

U.S. Alcohol Epidemiologic
Data Reference Manual
Volume 6, First Edition

**DRINKING IN THE UNITED STATES:
MAIN FINDINGS FROM THE 1992 NATIONAL LONGITUDINAL
ALCOHOL EPIDEMIOLOGIC SURVEY (NLAES)**

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Foreword

This Alcohol Epidemiologic Data Reference Manual (AEDRM) is one of a series of manuals that provide extensive data and other information useful to researchers, health care planners, and others interested in alcohol abuse, associated illnesses, and alcohol-related mortality. It is hoped that these documents, prepared by the National Institute on Alcohol Abuse and Alcoholism (NIAAA), will serve as a useful reference for both researchers and others interested in the alcoholism field.

This manual is the first edition of Volume 6 of the AEDRM series, and provides an extensive compilation of data from the National Longitudinal Alcohol Epidemiologic Survey, a 1992 household survey designed and sponsored by NIAAA. Forthcoming editions of Volume 6 of the AEDRM series will focus on alcohol-related data from other national surveys.

Other volumes of the AEDRM series include information on per capita ethanol consumption, liver cirrhosis mortality, county alcohol-problem indicators, hospital discharges with alcohol-related conditions, and State trends in alcohol-related mortality.

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1. Introduction

The National Institute on Alcohol Abuse and Alcoholism (NIAAA), a part of the National Institutes of Health, is the primary Federal agency that conducts research on alcohol use and its consequences. The important task of assessing the scope and consequences of alcohol use is carried out by NIAAA's Division of Biometry and Epidemiology (DBE). One way in which DBE accomplishes this goal is through the Alcohol Epidemiologic Data System (AEDS), which serves as a repository of national-level data useful for alcohol epidemiology and as a resource for analysis of such data.

Another way in which NIAAA and DBE meet the responsibility of assessing the scope and consequences of alcohol use is by sponsoring and collaborating in the design of major data collection efforts by other agencies. For example, three alcohol supplements to the National Health Interview Survey (in 1979, 1983, and 1988) were partially funded by and designed with the collaboration of NIAAA. NIAAA also provided funding and technical expertise to the 1993 National Mortality Followback Survey. In addition, NIAAA has funded other data collection efforts through various grants and contracts.

In 1992, NIAAA conducted the National Longitudinal Alcohol Epidemiologic Survey (NLAES)—at that time, the most ambitious and comprehensive survey of its type ever conducted. The NLAES included extensive questions concerning alcohol consumption, as well as items designed to provide psychiatric classification of alcohol use disorders. In addition, there were a variety of other questions concerning family history of alcoholism, alcohol treatment, health conditions, major depressive disorder, and basic demographic information. This Data Reference Manual is the first in a series of AEDS manuals to provide detailed findings from various national surveys addressing alcohol use and alcohol problems. The first manual in this series focuses on data from the NLAES. The following sections describe the NLAES, as well as the variables and data tables presented in this manual.

2. Data Source

All data in this manual came from the 1992 NLAES, a nationwide household survey designed and sponsored by NIAAA. The U.S. Bureau of the Census did fieldwork for this survey. For the NLAES, direct face-to-face interviews were conducted with 42,862 respondents, 18 years of age and older, in the contiguous United States and the District of Columbia. The household-response rate for the NLAES was 91.9 percent, and the person-response rate was 97.4 percent.

The NLAES featured a complex multistage design (Massey, Parsons, and Tadros 1989). Primary sampling units (PSUs) were stratified according to sociodemographic criteria and were selected with probability proportional to size. Approximately 200 PSUs were in the 1992 NLAES sample; 52 of these were self-representing—that is, selected with certainty. Within PSUs, geographically defined secondary sampling units, referred to as segments, were selected systematically for each PSU. At this stage there was oversampling of the black population.

Segments were then divided into clusters of approximately four to eight housing units, and all occupied housing units were included in the sampling frame. Within each household, one randomly selected respondent, 18 years of age or older, was selected to participate in the survey. At this stage young adults (18-29) years of age were oversampled.

Readers should be aware that estimates for American Indians/Alaska Natives must be carefully interpreted for two reasons. First, because the NLAES did not include the State of Alaska in its sampling plan, estimates for this group may not be representative of Alaska Natives. Second, the estimates for American Indians/Alaska Natives are less reliable than similar estimates for other race groups. This is because of the relatively small numbers of this group in the U.S. population. All tables in this manual include estimates of standard errors to assist readers in assessing the meaning of the numbers presented.

Because of the complex survey design of the NLAES, variance estimation procedures that assume a simple random sample cannot be employed. Research has shown that clustering and stratification of the NLAES sample may result in standard errors much larger than those that would be obtained with a simple random sample of equal size. The implication of this is that variance estimates that do not account appropriately for sample design effects can produce inaccurate estimates of statistical significance, making nonsignificant differences appear to be significant. To take into account the NLAES sample design, all standard errors of estimates presented in this manual were generated using SUDAAN (Research Triangle Institute 1997), a computer program that uses appropriate statistical techniques to adjust for sample design characteristics.

3. Data Coverage

Data provided in this manual include items associated with alcohol. Other types of information are also included, as described in the following sections.

3.1 NLAES Alcohol Items

The primary focus of the NLAES is alcohol, including amounts and patterns of consumption, experiences associated with drinking, classification of DSM-IV alcohol use disorders, and family history of alcohol problems. The following sections describe the alcohol variables used in this manual.

3.1.1 Drinking Status

Because the NLAES sampling frame included all household residents 18 years of age and older in the contiguous United States, a substantial number of respondents were nondrinkers (either lifetime abstainers or former drinkers). For this reason, the first items in the NLAES were screener questions designed to assess current drinking status and allow interviewers to select only appropriate questions for each person interviewed. Respondents reporting consumption of at least 12 drinks in the past year were classified as current drinkers. Those who were not current drinkers but who reported drinking at least 12 drinks in any year prior to the past year were classified as former drinkers. All others were classified as lifetime abstainers. Most of the tables in this manual are based on current drinkers only.

Questions used to determine drinking status (Items 1, 2, and 3 from Section 1 of the NLAES) are shown in Exhibit 1. The purpose of showing NLAES questionnaire items in this and other exhibits is to assist the reader by providing the exact wording of questions. Response alternatives and skip patterns are not shown in the exhibits.

3.1.2 Drinking Level

The NLAES contains detailed questions about past-year alcohol consumption. For each beverage type (beer, wine, and liquor), there are questions about usual frequency of drinking, quantity of drinks consumed on drinking days, and size of drinks. The amount of ethanol in each drink can be calculated by using an ethanol conversion factor—the proportion of each drink that is pure alcohol. Ethanol conversion factors used in this manual were .045 for beer, .121 for wine, and .409 for liquor (DISCUS 1985; Kling 1989; Kling 1991; Modern Brewery Age 1992; Turner 1990; Williams et al. 1996). From these items, it is possible to calculate estimates of total ethanol consumption during the past year. Dividing this annual total by 365 yields an estimate of “drinking level,” the average daily amount of ethanol consumed.

Responses to questions about frequency of drinking individual types of beverage (and also frequency of drinking 5 or more drinks in a single day or frequency of drinking to intoxication) were recorded categorically by interviewers. Estimates in the form of numbers were derived by converting the midpoints of categorical frequency responses to days per year. For example:

**Exhibit 1. National Longitudinal Alcohol Epidemiologic Survey (Section 1):
Selected Questions on Alcohol Consumption**

1. In your entire life, have you had at least 12 drinks of any kind of alcohol?
2. Over the past 12 months, did you have at least 12 drinks of any kind of alcohol?
3. Was there any one year period in your entire life when you had at least 12 drinks of any kind of alcohol?
- 4a. During the last 12 months, did you drink any beer?
- 4j. On the days when you drank beer in the last 12 months, did you **USUALLY** drink regular beer, malt liquor beer, lite or reduced calorie beer, or low-alcohol beer? *If more than one type, mark all that apply.*
- 5a. During the last 12 months, did you drink any wine coolers, champagne, or sparkling wine?
- 5j. On the days when you drank wine in the last 12 months, did you **USUALLY** drink regular wine, wine coolers, or fortified wine? *If more than one type, mark all that apply.*
- 6a. During the last 12 months, did you drink any liquor, including mixed drinks and liqueurs?
- 6j. On the days when you drank liquor in the last 12 months, did you **USUALLY** drink mixed drinks, liqueurs, or did you drink your liquor, other than liqueurs, straight? *If more than one type, mark all that apply.*
- 7a. Now I would like to ask you some questions about **WHEN** you **USUALLY** had something to drink during the last 12 months. Including all types of alcohol, on which days of the week did you **USUALLY** have something to drink in a typical month in the past year? Any other days? *Mark (X) all that apply.*
- 9b. During the last 12 months, about how often did you have five or more drinks of any type of alcohol in a single day?
11. About how often would you say you **USUALLY** drank enough to feel drunk during the last 12 months? By drunk, I mean times when your speech was slurred, you felt unsteady on your feet, or you had blurred vision.
15. About how old were you when you first started drinking, not counting small tastes or sips of alcohol?

every day	=	365,
nearly every day	=	312,
3–4 days a week	=	182,
1–2 days a week	=	78,
2–3 days a month	=	30,
once a month	=	12,
7–11 days in past year	=	9,
3–6 days in past year	=	5,
2 days in past year	=	2,
1 day in past year	=	1, and
never	=	0.

The *usual* (or unadjusted) daily volume of ethanol intake for each individual beverage type was estimated using the following formula:

$$ethanol = \frac{(days)(quantity)(size)(factor)}{365}$$

where:

- ethanol = usual average daily ethanol for beverage type;
- days = total days when drank beverage;
- quantity = usual quantity of drinks of beverage consumed per day;
- size = size of drink in ounces; and
- factor = ethanol conversion factor for beverage type.

The NLAES also includes questions about past-year consumption during periods when the respondent may have been drinking more than usual. The *usual/heaviest* (or adjusted) daily volume of ethanol intake for each beverage type was calculated with the following formula:

$$ethanol = \frac{[(tdays - hdays)(uquan)(usize)(factor)] + [(hdays)(hquan)(hsize)(factor)]}{365}$$

where:

- ethanol = usual/heaviest average daily ethanol for beverage type;
- tdays = total days per year when drank beverage;
- hdays = days per year when drank heaviest quantity of beverage;
- uquan = usual quantity of drinks of beverage consumed per day;
- usize = size of drink associated with usual quantity in ounces;
- factor = ethanol conversion factor for beverage type;
- hdays = days per year when drank heaviest quantity;
- hquan = heaviest quantity of drinks of beverage per day when drank beverage; and
- hsize = size of drink in ounces associated with heaviest quantity.

The sum of daily ethanol consumption for beer, wine and spirits provided an estimate of the overall average daily ethanol consumption.

Estimates of average drinking level (light, moderate, or heavier) were created from both the usual and usual/heaviest daily ethanol intakes. Regardless of which underlying volume measure was used, the following categories defined average drinking level: light drinker = at least 12 drinks in past year to <0.22 ounces of ethanol per day, moderate drinker = 0.22 to <1.00 ounces of ethanol per day, and heavier drinker = 1.00 or more ounces of ethanol per day.

3.1.3 Overall Beverage Preference

NLAES questions 4a, 5a, and 6a in Section 1 (see Exhibit 1) ask about past-year consumption of beer, wine, and liquor. There were relatively few respondents who consumed only one of the three types of alcohol. Overall beverage preference in this manual was derived from calculations of average daily ethanol in the form of beer, wine, and liquor, separately. Overall beverage preference was assigned to a single type of alcohol if the respondent received at least 75 percent of past-year ethanol from a single type of beverage. If no beverage type predominated using this rule, the respondent was assigned to a “no preference” category.

3.1.4 Specific Beverage Preference

For each beverage type, questions 4j, 5j, and 6j in Section 1 (see Exhibit 1) ask about types of beer (or wine or liquor) consumed in the past year. For beer the alternatives were regular beer, malt liquor beer, lite or reduced-calorie beer, or low-alcohol beer. For wine the alternatives were regular wine, wine coolers, or fortified wine. The alternatives for liquor were mixed drinks, liqueurs, or straight (for liquor other than liqueurs). A respondent could indicate drinking more than one type of beer, wine, or liquor. Categories used in this manual are: regular beer, lite or reduced-calorie beer, and malt liquor beer/low-alcohol beer/combinations for beer; regular wine, wine coolers, and fortified wine/combinations for wine; and mixed drinks, straight, or liqueurs/combinations for liquor.

3.1.5 Drinking Onset

Question 15 in Section 1 (shown in Exhibit 1) asks respondents to report the age when they first started drinking (“not counting small tastes or sips”). Age categories used in this manual are: 16 or younger; 17 or 18; 19 or 20; and 21 or older.

3.1.6 Patterns of Drinking

Question 7a in Section 1 (see Exhibit 1) asks about days of the week on which a respondent drank any type of alcohol in the past year. For this variable, the categories used in this manual are: on holidays and special occasions only, on weekends only (Friday, Saturday, and Sunday), and on weekdays/weekends (no particular days).

As shown in Exhibit 1, question 9b in Section 1 asks directly about the frequency of the respondent’s drinking five or more drinks in a single day. The categories used for this variable in

this manual are: never; 1–11 times (less than once a month); and 12 or more times (at least once a month).

Response categories are the same for another variable related to drinking pattern. Question 11 in Section 1 (see Exhibit 1) asks about the frequency with which the respondent drank enough to feel drunk in the past year. In this manual, the response categories are: never; 1–11 times (less than once a month); and 12 or more times (at least once a month).

3.1.7 Hazardous Drinking

Question 1c(19) of Section 2 (shown in Exhibit 2) asks about the number of times in the past year when the respondent drove a vehicle (car, motorcycle, truck, boat, or other vehicle) after having too much to drink. Responses were coded as not once, 1 or 2 times, or 3 or more times in the past year.

Question 1b(20) of Section 2 (shown in Exhibit 2) asks about getting into a situation while or after drinking that increased a respondent's chances of getting hurt (e.g., swimming, using machinery, or walking in a dangerous area or around heavy traffic). Responses were coded not once or at least once in the past year.

3.1.8 DSM-IV Alcohol Use Disorders

The NLAES includes questionnaire items designed to classify alcohol use disorders based on criteria articulated in the *Diagnostic and Statistical Manual, Fourth Edition: DSM-IV™* (American Psychiatric Association 1994).

A diagnosis of DSM-IV alcohol abuse requires that a person show a maladaptive pattern of alcohol use, leading to clinically significant impairment or distress, as demonstrated by at least one of the following: (1) continued use despite a social or interpersonal problem caused or exacerbated by the effects of drinking; (2) recurrent drinking in situations in which alcohol use is physically hazardous; (3) recurrent drinking resulting in a failure to fulfill major role obligations; or (4) recurrent alcohol-related legal problems. A diagnosis of alcohol dependence requires that a person meet at least three of seven criteria defined for dependence in any 12-month period. The criteria for alcohol abuse and dependence, along with the NLAES questionnaire items used to determine whether a person meets a particular criterion, are shown in Exhibit 3.

The duration criterion for either alcohol use disorder defines the repetitiveness with which certain diagnostic criteria must occur during a 12-month period for these criteria to be considered positive. As shown in Exhibit 3, duration criteria for alcohol abuse and dependence are not associated with every diagnostic criterion and are defined by qualifiers such as “recurrent,” “often,” and “persistent” desire or unsuccessful “efforts.”

**Exhibit 2. National Longitudinal Alcohol Epidemiologic Survey (Section 2):
Selected Questions on Alcohol Experiences**

1a. I'm going to read you a list of experiences that many people have reported in connection with their drinking. As I read each experience, please tell me if this has ever happened to you. In your entire life, did you EVER...

(19) Drive a car, motorcycle, truck, boat, or other vehicle after having too much to drink?

(20) 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?

1b. Did this happen in the last 12 months? (Asked separately for each experience respondent ever had.)

1c. About how many times did this experience happen in the last 12 months? (Asked separately for each experience respondent had in the past 12 months.)

Exhibit 3. National Longitudinal Alcohol Epidemiologic Survey (Section 2):

DSM-IV Alcohol Abuse and Dependence Diagnostic Criteria and Associated Questionnaire Items

Diagnostic Criteria for Alcohol Abuse

Diagnostic Criterion: Continued to drink despite social or interpersonal problem caused by drinking

Questionnaire Item:

- Continued to drink even though you knew it was causing you trouble with your family or friends.

Diagnostic Criterion: Recurrent drinking in situations where alcohol use is physically hazardous*

Questionnaire Items:

- Drive a car, motorcycle, truck, boat, or other vehicle after having too much to drink.
- 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.

Diagnostic Criterion: Recurrent alcohol-related legal problems*

Questionnaire Item:

- Get arrested or held at a police station because of your drinking.

Diagnostic Criterion: Recurrent drinking resulting in failure to fulfill major role obligations at work, school, or home*

Questionnaire Items:

- Get drunk or have a hangover when you were supposed to be doing something important—like being at work, school, or taking care of your home or family.
- Get drunk or have a hangover when you were actually doing something important—like being at work, school, or taking care of your home or family.

Diagnostic Criteria for Alcohol Dependence¹

Diagnostic Criterion: Tolerance²

Questionnaire Items:

- Find that your usual number of drinks had much less effect on you than it once did.
- Find that you had to drink much more than you once did to get the effect you wanted.

Diagnostic Criterion: Withdrawal syndrome³ or withdrawal relief/avoidance

Questionnaire Items:

- Have any of the following experiences happened when the effects of alcohol were wearing off [Pause], several hours after drinking [Pause], or the morning after drinking? For example did you ever:
 - (a) Have trouble falling asleep or staying asleep.
 - (b) Find yourself shaking when the effects of alcohol were wearing off.
 - (c) Feel depressed, irritable, or nervous.
 - (d) Feel sick to your stomach or vomit when the effects of alcohol were wearing off.
 - (e) Have a very bad headache.
 - (f) Find yourself sweating or your heart beating fast when the effects of alcohol were wearing off.

- (g) See, feel, or hear things that were not really there.
- (h) Have fits or seizures when the effects of alcohol were wearing off.

- Take a drink to get over any of the bad aftereffects of drinking.
- Take a drug other than aspirin, Tylenol™, or Advil™, to keep from having a hangover or to get over the bad aftereffects of drinking.
- Take a drink to keep from having a hangover to make yourself feel better when you had one.

Diagnostic Criterion: Drinking larger amounts over a longer period of time than intended*

Questionnaire Items:

- Start drinking even though you decided not to or promised yourself you would not.
- End up drinking more than you meant to.
- Keep on drinking for a much longer period of time than you had intended to.

Diagnostic Criterion: Persistent desire or unsuccessful efforts to cut down or control drinking*

Questionnaire Items:

- Want to stop or cut down on your drinking.
- Try to stop or cut down on your drinking but found you could not do it.

Diagnostic Criterion: Important social, occupational, or recreational activities given up or reduced in favor of drinking

Questionnaire Items:

- Give up or cut down on activities that were important to you in order to drink—like work, school, or associating with friends or relatives.
- Give up or cut down on activities that you were interested in or that gave you pleasure in order to drink.

Diagnostic Criterion: Great deal of time spent in activities to obtain alcohol, to drink, or to recover from its effects

Questionnaire Items:

- Spend so much time drinking that you had little time for anything else.
- Spend a lot of time being sick or with a hangover from drinking.
- Spend a lot of time making sure that you always had alcohol available.

Diagnostic Criterion: Continued to drink despite knowledge of having a persistent or recurrent physical or psychological problem caused or exacerbated by drinking

Questionnaire Items:

- Continued to drink even though you knew it was making you feel depressed, uninterested in things, or suspicious or distrustful of other people.
- Continued to drink even though you knew it was causing you a health problem or making a health problem worse.

* In order for the criterion to be positive, either: (a) two or more symptoms must have occurred at least once, or (b) one or more symptoms must have occurred at least twice during the past year.

¹ Dependence diagnoses can be specified with physiological dependence (i.e., evidence of either tolerance or withdrawal) or without physiological dependence (i.e., no evidence of either tolerance or withdrawal).

² Tolerance need have occurred only once during the past year for the criterion to be positive.

³ Two or more symptoms of withdrawal must have occurred at least twice during the past year for the criterion to be positive.

SOURCE: Grant et al. 1994

To satisfy the duration criterion for abuse, a respondent must have experienced two or more symptoms of an abuse criterion associated with a duration qualifier at least once during the past year, or alternatively, at least one symptom of that diagnostic criterion must have occurred at least twice during the past year. For those abuse criteria not associated with a duration qualifier, a related symptom need only have occurred once in the past year to be counted as positive toward an abuse diagnosis.

Similarly, to satisfy the duration criterion for dependence, at least one symptom of a diagnostic criterion associated with a duration qualifier must have occurred at least twice over the course of the year preceding the interview, or alternatively, two or more symptoms related to these criteria must have occurred at least once during the same time period.

For analyses presented in this manual, the classification of dependence was qualified further in an important way. Because the withdrawal criterion of alcohol dependence is defined in DSM-IV as a syndrome (i.e., a cluster of symptoms), at least two symptoms of withdrawal, which meet the duration criterion, had to occur during the past 12 months for the withdrawal criterion to be met.

3.1.9 Family History of Alcoholism

Section 3 of the NLAES asks questions about family history (see Exhibit 4). For these questions, an alcoholic or problem drinker is defined as: a person who has physical or emotional problems because of drinking; problems with a spouse, family, or friends because of drinking; problems at work because of drinking; problems with the police because of drinking—like drunk driving; or a person who seems to spend a lot of time drinking or being hungover.

The type of relative who has been an alcoholic or problem drinker can be either a blood or non-blood relative. Blood relatives can be further classified as first-degree or second-degree relatives. First-degree relatives are biological parents or children, and full siblings. Second-degree relatives are natural parents' biological parents, full siblings of either natural parent, and half siblings of the respondent on either natural parent's side. Non-blood relatives include step/adoptive/foster parents, siblings and children, unrelated parents/guardians of either natural parent, and relatives through marriage including domestic partners.

The NLAES items shown in Exhibit 4 provide a basis on which to categorize NLAES respondents with regard to family history of alcoholism: no family history of alcoholism; second-degree relatives only alcoholic; first-degree relatives only alcoholic; both first- and second-degree relatives alcoholic. Respondents' family members were included even if they were deceased at the time of the interview; family members younger than 10 and deceased family members who died before they reached age 10 were excluded.

Questions 30 and 33 of Section 3 (see Exhibit 4) ask specifically about ever being married to an alcoholic/problem drinker or ever living with an alcoholic/problem drinker as if married. Analyses in this manual include a variable that is coded yes if the answer to either Question 30 or Question 33 was positive.

**Exhibit 4. National Longitudinal Alcohol Epidemiologic Survey (Section 3):
Selected Questions on Family History**

1. In your judgement, has your blood or natural father been an alcoholic or problem drinker at ANY time in his life? By alcohol or problem drinker, I mean a person who has physical or emotional problems because of drinking (*Pause*); problems with a spouse, family, or friends because of drinking (*Pause*); problems at work because of drinking (*Pause*); problems with the police because of drinking—like drunk driving (*Pause*); or a person who seems to spend a lot of time drinking or being hungover. (*Repeat definition frequently.*)
2. In your judgement, has your blood or natural mother been an alcoholic or problem drinker at ANY time in her life?
- 6c. In your judgement has (your/any of your) full brother(s) been an alcoholic or problem drinker at ANY time in his life?
- 11c. In your judgement has (your/any of your) full sister(s) been an alcoholic or problem drinker at ANY time in her life?
- 20c. In your judgement, has (your/any of your) natural father's full brother(s) been an alcoholic or problem drinker at ANY time in his life?
- 21c. In your judgement, has (your/any of your) natural father's full sister(s) been an alcoholic or problem drinker at ANY time in her life?
- 22c. In your judgement, has (your/any of your) natural mother's full brother(s) been an alcoholic or problem drinker at ANY time in his life?
- 23c. In your judgement, has (your/any of your) natural mother's full sister(s) been an alcoholic or problem drinker at ANY time in her life?
24. In your judgement, has your natural grandfather on your father's side been an alcoholic or problem drinker at ANY time in his life? By natural grandfather on your father's side, I mean your father's natural or blood father?
25. In your judgement, has your natural grandmother on your father's side been an alcoholic or problem drinker at ANY time in her life? By natural grandmother on your father's side, I mean your father's natural or blood mother?
26. In your judgement, has your natural grandfather on your mother's side been an alcoholic or problem drinker at ANY time in his life? By natural grandfather on your mother's side, I mean your mother's natural or blood father?
27. In your judgement, has your natural grandmother on your mother's side been an alcoholic or problem drinker at ANY time in her life? By natural grandmother on your mother's side, I mean your mother's natural or blood mother?
30. In your judgement, have you EVER been married to an alcoholic or problem drinker (include current spouse)?
33. In your judgement, have you EVER lived with someone as if married who was an alcoholic or problem drinker?

3.1.10 Alcohol Treatment

As shown in Exhibit 5, Section 7 of the NLAES asks questions designed to assess a respondent's history of contact with various professionals, organizations, and/or programs that offer treatment assistance with alcohol problems. For this manual, a respondent was classified as seeking alcohol treatment in his/her lifetime based on Question 2a and seeking alcohol treatment in the past year based on Question 2b. A positive response to any of the different treatment providers or settings was counted as an indication of alcohol treatment.

3.2 Other NLAES Items

Other NLAES variables not directly related to alcohol, but used for analyses presented in this manual, are described in the following sections.

3.2.1 Basic Demographic Information

Exhibit 6 shows demographic items from the NLAES that are included in this manual. In addition to the actual items, the exhibit shows response categories. Among the demographic items in this manual are: sex, age, race, Hispanic origin, marital status, education, employment status, personal annual income, occupation, industry of occupation, children under 14 in household, and ever raised children.

3.2.2 Cigarette Smoking Status

Based on question 1a shown in Exhibit 7 from Section 5 of the NLAES, respondents were categorized as lifetime cigarette smokers if they had smoked at least 100 cigarettes in their life. Respondents could also be classified as lifetime smokers based on smoking at least 50 cigars or 50 pipes of tobacco. Any lifetime smoker (cigarette, cigar, or pipe) was asked question 3a and classified as a current smoker of the particular tobacco type based on smoking at least one cigarette, cigar, or pipe in the past year. This manual looks only at current cigarette smokers and not cigar or pipe smokers.

3.2.3 DSM-IV Major Depression

Section 4 of the NLAES contains questions that allow for a diagnosis of major depressive disorder according to DSM-IV criteria. The pertinent criteria and associated NLAES questions are shown in Exhibit 8. Diagnoses of major depression required the presence of at least five depressive symptoms (inclusive of depressed mood or loss of pleasure and interest) nearly every day for most of the day for at least the same two-week period. In contrast to the earlier DSM-III-R definition of major depression, social and/or occupational dysfunction must also have been present during the disturbance, and episodes of DSM-IV major depression exclusively due to bereavement and physical illness were ruled out.

**Exhibit 5. National Longitudinal Alcohol Epidemiologic Survey (Section 7):
Selected Questions on Treatment Utilization**

1. Have you ever gone anywhere or seen anyone for a reason that was related in any way to your drinking—a physician, counselor, Alcoholics Anonymous, or any other community agency or professional? Include help for combined alcohol and other drug use if alcohol was the major problem for which you sought help.
- 2a. I'm going to read you a list of community agencies and professionals. For each one, please tell me if you have ever gone there for any reason related to your drinking. In you entire life, did you EVER go to a/an... *(Repeat phrase frequently)*
 - (1) Alcoholics Anonymous meeting?
 - (2) Narcotics or Cocaine Anonymous meeting?
 - (3) AI-Anon meeting?
 - (4) (ACOA) Adult Children of Alcoholics meeting?
 - (5) Family or other social service agency?
 - (6) Alcohol and/or drug detoxification ward or clinic?
 - (7) Inpatient ward of a psychiatric general hospital?
 - (8) Outpatient clinic? *(Include outreach programs.)*
 - (9) Alcohol and/or other drug rehabilitation program?
 - (10) Methadone maintenance program?
 - (11) Community mental health center or program?
 - (12) Emergency room?
 - (13) Day program or partial patient program?
 - (14) Vocational rehabilitation?
 - (15) Halfway house? *(Include therapeutic communities.)*
 - (16) Crisis Center?
 - (17) Employee Assistance Program (EAP)?
 - (18) Private physician?
 - (19) Psychiatrist?
 - (20) Psychologist?
 - (21) Social worker?
 - (22) Natural therapist?
 - (23) Clergyman, priest, or rabbi?
 - (24) Any other agency or professional?
- 2b. Did you go to *(Agency/professional)* during the last 12 months, earlier than that, or both? *(Asked separately for each agency/professional ever seen for reason related to respondent's drinking.)*

**Exhibit 6. National Longitudinal Alcohol Epidemiologic Survey (Section 8):
Selected Demographic Questionnaire Items**

<p>Sex Male Female</p> <p>Age 18–24 years 25–44 years 45–64 years 65 years and older</p> <p>Race White Black American Indian/Alaska Native Asian/Pacific Islander</p> <p>Hispanic Origin Hispanic Nonhispanic</p> <p>Marital Status Married Living with someone as if married Widowed Divorced Separated Never married</p> <p>Education 8 years or less 9–11 years High school or GED equivalent Any college/graduate school</p> <p>Currently Employed Full Time Yes No</p> <p>Personal annual income None \$1 to \$9,999 \$10,000 to \$24,999 \$25,000 or more</p>	<p>Current/Most Recent Occupation Executive, administrative, managerial Professional specialty Technician/related support Sales Administrative support, including clerical Private household Protective service Service, except protective and household Farming, forestry, fishing Precision production, craft, repair Operators, fabricators, laborers Transportation, material moving Handlers, equipment cleaners, helpers, laborers Military</p> <p>Current/Most Recent Industry Agriculture, forestry, fisheries Mining Construction Manufacturing Transportation, communications, other public utilities Wholesale trade Retail trade Finance, insurance, real estate Services: business and repair Services: personal Services: entertainment and recreation Services: public and related Public administration Military</p> <p>Ever Raised Children Yes No</p> <p>Children Under 14 Living in Household Yes No</p>
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**Exhibit 7. National Longitudinal Alcohol Epidemiologic Survey (Section 5):
Selected Questions on Tobacco, Medicines, and Drugs**

1. In your entire life, have you ever smoked...
 - a. At least 100 cigarettes?
- 3.a Did you smoke (*Name of tobacco category*) in the last 12 months?

**Exhibit 8. National Longitudinal Alcohol Epidemiologic Survey (Section 4):
DSM-IV Major Depressive Episode Diagnostic Criteria and Associated Questionnaire Items**

Diagnostic Criterion: Depressed mood most of the day, nearly every day, as indicated by either subjective reports (e.g., feels sad or empty) or observation made by others (e.g., appears tearful)

Questionnaire Item:

- Have a time lasting at least 2 weeks when you felt sad, blue, depressed, or down most of the time?

Diagnostic Criterion: Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others)

Questionnaire Item:

- Find that you didn't care about things that you usually cared about, or that you didn't enjoy things that you usually enjoyed, most of the time for at least 2 weeks?

Diagnostic Criterion: Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day

Questionnaire Items:

- Lose at least 2 pounds a week for several weeks or at least 10 pounds altogether within a month, other than when you were physically ill or dieting?
- Lost your appetite nearly every day for at least 2 weeks?
- Gain at least 2 pounds a week for several weeks or at least ten pounds altogether within a month (other than when you were pregnant)?
- Find that you wanted to eat a lot more than usual for no special reason, most days for at least 2 weeks?

Diagnostic Criterion: Insomnia or hypersomnia nearly every day

Questionnaire Items:

- Have trouble sleeping nearly every day for at least 2 weeks?
- Sleep more than usual nearly every day for at least 2 weeks?

Diagnostic Criterion: Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down)

Questionnaire Items:

- Move or talk MUCH more slowly than usual, most days for at least 2 weeks?
- Become so restless that you fidgeted or paced most of the time for at least 2 weeks?

Diagnostic Criterion: Fatigue or loss of energy nearly every day

Questionnaire Item:

- Feel tired all the time or get tired easily most days for at least 2 weeks, even though you weren't doing more than usual?

Diagnostic Criterion: Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick)

Questionnaire Items:

- Feel worthless most of the time for at least 2 weeks?
- Feel guilty about things you normally wouldn't feel guilty about, most of the time for at least 2 weeks?

Diagnostic Criterion: Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others)

Questionnaire Items:

- Have unusual trouble concentrating or keeping your mind on things, most days for at least 2 weeks?
- Find it harder than usual to make decisions, most of the time for at least 2 weeks?

Diagnostic Criterion: Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide

Questionnaire Items:

- Attempt suicide?
- Think about suicide from time to time?
- Feel like you wanted to die?
- Think a lot about death, either your own, someone else's, or death in general?

Analyses presented here include the occurrence of a major depressive disorder in the past year of the respondent's life and the occurrence of a major depressive disorder over the respondent's lifetime.

3.2.4 Medical Conditions

Section 6 of the NLAES contains a list of medical conditions (as shown in Exhibit 9). Respondents were categorized as having a particular medical condition in the past year if the answer to Question 2b was "yes." The decision concerning counting any medical condition for the analyses in this manual also took into account Question 2d. In other words, a medical condition was not counted in this manual unless the respondent also indicated that a doctor or other health professional had diagnosed the condition.

**Exhibit 9. National Longitudinal Alcohol Epidemiologic Survey (Section 6):
Selected Questions on Medical Conditions**

1a. Now I'm going to read you a list of medical conditions that you may have had. As I read each one, please tell me whether you have ever had it. Have you EVER had...

- (1) A stomach ulcer?
- (2) An enlarged liver?
- (3) Yellow jaundice?
- (4) Cirrhosis of the liver?
- (5) Hepatitis?
- (6) Some other liver disease?
- (7) High blood cholesterol, high blood fat, or high lipid content?
- (8) Diabetes?
- (9) Gastritis?
- (10) Convulsions or epilepsy?
- (11) Hardening of the arteries or arteriosclerosis?
- (12) High blood pressure?
- (13) Chest pain or angina pectoris?
- (14) Rapid heartbeat or tachycardia?
- (15) Heart attack or myocardial infarction?
- (16) Other heart disease?
- (17) A stroke or cerebrovascular accident?
- (18) Emphysema?
- (19) Arthritis, osteoporosis, or any other joint or bone disease?
- (20) Vitamin deficiencies or anemia?
- (21) Pancreatitis or any other disease of the pancreas?
- (22) Cancer?

2b. Did (*Read condition*) cause you any problems during the last 12 months? (Asked separately for each medical condition respondent ever had.)

2d. Did a doctor or other health professional tell you had (*Condition*)? (Asked separately for each medical condition respondent ever had.)

4. Data Tables

There are three types of data tables included in this manual. In each table, data are shown for both sexes and all ages 18 years and older combined, separately for males and females 18 years and older, and separately for both sexes combined in each of four age categories (18–24 years, 25–44 years, 45–64 years, and 65 years and older).

Because the numbers presented are derived from a representative sample of respondents, they are labeled as estimates. In a sample, each respondent represents one or more people in the sampling universe (or population to which the estimates apply). So that readers can assess the accuracy of the estimates provided, each estimate is accompanied by a value for the standard error of the estimate (labeled S.E. in the tables). The standard error provides a margin of error above and below each estimate. If the standard error is multiplied by 1.96, it provides upper and lower bounds within which the true value being estimated will be found with 95 percent confidence. All standard errors in this manual were calculated using SUDAAN, as discussed earlier. Estimates based on very small samples can be extremely unreliable. In this manual, some of the table cells include very few respondents (e.g., heavier drinkers ages 65 or older who are living with someone as if married). Estimates derived from fewer than 10 respondents are considered unreliable and are not shown in this manual. Tables cells suppressed under this arbitrary rule are marked by a “--” symbol.

Each of the three table types is discussed in the following sections. Numbers in the examples are highlighted in the tables in *bold italic* type.

4.1 Percent Distribution Tables

Tables 1-1 through 1-19 show percent distributions. The portion of table 1-1 shown below indicates that among the white population ages 18 and older, 46.87 percent are current drinkers, 22.44 percent are former drinkers, and the remaining 30.69 percent are lifetime abstainers. These percentages add to 100. The percent distributions shown in table 1-1 are based on the entire population included in the NLAES sample.

Table 1-1

Respondent characteristics ²	Both sexes/ ages 18 and older		Sex			
	Estimate	S.E.	Male		Female	
			Estimate	S.E.	Estimate	S.E.
Total						
Current drinker.....	44.37	0.40	55.76	0.51	33.87	0.47
Former drinker.....	21.63	0.31	22.53	0.42	20.80	0.37
Lifetime abstainer.....	34.00	0.42	21.71	0.43	45.33	0.57
Race						
White						
Current drinker.....	46.87	0.47	57.86	0.58	36.59	0.53
Former drinker.....	22.44	0.34	23.11	0.47	21.81	0.41
Lifetime abstainer.....	30.69	0.47	19.03	0.45	41.60	0.61
Black						
Current drinker.....	32.53	0.83	46.57	1.35	21.23	0.80
Former drinker.....	18.82	0.64	21.01	1.12	17.05	0.78
Lifetime abstainer.....	48.65	0.90	32.42	1.35	61.72	1.07

In a like manner, the portion of table 1-2a shown below indicates that among black current drinkers ages 18 and older, 39.53 percent are light drinkers, 36.53 percent are moderate drinkers, and 21.31 percent are heavier drinkers. These percentages add to only 97.37 because for some small number of current drinkers drinking level is unknown. The fact that some number of respondents in any survey will be unable or unwilling to answer particular questions means that percent distributions in this manual will not always add to 100.

Table 1-2a

Respondent characteristics ³	Both sexes/ ages 18 and older		Sex			
	Estimate	S.E.	Male		Female	
			Estimate	S.E.	Estimate	S.E.
Total						
Light drinker	43.73	0.44	36.86	0.59	54.18	0.67
Moderate drinker	38.28	0.44	40.53	0.58	34.87	0.61
Heavier drinker	16.87	0.34	21.45	0.50	9.91	0.39
Race						
White						
Light drinker	43.83	0.47	36.82	0.62	54.19	0.72
Moderate drinker	38.66	0.47	40.93	0.59	35.30	0.67
Heavier drinker	16.52	0.36	21.22	0.54	9.56	0.39
Black						
Light drinker	39.53	1.41	32.01	1.85	52.79	1.97
Moderate drinker	36.53	1.41	39.83	1.97	30.72	1.83
Heavier drinker	21.31	1.33	25.56	1.72	13.80	1.49

It is important to remember that most of the percent distribution tables in this manual are based on the group of current drinkers. As noted above, 21.31 percent of black current drinkers ages 18 and older are heavier drinkers. This is not the same as saying that 21.31 percent of blacks ages 18 and older are heavier drinkers. As shown in table 1-2b, the percent of the black population ages 18 and older who are heavier drinkers is 6.93. The value of 6.93 can be obtained by multiplying the percent of current drinkers (32.35 from table 1-1) by the percent of heavier drinkers among current drinkers (21.31 from table 1-2a) and dividing by 100. The percents and standard errors in table 1-2b can also be calculated by estimating the number of people in each cell and recalculating the percentages. Section 4.3 describes how to use percent distribution tables in conjunction with population tables (tables 3-1 and 3-2) to calculate estimated numbers of people.

Table 1-2b

Respondent characteristics ³	Both sexes/ ages 18 and older		Sex			
	Estimate	S.E.	Male		Female	
			Estimate	S.E.	Estimate	S.E.
Total						
Lifetime abstainer.....	34.00	0.42	21.71	0.43	45.33	0.57
Former drinker.....	21.63	0.31	22.53	0.42	20.80	0.37
Light drinker.....	19.41	0.25	20.55	0.38	18.35	0.33
Moderate drinker.....	16.99	0.26	22.60	0.38	11.81	0.27
Heavier drinker.....	7.48	0.17	11.96	0.30	3.36	0.14
Race						
White						
Lifetime abstainer.....	30.69	0.47	19.03	0.45	41.60	0.61
Former drinker.....	22.44	0.34	23.11	0.47	21.81	0.41
Light drinker.....	20.54	0.29	21.30	0.42	19.83	0.38
Moderate drinker.....	18.12	0.29	23.68	0.41	12.92	0.32
Heavier drinker.....	7.74	0.19	12.28	0.34	3.50	0.15
Black						
Lifetime abstainer.....	48.65	0.90	32.42	1.35	61.72	1.07
Former drinker.....	18.82	0.64	21.01	1.12	17.05	0.78
Light drinker.....	12.86	0.56	14.91	1.00	11.21	0.58
Moderate drinker.....	11.89	0.53	18.55	0.99	6.52	0.46
Heavier drinker.....	6.93	0.48	11.90	0.89	2.93	0.34

4.2 Health Condition Rates Tables

Tables 2-1 through 2-19 show rates per 1,000 population for selected past-year health conditions. In the portion of table 2-1 shown below, the rate for arthritis, osteoporosis, or any other joint or bone disease among women who are former drinkers is 108.7. This means that for every 1,000 women 18 years or older in the contiguous United States who are former drinkers 108.7 (or 10.87 percent) reported having that condition in the past year. The portion of table 2-2 (also shown below) indicates that 110.0 of every 1,000 women who are light drinkers reported having that health condition in the past year.

Table 2-1

Drinking status and health condition	Both sexes/ ages 18 and older		Sex			
	Estimate	S.E.	Male		Female	
			Estimate	S.E.	Estimate	S.E.
Former drinker						
Enlarged liver, yellow jaundice, cirrhosis, hepatitis or other liver disease.....	4.4	0.5	5.2	0.7	3.2	0.6
Emphysema.....	5.0	0.6	6.1	0.9	3.2	0.8
Arthritis, osteoporosis or any other joint or bone disease.....	87.2	2.5	73.1	2.9	108.7	4.3

Table 2-2

Usual drinking level and health condition	Both sexes/ ages 18 and older		Sex			
	Estimate	S.E.	Male		Female	
			Estimate	S.E.	Estimate	S.E.
<u>Light drinker</u>						
Enlarged liver, yellow jaundice, cirrhosis, hepatitis or other liver disease	3.2	0.7	3.7	1.1	2.7	0.8
Emphysema	3.8	0.7	5.4	1.4	2.1	0.6
Arthritis, osteoporosis or any other joint or bone disease.....	93.5	4.0	77.6	5.0	110.0	5.7

In the health-condition rates tables, respondents who were unwilling or unable to respond to specific conditions were counted with those who said they did not experience a particular health condition.

4.3 Population Tables

Tables 3-1 and 3-2 show the populations (in thousands) to which the percent distribution and rate estimates in the earlier tables apply. Table 3-1 presents the total population of the contiguous United States ages 18 years and older and table 3-2 shows the portion of this population who were current drinkers at the time the NLAES was conducted. Portions of each of these tables are reproduced below. Data in the population tables can be used in conjunction with percent distribution tables and health-condition rates tables to provide estimates of the number of people in each cell of these types of tables.

As shown earlier in table 1-1, 30.69 percent of white men and women ages 18 years and older were lifetime abstainers in 1992. Table 3-1 indicates that the overall population for this cell was 153,954 thousand. This means that there were an estimated 47,248 thousand lifetime abstainers when the NLAES was conducted. Table 1-2a shows that 21.31 percent of black current drinkers ages 18 years and older were heavier drinkers. With an estimated 6,909 thousand black current drinkers ages 18 years and older (as shown in table 3-2), the estimated number of heavier drinkers for this group is 1,472 thousand.

Table 3-1

Respondent characteristics ¹	Both sexes/ ages 18 and older		Sex			
	Estimate	S.E.	Male		Female	
			Estimate	S.E.	Estimate	S.E.
<u>Total</u>	185,844	1,548	89,172	1,020	96,672	887
<u>Race</u>						
White.....	153,954	1,484	74,411	918	79,543	859
Black.....	21,237	697	9,472	407	11,765	381
American Indian/Alaska Native	1,433	164	667	86	766	121
Asian/Pacific Islander	5,540	267	2,860	177	2,680	154

Table 3-2

Respondent characteristics ¹	Both sexes/ ages 18 and older		Sex			
	Estimate	S.E.	Male		Female	
			Estimate	S.E.	Estimate	S.E.
Total	82,464	1,111	49,723	764	32,741	565
Race						
White.....	72,153	1,045	43,051	709	29,101	532
Black.....	6,909	276	4,411	222	2,498	110
American Indian/Alaska Native.....	600	89	345	69	255	63
Asian/Pacific Islander	1,351	110	982	91	369	53

The population estimates in tables 3-1 and 3-2 can be used in a similar way with the health-condition rates in tables 2-1 through 2-19. As mentioned above, the rate per 1,000 population for former drinkers who were women 18 years and older with past-year arthritis, osteoporosis, or any other joint or bone disease was 108.7 (from table 2-1). Multiplying this rate by the percent of female former drinkers (20.80 from table 1-1) and the number of thousands of women in this age group (96,672 from table 3-1) provides an estimate of 2,186 thousand persons with this condition among female former drinkers.

A similar calculation using data from table 2-2 (110.0 per 1,000 population of current light-drinking females with arthritis, osteoporosis, or any other joint or bone disease), table 3-2 (32,741 thousand women who were current drinkers at the time of the NLAES), and table 1-2a (54.18 percent of the current female drinkers who were light drinkers) yields an estimate that 1,951 thousand women who were light drinkers had some joint or bone disease in the year prior to the survey.

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