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Did Lifetime Rates of Alcohol Use Disorders Increase by 67% in Ten Years? A Comparison of NLAES and NESARC

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Abstract

Two nationally representative epidemiological samples (National Longitudinal Alcohol Epidemiological Survey [NLAES], National Epidemiological Survey of Alcohol and Related Conditions [NESARC]) have been used to track changes in the prevalence of alcohol use disorders (AUDs) between 1992 and 2002 in the United States. Strikingly, estimates from these two datasets suggest that the lifetime prevalence of AUD increased by approximately 67% (from 18.2% to 30.3%) during this timeframe. The purpose of the current paper is to explore potential reasons for these discrepant estimates. Analyses indicated that a vast majority of change in lifetime AUD occurred with respect to alcohol abuse and not alcohol dependence. Most of this increase in abuse was attributable to self-reported changes in hazardous use that did not track with other archival measures of outcomes related to hazardous use in the population. Key methodological differences regarding the frequency requirements for prior-to-past-year alcohol abuse appeared to explain most of the discrepancy in lifetime AUD estimates. These findings, in conjunction with the relative lack of differences in the 12-month prevalence of AUDs, suggest that the discrepant lifetime estimates are likely due to methodological differences in the two surveys. These findings have important implications for substance use and other psychiatric surveillance and epidemiology where meaningful cross-temporal comparisons are desired.

Keywords

alcohol use disorders; lifetime diagnosis; NESARC; NLAES

The 2001–2002 National Epidemiological Survey of Alcohol and Related Conditions (NESARC) is a study of a representative sample of the USA conducted by the National Institute on Alcohol Abuse and Alcoholism (NIAAA; see Methods Section below; Grant, Moore, & Kaplan, 2003 for more details). This survey used the NIAAA Alcohol Use Disorders and Associated Disabilities Interview Schedule-DSM-IV version (AUDADIS-IV; Grant, Dawson, & Hasin, 2001) to generate DSM-IV (American Psychiatric Association, 1994) diagnoses of alcohol abuse and dependence. The precursor to this study was NIAAA's 1991–1992 National Longitudinal Alcohol Epidemiological Survey (NLAES), a

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nationally representative study conducted a decade prior to the NESARC study that also used the AUDADIS-IV to generate DSM-IV diagnoses of alcohol abuse and dependence (see Methods Section below; Grant, Harford et al., 1994; Grant, Peterson, Dawson, & Chou, 1994; Grant et al., 2004, for more details).

Grant et al. (2004) state: “The high degree of comparability between NLAES and NESARC definitions of alcohol abuse and dependence made it possible, for the first time, to accurately determine trends in these disorders over the course of a decade.” (Grant et al., 2004, p. 231). Based on this presumed comparability, Grant et al. (2004) concluded that past-12 month prevalence of alcohol dependence significantly declined from 1992 to 2002 whereas prevalence in alcohol abuse significantly increased during this timeframe. Other researchers have also compared these two datasets to study temporal changes in alcohol use disorders (AUDs) and related outcomes (e.g., Compton, Conway, Stinson, & Grant, 2006; Compton, Grant, Colliver, Glantz, & Stinson, 2004; Grucza, Bucholz, Rice, & Bierut, 2008; Grucza, Norberg, Bucholz, & Bierut, 2008; McCabe, Cranford, & West, 2008).

However, less attention has been given regarding the lifetime estimates of AUDs between these two datasets. The estimated lifetime prevalence of AUDs in NLAES was 18.17 (Grant & Harford, 1995) whereas the estimated lifetime prevalence in NESARC was 30.28 (Hasin, Stinson, Ogburn, & Grant, 2007). These numbers suggest the lifetime prevalence of AUD among these ostensibly comparable datasets increased by approximately 67% between 1992 and 2002 in the United States!

Though several studies have used the lifetime measures of AUDs in both NLAES (e.g., Grucza, Bucholz et al., 2008) and NESARC (e.g., Wu, Howard, & Pilowsky, 2008) datasets, to our knowledge, the large discrepancy between these estimates have not been addressed. The purpose of the current paper is to explore potential reasons for these discrepant estimates. In particular we sought to determine the extent to which the dramatic change in lifetime prevalence could be explained by methodological factors (e.g., differences in item wording or content, algorithm) that would temper the substantive interpretation of these findings.

Method

NESARC

The 2001–2002 National Epidemiological Survey of Alcohol and Related Conditions (NESARC) is a study of a representative sample of the USA conducted by the National Institute on Alcohol Abuse and Alcoholism (NIAAA; see Grant et al., 2003 for more details). The NESARC target population was the civilian non-institutionalized population 18 years and older residing in households and group quarters. Face-to-face interviews were conducted with 43,093 respondents (response rate = 81%). Blacks, Hispanics, and young adults (ages 18–24) were oversampled with data adjusted for oversampling as well as household- and person-level non-response. The weighted data were then adjusted based on 2000 census data to represent the U.S. civilian population (see Grant et al., 2003, for more details).

NLAES

As described in more detail elsewhere (Grant, Harford et al., 1994; Grant, Peterson et al., 1994; Grant et al., 2004), the 1991–1992 NLAES is a NIAAA-sponsored nationally representative survey of the United States population. A sample of 42,862 respondents, age 18 and older, residing in the non-institutionalized population of the contiguous United States, were administered face-to-face interviews. Response rates were good (overall survey response rate of 90%; Grant, Peterson et al., 1994). As with NESARC, Blacks and young

adults (ages 18–29) were oversampled. The NLAES data were weighted for complex sampling and then adjusted based on 1990 census data to represent the U.S. civilian population (see Grant, Harford et al., 1994; Grant, Peterson et al., 1994; Grant et al., 2004, for more details).

AUDADIS-IV

The NIAAA Alcohol Use Disorders and Associated Disabilities Interview Schedule-DSM-IV version (AUDADIS-IV; Grant et al., 2001) was designed to generate DSM-IV diagnoses of alcohol abuse and dependence in both NLAES (Grant, Harford, Dawson, Chou, & Pickering, 1995; Grant, Peterson et al., 1994) and NESARC (Grant et al., 2001). A more detailed discussion of the AUDADIS-IV as it was used in these datasets can be found in Grant et al., 2004. A brief summary of that discussion is provided below.

Though the DSM-IV classification was not published until 1994, all of the diagnostic criteria for DSM-IV alcohol abuse and dependence (American Psychiatric Association, 1991) were known prior to NLAES data collection and were incorporated into the AUDADIS-IV (Grant, Harford et al., 1994). Computer algorithms were then designed to create diagnoses of abuse and dependence that were consistent with the final DSM-IV criteria (Grant, Harford et al., 1994). DSM-IV alcohol abuse and dependence are defined as maladaptive patterns of drinking, leading to clinically significant impairment or distress. DSM-IV alcohol abuse is manifested by one or more of the abuse symptoms listed in Table 1. Alcohol dependence is defined by meeting three of the seven diagnostic criteria (i.e., tolerance, withdrawal, drinking for larger/longer than intended, unsuccessful attempts to quit or cut down, drinking despite continued physical or psychological problems, give up/cut down on important activities in order to drink, spending large amounts of time using alcohol/getting over the effects of alcohol; see American Psychiatric Association, 1994). Additionally, according to the AUD hierarchical decision rule, a diagnosis of dependence preempts a diagnosis of abuse.

It should be noted that despite efforts to ensure comparability across the NLAES and NESARC versions of the AUDADIS-IV, there were some changes that occurred that could have potentially affected observed prevalence estimates. The NLAES and NESARC versions of the AUDADIS-IV included “duration criteria” of both the alcohol abuse and dependence diagnoses (see Grant et al., 2004). As described by Grant et al. (2004), “duration criteria relate to specific abuse and dependence criteria, define the repetitiveness with which these diagnostic criteria must occur in order to be positive, and are operationalized by means of qualifiers, such as ‘recurrent,’ ‘often,’ and ‘persistent.’” (p. 226). The duration criteria are not associated with all abuse and dependence criteria and differed between the NESARC and NLAES studies (see Table 1 for abuse; dependence not shown). The duration criteria were operationalized in NLAES by asking respondents if a symptom item had happened more than once in a follow-up question. However, in NESARC, duration criteria were directly embedded into the symptom questions (e.g., “more than once” drive a vehicle while drinking; see Table 1, Grant et al., 2004 for more details). Further, though NESARC items for past-12-month and prior-to-past-year were identical, in NLAES the duration criteria used for past-12-months (i.e., more than once in the follow-up question) was not included in prior-to-past-year. NLAES and NESARC also differentially used recurrence/duration questions to establish prior-to-past-12-month diagnosis for alcohol abuse. Specifically, NLAES required the endorsement of one of two recurrence/duration items for abuse diagnoses whereas NESARC did not (see Table 1).

Grant et al. (2004) also noted that the NESARC version included two new questions relevant to the dependence criteria set: one to measure the “tolerance” criterion, and one to measure “continued to drink despite persistent or recurrent physical or psychological problems

caused or exacerbated by drinking.” The measurement of the abuse criteria set included one additional question to operationalize the “hazardous drinking” criterion. As described below, it appears that other differences between the interviews also appeared that were not clearly documented in the original reports.

Grant et al. (2004) go on to note that they determined

“...the extent to which the addition of these questions might have influenced the comparability of NLAES and NESARC definitions...[by removing them] from the NESARC algorithms used to arrive at abuse and dependence diagnoses, and the associated prevalences were [then] recalculated. Once removed, the NESARC rates of [past-12 month] abuse and dependence decreased by 0.30 and 0.36%” (p. 226).

They go on to argue that

“These results indicate that any differences in the operationalizations of alcohol abuse and dependence due to the addition of the new NESARC questions had a trivial impact on the comparability of NESARC and NLAES definitions and were highly unlikely to account for the trends reported here” (p. 226).

Based on preliminary analyses where we attempted to replicate published figures on 12-month and lifetime prevalence of AUDs in NLAES, it became apparent that other, unpublished measurement and scoring procedures must have been present to produce published prevalence estimates regarding past-12 month alcohol abuse. These four items (two items respectively from hazardous use and role interference) are highlighted in Table 1.

The two datasets also differ regarding the operationalization of lifetime abstinence. In NLAES, lifetime alcohol abstainers were defined as individuals that had consumed less than 12 drinks in any given year during their lifetime. In NESARC, only individuals that consumed no alcoholic beverages during their lifetime were considered to be lifetime alcohol abstainers. Significantly, only individuals that were considered to be non-abstainers were asked abuse and dependence questions. As noted in the NIAAA (2006) report,

“The NESARC and NLAES cover similar issues in two time periods separated by 10 years. However, due to changes in the sampling universe and the definition of current drinkers, readers are cautioned against making simple, direct comparisons between data presented in the two manuals” (p. 1; see also Grucza, Bucholz et al., 2008).

Despite this appropriate caution, various comparisons between NLAES and NESARC findings are often made and these potentially important methodological differences are not typically highlighted (e.g., Grant et al., 2004). Though it is possible to more directly compare NESARC estimates to NLAES estimates by including only those NESARC participants that report consuming 12 or more drinks during their lifetime, it is not possible to compare NLAES to NESARC estimates since, in NLAES, participants who consumed between 1–11 alcoholic beverages during their lifetime did not answer questions regarding AUDs (see *Results and Discussion* section below).

To summarize, there are a number of key differences between the methods and measures employed by NESARC and NLAES that could affect reported prevalences. These include the following: (1) differences in the response format and coding, (2) differences in the number and specific content of items assessing the abuse and dependence criteria sets, (3) differences in how recurrence/duration of events are considered, and (4) different definitions of lifetime abstinence. Given that it was impossible to directly manipulate, and thus test, the influence of most of these factors on the discrepant estimates, a more detailed description of the disparities between the two datasets is provided below. However, since the use of the

recurrence/duration criterion within NLAES could be manipulated, lifetime prevalences of alcohol abuse and AUDs, with and without these criteria, were estimated. The results, and discussion of these results, are presented below.

Results and Discussion

A descriptive breakdown of lifetime AUDs in NLAES and NESARC

Table 2 shows the lifetime prevalences of AUDs for NLAES and NESARC, as well as past-12 month prevalences for purposes of comparison, for both the entire sample (upper panel of Table 2) and excluding lifetime abstainers (bottom panel of Table 2). The rates of AUD are further decomposed by dependence and abuse. As illustrated in Table 2, the discrepant lifetimes rates of AUD between NLAES and NESARC appears to be largely driven by rates of alcohol abuse (4.88% in NLAES, 17.80% in NESARC for full sample). Although there appears to be some increase in past-12 month abuse from NLAES to NESARC, the overall pattern of findings suggests that the major increase in lifetime abuse across the two surveys does not likely reflect a secular trend unless there was an unlikely large period effect occurring during the ten-year interval that was very short-lived. This is true regardless of whether lifetime abstainers are included in the estimates of AUD prevalences¹.

A Closer Examination of Lifetime Abuse in NLAES and NESARC

Given the discrepancy between NLAES and NESARC appears to be largely driven by the abuse category, we further decomposed abuse into its four criteria (i.e., role interference, hazardous use, legal problems, interpersonal problems). Lifetime and past-12 month prevalences for the individual abuse criteria are shown in Table 3. As seen in Table 3, prevalences for both lifetime and past-12 month abuse criteria tend to increase from NLAES to NESARC (with the exception of role interference). However, the largest discrepancy between the lifetime rates of abuse in NLAES and NESARC appears to be driven by the hazardous use criterion (4.41% in NLAES, 16.15% in NESARC for full sample; 6.68% in NLAES, 24.35% in NESARC for non-abstainers).

Indeed, several lines of evidence suggest that the alcohol abuse category is largely comprised of hazardous use (e.g., Babor & Caetano, 2008; Keyes & Hasin 2008; Littlefield & Sher, 2010). For example, over 60% of individuals meet lifetime criteria for alcohol abuse (regardless of dependence) *solely* through hazardous use in both NLAES (61.90%) and NESARC (64.31%). Further, over 90% of individuals that meet lifetime criteria for alcohol abuse (via meeting one, or more than one, abuse criteria) endorse hazardous use in both samples. Notably, the pattern of overlap among abuse criteria is relatively similar between NLAES and NESARC, indicating that increases in abuse are not due to changes in overlap among criteria in these two samples (data not shown). Regardless, the “abuse” diagnosis is largely a diagnosis of “hazardous use” in both surveys.

Strikingly, when the hazardous use criterion is dropped from the AUD scoring algorithms, differences in lifetime rates of AUDs between NLAES (15.15%) and NESARC (18.84%) are substantially reduced. Moreover, as opposed to previous research documenting increases in past-12 month rates of alcohol abuse (Grant et al., 2004), alcohol abuse appears to *decrease* slightly between 1992 and 2002 when hazardous use is eliminated from the abuse criteria. Notably, despite eliminating the hazardous use criterion, lifetime rates of alcohol

¹Notably, differences between rates of alcohol abuse may reflect differences in abuse/dependence overlap between the two samples. In order to evaluate this issue further, we examined rates of abuse without conditioning on dependence status. These analyses suggested that lifetime rates of alcohol abuse, regardless of dependence status, are still extremely discrepant between the two datasets (13.15% in NLAES, and 28.66% in NESARC).

abuse are still significantly higher in NESARC (6.35%) compared to NLAES (1.86%). This suggests that though hazardous use appears to largely drive the discrepancy between these datasets, additional aspects of abuse diagnosis across the two surveys (e.g., the recurrence/duration requirement; see *Does Recurrence/Duration Assessment Make a Difference?* section below) appear to contribute further to differences in AUD prevalence that are reflected in substantial increases in other abuse criteria (i.e., legal and interpersonal problems), as shown in Table 3.

In sum, the significant discrepancy between lifetime rates of AUDs between the NLAES and NESARC datasets is largely attributed to lifetime rates of alcohol abuse. Further investigation of the alcohol abuse category suggests that differences in lifetime rates of the hazardous use criterion account for most of the discrepancy in abuse between these datasets. Thus, in the next stage of our analyses, we will primarily focus on examining potential reasons for the marked differences in lifetime and past-12 month rates of hazardous use between NLAES and NESARC.

Did Rates of Hazardous Use “Truly” Change?

The most straightforward explanation for the differences in lifetime rates of hazardous use is that these rates in hazardous use actually increased from 1992 to 2002. Interestingly, there are several lines of support for the notion that hazardous use as it relates to alcohol use should exhibit *decreases* from 1992 to 2002. As Chou et al. (2005) note, the prevalence of drinking drivers (BAC $\geq 0.05\%$) has decreased from 1986 (8.4%) to 1996 (7.7%) based on national roadside surveys (Voas et al., 1998). Further, the National Highway Traffic Safety Administration (NHTSA), using data from the Fatal Accident Reporting System (FARS), reported that the percentage of young drivers (aged 15–20) who are involved in a fatal crash and found to be intoxicated decreased 24% between 1991 and 2001 (NHTSA, 2010; see Chou et al., 2005). Similar reports from NIAAA (1993; 2003) using FARS data suggest a 15% decrease in alcohol-related fatal traffic crashes for individuals aged 16–24 years between 1991 and 2001. In accordance with these data, Chou et al. (2005) found that self-reported rates of drinking and driving decreased from 1992 to 2002.

These findings imply that other forms of hazardous use (e.g., accidental injury not related to driving) should have increased substantially in order to account for the overall increases in both lifetime and past-12 month rates of hazardous use. Another explanation for decreased drinking and driving in the presence of increased rates of hazardous use is that overlap of dependence with hazardous use (beyond the general association between *overall* abuse and dependence diagnoses described above) decreased significantly (and thus, under DSM-IV criteria, would allow more individuals to diagnose for abuse through hazardous use) in NESARC compared to NLAES.

To examine these potential explanations further, the prevalence of hazardous use was decomposed into the actual items that made up the criterion for both NLAES and NESARC (see Table 4). There are several points to highlight in Table 4. First, as previously noted in the methods section, the items are similar yet not identical between the two datasets (see Table 1) and had different scoring methods. Second, Chou et al. (2005) used the seemingly comparable items between the two datasets (i.e., “More than once drive a car, motorcycle, truck, boat, or other vehicle after having too much to drink”; see Chou et al., 2005) to conclude that past-12 month rates of drinking and driving decreased from 1992 to 2002 (3.7% in NLAES, 2.9% in NESARC). There is also a similar decrease between these items when taking into account dependence (1.95% in NLAES, 1.64% in NESARC). However, lifetime rates of these items appear to *increase* between NLAES and NESARC (3.92% in NLAES, 10.11% in NESARC). Third, the NESARC hazardous use criterion includes an additional item that is ostensibly related to drinking and driving (i.e., “More than once drive

a car or other vehicle while you were drinking”). Notably, this item’s prevalence is higher than any other hazardous use item in both NESARC and NLAES (see Table 4). Fourth, it does not appear that a substantial increase in other forms of hazardous use or changes in the overlap of dependence with hazardous use account for the finding of decreased rates of drinking and driving in the presence of increased rates of hazardous use from 1992 to 2002.

Given these results, the finding that drinking and driving decreased from 1992 to 2002 is highly conditional upon the nature of assessment². Although the somewhat comparable items suggest a 22% decrease in self-reported past-12 month drinking and driving, lifetime prevalences of the same items appear to have increased by 158%. An additional item assessing drinking while driving in NESARC exhibited the highest past-12 month and lifetime prevalence, resulting in an overall *increase* in hazardous use as it relates to driving from NLAES to NESARC. Thus, despite the findings from Chou et al. 2005, it is unclear if self-reported rates of hazardous use of alcohol as it relates to driving decreased from 1992 to 2002. However, given the conflicting FARS data concerning rates of fatalities associated with drinking and driving, it seems unlikely that rates of hazardous use truly *increased* while rates of fatal car crashes attributable to alcohol use *decreased*. These findings suggest that other factors, such as differences in methodology between the two samples, may better account for the discrepant lifetime estimates between NLAES and NESARC.

Are the Discrepancies Moderated by Age Cohort?

One possibility is that the discrepant rates of lifetime abuse between the samples is limited to only a given age cohort. Until this point, we have only discussed overall rates of lifetime abuse but have not considered differences in prevalence among age cohorts in NLAES and NESARC. Prevalence results stratified by age in both samples are presented in Figure 1. As seen in the top panel of Figure 1, past-12 month rates of AUD appear to be similar between NLAES and NESARC in every cohort. However, in all age cohorts, rates of lifetime AUD appear to be higher in NESARC than in NLAES, especially in older age cohorts. In the middle panel of Figure 1, it can be seen that past-12 month and lifetime prevalences of dependence are largely similar between the two datasets across age. However, as illustrated in the bottom panel of Figure 1, lifetime rates of alcohol abuse are substantially higher in NESARC across all age cohorts compared to NLAES. Thus, it appears that, for some unspecified reason, differences in lifetime rates across the two interviews vary as a function of age strata. However, given the overall pattern of findings with respect to past-12 month prevalences, it does not appear that a secular trend is the most likely explanation.

Does Recurrence/Duration Assessment Make a Difference?

One methodological difference between the two surveys that could explain both overall differences in lifetime abuse prevalence as well as the heightened discrepancy in older age cohorts is how recurrence/duration is assessed (see Table 1). Recall that NLAES requires explicit recurrence/duration *for a prior-to-past-12-month abuse diagnosis* whereas in NESARC there is no comparable items in the scoring (although duration criteria were embedded in most questions; see Table 1). In order to assess the potential impact of the recurrence/duration items on the overall lifetime rates of alcohol abuse in NLAES, estimates not requiring the endorsement of these items were calculated. Critically, when these requirements were removed for abuse diagnosis in NLAES, the lifetime rates of abuse became substantially more similar across all cohorts (see Figure 2). Specifically, the adjusted lifetime prevalence of AUD in NLAES (28.89%) is much more similar to

²Notably, we believe that the archival public safety and mortality data that suggest a clear decrease in certain outcomes related to drinking and driving and the survey data that portrays a more complicated picture are both legitimate forms of data that address highly related but somewhat distinct phenomena.

NESARC (30.28%), reflecting more comparable levels of lifetime alcohol abuse in NLAES (15.59%) compared to NESARC (17.80%). Therefore, when the specific recurrence/duration items in NLAES are removed from scoring algorithms, NLAES and NESARC provide a similar picture of lifetime AUDs.

Summary and Conclusions

As noted at the outset, the most definitive estimates of AUDs in the U.S. population suggest that, in the 10 year period between 1992 and 2002, lifetime rates of AUDs increased by 67%. At face value, if these estimates are valid, it would suggest that there have been major changes in the epidemiology of AUDs that require major public health attention. One of the reasons why these seemingly disparate estimates must be taken seriously is that the NLAES and NESARC surveys were designed to be nationally representative and comparable with respect to the assessment of AUDs and other alcohol-related behaviors.

Our findings appear to rule out the possibility that a massive increase in AUDs occurred in the United States general population during this period, at least as measured by NLAES and NESARC. Specifically, our analyses indicate that a vast majority of change in lifetime AUD occurred with respect to alcohol abuse and not alcohol dependence. Moreover, most but not all of this increase in abuse was attributable to self-reported changes in hazardous use that do not track with other archival measures of outcomes related to hazardous use in the population. Key methodological differences regarding the assessment of recurrence/duration for prior-to-past-year alcohol abuse appeared to explain most of the discrepancy in lifetime AUD estimates. These findings, in conjunction with the relative lack of differences in the 12-month prevalence of AUDs, suggest that most if not all of these differences are likely due to method differences in the two surveys.

These findings have important implications for substance use and other psychiatric surveillance and epidemiology where meaningful cross-temporal comparisons are desired. Clearly, improvements in sampling, measurement, and nosology occur along with scientific progress and slavishly adhering to past methods to insure strict comparability can result in anachronistic measures and constructs. However, it is always desirable to embed methods and measures that will allow strict comparison on a restricted set of criteria and/or set of participants to be able to gauge the extent that underlying phenomena of interest are showing valid change. It is notable that the seemingly minor differences in NLAES and NESARC could lead to such large discrepancies on important outcomes such as estimates of lifetime AUD even within the same DSM-IV diagnostic framework. For instance, Chung, Martin, Armstrong, & Labouvie (2002) compared various adolescent AUD studies and found substantial differences in dependence prevalence across them. These discrepancies appeared to be primarily attributable to how some symptoms (e.g., tolerance) were operationalized (see also Caetano & Babor, 2006, for a related issue). This problem becomes even more acute when comparing studies conducted using different nosologies (e.g., ICD vs. DSM, DSM-IV versus DSM-V). Attention to maintaining strict backward compatibility on subsets of individuals would do much towards distinguishing real from artifactual difference. The fact that this compatibility was not ensured between NLAES and NESARC causes confusion and represents a lost opportunity to provide directly comparable estimates of AUDs in two large, representative samples. Moreover, given that estimates from these datasets are used to inform public policy discussions involving the designation of resources for alcohol-related research, assessment, and treatment (e.g., Caetano, 2006), the lack of a convergent estimate of lifetime AUD prevalence is problematic.

It is noteworthy that the large discrepancies we observed in lifetime diagnoses appeared to be mostly restricted to the abuse and not the dependence diagnosis. In recent years the abuse

construct has come under increasing criticism for a number of reasons (Martin, Chung, & Langenbucher, 2008; Vergés, Steinley, Trull, & Sher, in press). For example, the use of one-criterion symptom thresholds can potentially lead to many assessment issues, such as increased heterogeneity among diagnostic groups and decreased reliability. Considering that symptoms contributing to the lifetime diagnosis for abuse in NESARC were operationalized with frequency embedded within the question (i.e., “more than once”; see Table 1), the one criterion threshold for abuse becomes especially problematic. For instance, an individual could diagnose with lifetime abuse in NESARC by reporting driving after having too much to drink only twice over a period of many years. This does not appear to be an optimal conceptualization of persistent or recurrent behavior. Further, considering the wording of some items (e.g., more than once drive a car or other vehicle while you were drinking; see Table 1), hazardous use could be endorsed despite reports of drinking that may not lead to impairment. Thus, the vulnerability of this one-criterion, residual diagnosis (i.e., alcohol abuse) to method variance provides yet another cause for concern.

Partially in response to these concerns, an overall substance use disorder category has been proposed for DSM-V that will consist of existing items from abuse and dependence (excluding legal problems and including a craving item), resulting in eleven substance use disorder items. According to the proposal “on the table” in the most recent draft available at the time of this writing, individuals who endorse two of eleven of these items will meet criteria for a substance use disorder (American Psychiatric Association, 2010). The two of eleven scoring algorithm was, in part, put in place to maintain comparable AUD prevalences between DSM-IV and DSM-V (Borges et al., 2010).

Though eliminating the abuse/dependence distinction may address some concerns regarding the abuse category, this “lumping” may result in additional problems. Given this paper raises concerns regarding the current estimates of AUD prevalence, the strategy of maintaining comparability of AUD prevalence between DSM-IV and DSM-V may be misguided. Additionally, the finding that the sole endorsement of hazardous use represents a substantial percentage of those individuals that meet diagnosis for lifetime AUD (i.e., approximately 38% in NESARC) also has disturbing implications. Specifically, these findings suggest a substantial portion of individuals may meet diagnosis for an AUD under proposed DSM-V criteria by endorsing hazardous use and one additional item. Therefore, the currently proposed DSM-V AUD category (American Psychiatric Association, 2010) may largely be represented by hazardous use related to alcohol (Martin, Steinley, Vergés, & Sher, 2010). This is especially concerning, given that the hazardous use criterion (which is largely represented by driving while intoxicated) appears to be influenced by gender, age, ethnicity, socioeconomic status, and cultural factors (Babor & Caetano, 2008; Kahler & Strong, 2006; Keyes & Hasin, 2008; Martin, Chung, Kirisci, & Langenbucher, 2006; Martin et al., 2008). In developing and evaluating criteria for substance use and other diagnoses, attention to influence by subtle variation in assessment and construct operationalization/conceptualization should be a key consideration.

Though the focus of our analyses has been on method, it is important to highlight that our results are reassuring that the recent past has not borne witness to an alarming increase in alcohol use disorders. Although clearly one of our Nation’s most serious health problems, alcohol use disorders do not appear to be increasing at the rate suggested by these two landmark studies.

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Figure 1.
Prevalences of lifetime and past-12 month AUD, dependence and abuse across the lifespan in NLAES and NESARC.

Figure 2.

Prevalences of lifetime abuse across the lifespan in NLAES and NESARC. W/O REC/DUR = without recurrence/duration items in the scoring algorithm.

Table 1**Scoring for DSM-IV alcohol abuse in NLAES and NESARC**

	NLAES	NESARC
I. Criterion Items	Role Interference	
	1a. Get drunk or feel hungover when you were supposed to be doing something important-like being at work, school, or taking care of your home or family	1. Have a period when your drinking or being sick from drinking often interfered with taking care of your home or family
	1b. Get drunk or feel hungover when you were actually doing something important-like being at work, school, or taking care of your home or family	
	2*. Have job or school trouble because of your drinking-like missing too much work, not doing your work well, being demoted at work, or dropping out of school ^a	2*. Have job or school troubles because of your drinking or being sick from drinking-like missing too much work, not doing your work well, being demoted or losing a job, or being suspended, expelled or dropping out of school
	3'. Lose job because of your drinking ^a	
II. Criterion Items	Hazardous Use	
	1*. Drive a car, motorcycle, truck, boat, or other vehicle after having too much to drink	1*. More than once drive a car, motorcycle, truck, boat, or other vehicle after having too much to drink
	2*. Get into a situation while drinking or after drinking that increased your chances of getting hurt-like swimming, using machinery, or walking in a dangerous area or around heavy traffic	2*. Get into situations while drinking or after drinking that increased your chances of getting hurt-like swimming, using machinery, or walking in a dangerous area or around heavy traffic
	3'. Have a car, motorcycle, truck, boat or other accident because of your drinking ^a	3'. More than once drive a car or other vehicle while you were drinking
	4'. Accidentally injure yourself while under the influence of alcohol, for example, have a bad fall or cut yourself badly, get hurt in a traffic accident, or anything like that ^a	
III. Criterion Item(s)	Interpersonal Problems	
	1. Continue to drink even though you knew it was causing you trouble with your family or friends	1. Continue to drink even though you knew it was causing you trouble with your family or friends
		2'. Get into physical fights while drinking or right after drinking
IV. Criterion Item	Legal Problems	
	1*. Got arrested or held at police station because of drinking	1*. Get arrested, held at a police station, or have any other legal problems because of your drinking
Past-12 months diagnosis	Any endorsement of (a) criterial item(s) according to the following: Criteria I and II = more than once on any of the items or once on two or more. Criterion III = endorse the item. Criterion IV = more than once on the item	Any endorsement of (a) criterial item(s)
Prior to past-12 months diagnosis	Any endorsement of (a) criterial item(s) + either recurrence/duration item:	Any endorsement of (a) criterial item(s)

NLAES	NESARC
1. Before last (Month one year ago) was there ever a period when (this/any one of these) experience(s) was happening on and off for a few months or longer OR	
2. Before last (Month one year ago) was there ever a period when (this/any one of these) experience(s) was happening most days for at least a month	

Note. Items sharing the same number are identical. Numbers followed by letters (e.g., 1a, 1b) indicate that the corresponding item has been broken down into more than one item.

* Similar items that have slight differences in wording.

' Completely different items.

^a The item is included in past-12 month scoring but not in prior-to-past-12 month.

Table 2

Past-12 month and lifetime prevalences of AUDs in NLAES and NESARC

	NLAES		NESARC	
Diagnosis	<i>n</i>	Prevalence	<i>n</i>	Prevalence
Overall Sample				
	<i>N</i> =42,862		<i>N</i> =43,093	
Past-12 Month				
AUD	2910	7.40 (0.29)	3327	8.46 (0.24)
Abuse	1186	3.03 (0.17)	1843	4.65 (0.18)
Dependence	1724	4.38 (0.17)	1484	3.81 (0.14)
Lifetime				
AUD	7359	18.17 (0.65)	11843	30.28 (0.77)
Abuse	1947	4.88 (0.23)	7062	17.80 (0.52)
Dependence	5412	13.29 (0.46)	4781	12.48 (0.35)
Without Abstainers				
	<i>N</i> =27,616		<i>N</i> =34,827	
Past-12 Month				
AUD	2910	11.22 (0.38)	3324	12.77 (0.32)
Abuse	1186	4.59 (0.23)	1842	7.02 (0.33)
Dependence	1724	6.63 (0.24)	1482	5.75 (0.20)
Lifetime				
AUD	7359	27.52 (0.79)	11820	45.68 (0.87)
Abuse	1947	7.39 (0.30)	7042	26.82 (0.60)
Dependence	5412	20.13 (0.58)	4778	18.86 (0.46)

Note. AUD = Alcohol Use Disorder (abuse and/or dependence). Standard errors are presented in parentheses.

Table 3

Past-12 month and lifetime prevalences of the abuse criteria in NLAES and NESARC

Abuse Criteria	NLAES		NESARC	
	Past-12 month	Lifetime	Past-12 month	Lifetime
Role Interference	0.69 (0.06)	1.00 (0.07)	0.10 (0.02)	0.96 (0.06)
Hazardous Use	2.49 (0.13)	4.41 (0.22)	4.20 (0.18)	16.15 (0.50)
Legal Problems	0.03 (0.01)	0.63 (0.06)	0.28 (0.03)	3.17 (0.14)
Interpersonal	0.34 (0.04)	0.74 (0.06)	0.56 (0.05)	4.20 (0.15)
Total	3.03 (0.17)	4.88 (0.23)	4.65 (0.18)	17.80 (0.52)

Note. Standard errors are presented in parentheses.

Table 4

Past-12 month and lifetime prevalences of individual items in the hazardous use criterion, excluding dependence and regardless of dependence, in NLAES and NESARC

Item	Excluding Dependence		Regardless of Dependence	
	Past-12 month	Lifetime	Past-12 month	Lifetime
NESARC				
More than once drive a car or other vehicle while you were drinking	3.11 (0.15)	11.85 (0.42)	4.53 (0.20)	19.72 (0.65)
More than once drive a car, motorcycle, truck, boat, or other vehicle after having too much to drink	1.64 (0.10)	10.11 (0.35)	2.87 (0.13)	17.85 (0.57)
Get into situations while drinking or after drinking that increased your chances of getting hurt-like swimming, using machinery, or walking in a dangerous area or around heavy traffic	0.84 (0.06)	4.51 (0.17)	1.85 (0.10)	10.09 (0.32)
NLAES				
Drive a car, motorcycle, truck, boat, or other vehicle after having too much to drink	1.95 (0.11)	3.92 (0.20)	3.68 (0.19)	11.03 (0.53)
Get into a situation while drinking or after drinking that increased your chances of getting hurt-like swimming, using machinery, or walking in a dangerous area or around heavy traffic	0.63 (0.05)	1.46 (0.08)	1.49 (0.11)	5.85 (0.30)
Accidentally injure yourself while under the influence of alcohol, for example, have a bad fall or cut yourself badly, get hurt in a traffic accident, or anything like that	0.10 (0.02)		0.40 (0.04)	
Have a car, motorcycle, truck, boat or other accident because of your drinking	0.01 (0.00)		0.04 (0.01)	

Note. Standard errors are presented in parentheses. NLAES estimates include the duration criteria items shown in Table 1.