.5	17.6	16.4	9.7	4.8	2.2	17.5	7.1	1.0	0.2	0.1	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	1.7	100.0
White (non-Hispanic)	1,060,065	23.4	16.8	17.4	13.8	2.6	1.6	12.7	8.1	1.3	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	1.8	100.0
Black (non-Hispanic)	339,920	14.8	20.9	12.6	2.1	13.6	3.5	28.2	1.3	0.3	0.1	0.1	1.1	*	0.1	0.1	0.1	0.1	0.1	0.1	1.6	100.0	
Hispanic origin	234,204	20.1	15.6	19.9	3.8	2.9	3.1	22.8	9.4	0.7	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0	100.0	
Mexican	77,723	23.2	15.0	10.4	3.1	1.5	1.5	25.9	18.4	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	100.0	
Puerto Rican	66,325	12.7	16.2	39.1	3.2	4.2	4.0	16.4	0.7	1.1	0.1	0.1	1.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.3	100.0	
Cuban	4,870	31.3	16.3	13.6	5.2	4.4	4.7	17.4	3.4	0.9	0.1	0.2	0.4	0.1	0.2	0.4	0.1	0.1	0.1	0.1	2.0	100.0	
Other/not specified	85,286	22.4	15.8	13.8	4.8	3.3	3.7	25.3	8.2	0.8	0.2	0.1	0.4	0.1	0.1	0.4	0.1	0.1	0.1	0.1	1.2	100.0	
Other	105,788	26.3	19.2	10.2	6.7	2.6	1.4	19.5	11.3	0.5	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	1.6	100.0	
American Indian/Alaska Native	41,147	35.9	26.0	5.7	7.5	1.6	0.8	13.2	7.6	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	1.0	100.0
Asian/Pacific Islander	17,515	23.1	13.6	8.4	5.3	2.6	1.4	21.2	20.3	0.6	0.2	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1	2.9	100.0	
Other	47,126	19.2	15.4	14.7	6.4	3.4	2.0	24.4	11.3	0.7	0.1	0.2	0.4	0.1	0.2	0.4	0.1	0.1	0.1	0.1	1.6	100.0	

* Less than 0.05 percent.

SOURCE: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS). Data received through 10.17.13.