



## Alcohol Facts and Statistics

### Alcohol Use in the United States:

- » **Prevalence of Drinking:** According to the 2015 National Survey on Drug Use and Health (NSDUH), 86.4 percent of people ages 18 or older reported that they drank alcohol at some point in their lifetime; 70.1 percent reported that they drank in the past year; 56.0 percent reported that they drank in the past month.<sup>1</sup>
- » **Prevalence of Binge Drinking and Heavy Alcohol Use:** In 2015, 26.9 percent of people ages 18 or older reported that they engaged in binge drinking in the past month; 7.0 percent reported that they engaged in heavy alcohol use in the past month.<sup>2</sup> (See sidebar on page 2 for definitions of binge drinking and heavy alcohol use.)



### Alcohol Use Disorder (AUD) in the United States:

- » **Adults (ages 18+):** According to the 2015 NSDUH, 15.1 million adults ages 18 and older<sup>3</sup> (6.2 percent of this age group<sup>4</sup>) had AUD. This includes 9.8 million men<sup>3</sup> (8.4 percent of men in this age group<sup>4</sup>) and 5.3 million women<sup>3</sup> (4.2 percent of women in this age group<sup>4</sup>).
  - About 1.3 million adults received treatment for AUD at a specialized facility in 2015 (8.3 percent of adults who needed treatment).<sup>5</sup> This included 898,000 men<sup>5</sup> (8.8 percent of men who needed treatment) and 417,000 women (7.5 percent of women who needed treatment).<sup>5</sup>
- » **Youth (ages 12–17):** According to the 2015 NSDUH, an estimated 623,000 adolescents ages 12–17<sup>6</sup> (2.5 percent of this age group<sup>7</sup>) had AUD. This number includes 298,000 males<sup>6</sup> (2.3 percent of males in this age group<sup>7</sup>) and 325,000 females<sup>6</sup> (2.7 percent of females in this age group<sup>7</sup>).
  - An estimated 37,000 adolescents (22,000 males and 15,000 females) received treatment for an alcohol problem in a specialized facility in 2015.<sup>8</sup>

### Alcohol-Related Deaths:

- » An estimated 88,000<sup>9</sup> people (approximately 62,000 men and 26,000 women<sup>9</sup>) die from alcohol-related causes annually, making alcohol the fourth leading preventable cause of death in the United States.<sup>10</sup>
- » In 2014, alcohol-impaired driving fatalities accounted for 9,967 deaths (31 percent of overall driving fatalities).<sup>11</sup>



## Economic Burden:

- » In 2010, alcohol misuse cost the United States \$249.0 billion.<sup>12</sup>
- » Three-quarters of the total cost of alcohol misuse is related to binge drinking.<sup>12</sup>

## Global Burden:

- » In 2012, 3.3 million deaths, or 5.9 percent of all global deaths (7.6 percent for men and 4.0 percent for women), were attributable to alcohol consumption.<sup>13</sup>
- » In 2014, the World Health Organization reported that alcohol contributed to more than 200 diseases and injury-related health conditions, most notably DSM-IV alcohol dependence (see sidebar), liver cirrhosis, cancers, and injuries.<sup>14</sup> In 2012, 5.1 percent of the burden of disease and injury worldwide (139 million disability-adjusted life-years) was attributable to alcohol consumption.<sup>13</sup>
- » Globally, alcohol misuse is the fifth leading risk factor for premature death and disability; among people between the ages of 15 and 49, it is the first.<sup>15</sup> In the age group 20–39 years, approximately 25 percent of the total deaths are alcohol attributable.<sup>16</sup>

## Family Consequences:

- » More than 10 percent of U.S. children live with a parent with alcohol problems, according to a 2012 study.<sup>17</sup>

## Underage Drinking:

### » Prevalence of Underage Alcohol Use:

- **Prevalence of Drinking:** According to the 2015 NSDUH, 33.1 percent of 15-year-olds report that they have had at least 1 drink in their lives.<sup>18</sup> About 7.7 million people ages 12–20<sup>19</sup> (20.3 percent of this age group<sup>20</sup>) reported drinking alcohol in the past month (19.8 percent of males and 20.8 percent of females<sup>20</sup>).

## Definitions

**Alcohol Use Disorder (AUD):** AUD is a medical condition that doctors diagnose when a patient's drinking causes distress or harm. The fourth edition of the *Diagnostic and Statistical Manual (DSM-IV)*, published by the American Psychiatric Association, described two distinct disorders—alcohol abuse and alcohol dependence—with specific criteria for each. The fifth edition, DSM-5, integrates the two DSM-IV disorders, alcohol abuse and alcohol dependence, into a single disorder called alcohol use disorder, or AUD, with mild, moderate, and severe subclassifications.

### Binge Drinking:

- » NIAAA defines binge drinking as a pattern of drinking that brings blood alcohol concentration (BAC) levels to 0.08 g/dL. This typically occurs after 4 drinks for women and 5 drinks for men—in about 2 hours.<sup>37</sup>
- » The Substance Abuse and Mental Health Services Administration (SAMHSA), which conducts the annual National Survey on Drug Use and Health (NSDUH), defines binge drinking as 5 or more alcoholic drinks for males or 4 or more alcoholic drinks for females on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past month.<sup>38</sup>

**Heavy Alcohol Use:** SAMHSA defines heavy alcohol use as binge drinking on 5 or more days in the past month.

### NIAAA's Definition of Drinking at Low Risk for

**Developing AUD:** For women, low-risk drinking is defined as no more than 3 drinks on any single day and no more than 7 drinks per week. For men, it is defined as no more than 4 drinks on any single day and no more than 14 drinks per week. NIAAA research shows that only about 2 in 100 people who drink within these limits have AUD.

### Substance Use Treatment at a Specialty Facility:

Treatment received at a hospital (inpatient only), rehabilitation facility (inpatient or outpatient), or mental health center to reduce alcohol use, or to address medical problems associated with alcohol use.

**Alcohol-Impaired-Driving Fatality:** A fatality in a crash involving a driver or motorcycle rider (operator) with a BAC of 0.08 g/dL or greater.

**Disability-Adjusted Life-Years (DALYs):** A measure of years of life lost or lived in less than full health.

**Underage Drinking:** Alcohol use by anyone under the age of 21. In the United States, the legal drinking age is 21.



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- **Prevalence of Binge Drinking:** According to the 2015 NSDUH, approximately 5.1 million people<sup>19</sup> (about 13.4 percent<sup>20</sup>) ages 12–20 (13.4 percent of males and 13.3 percent of females<sup>20</sup>) reported binge drinking in the past month.
- **Prevalence of Heavy Alcohol Use:** According to the 2015 NSDUH, approximately 1.3 million people<sup>19</sup> (about 3.3 percent<sup>20</sup>) ages 12–20 (3.6 percent of males and 3.0 percent of females<sup>20</sup>) reported heavy alcohol use in the past month.

» **Consequences of Underage Alcohol Use:**

- Research indicates that alcohol use during the teenage years could interfere with normal adolescent brain development and increase the risk of developing AUD. In addition, underage drinking contributes to a range of acute consequences, including injuries, sexual assaults, and even deaths—including those from car crashes.<sup>21</sup>

## Alcohol and College Students:

» **Prevalence of Alcohol Use:**

- **Prevalence of Drinking:** According to the 2015 NSDUH, 58.0 percent of full-time college students ages 18–22 drank alcohol in the past month compared with 48.2 percent of other persons of the same age.<sup>22</sup>
- **Prevalence of Binge Drinking:** According to the 2015 NSDUH, 37.9 percent of college students ages 18–22 reported binge drinking in the past month compared with 32.6 percent of other persons of the same age.<sup>22</sup>
- **Prevalence of Heavy Alcohol Use:** According to the 2015 NSDUH, 12.5 percent of college students ages 18–22 reported heavy alcohol use in the past month compared with 8.5 percent of other persons of the same age.<sup>22</sup>

» **Consequences—Researchers estimate that each year:**

- 1,825 college students between the ages of 18 and 24 die from alcohol-related unintentional injuries, including motor-vehicle crashes.<sup>23</sup>
- 696,000 students between the ages of 18 and 24 are assaulted by another student who has been drinking.<sup>24</sup>
- 97,000 students between the ages of 18 and 24 report experiencing alcohol-related sexual assault or date rape.<sup>24</sup>
- Roughly 20 percent of college students meet the criteria for AUD.<sup>25</sup>
- About 1 in 4 college students report academic consequences from drinking, including missing class, falling behind in class, doing poorly on exams or papers, and receiving lower grades overall.<sup>26</sup>

## Alcohol and Pregnancy:

- » The prevalence of Fetal Alcohol Syndrome (FAS) in the United States was estimated by the Institute of Medicine in 1996 to be between 0.5 and 3.0 cases per 1,000.<sup>27</sup>



- » More recent reports from specific U.S. sites report the prevalence of FAS to be 2 to 7 cases per 1,000, and the prevalence of Fetal Alcohol Spectrum Disorders (FASD) to be as high as 20 to 50 cases per 1,000.<sup>28,29</sup>

## Alcohol and the Human Body:

- » In 2013, of the 72,559 liver disease deaths among individuals aged 12 and older, 45.8 percent involved alcohol. Among males, 48.5 percent of the 46,568 liver disease deaths involved alcohol. Among females, 41.8 percent of the 25,991 liver disease deaths involved alcohol.<sup>30</sup>
- » Among all cirrhosis deaths in 2013, 47.9 percent were alcohol related. The proportion of alcohol-related cirrhosis was highest (76.5 percent) among decedents ages 25–34, followed by decedents aged 35–44, at 70.0 percent.<sup>31</sup>
- » In 2009, alcohol-related liver disease was the primary cause of almost 1 in 3 liver transplants in the United States.<sup>32</sup>
- » Drinking alcohol increases the risk of cancers of the mouth, esophagus, pharynx, larynx, liver, and breast.<sup>33</sup>

## Health Benefits of Moderate Alcohol Consumption:

- » Moderate alcohol consumption, according to the *2015–2020 Dietary Guidelines for Americans*, is up to 1 drink per day for women and up to 2 drinks per day for men.<sup>34</sup>
- » Moderate alcohol consumption may have beneficial effects on health. These include decreased risk for heart disease and mortality due to heart disease, decreased risk of ischemic stroke (in which the arteries to the brain become narrowed or blocked, resulting in reduced blood flow), and decreased risk of diabetes.<sup>35</sup>
- » In most Western countries where chronic diseases such as coronary heart disease (CHD), cancer, stroke, and diabetes are the primary causes of death, results from large epidemiological studies consistently show that alcohol reduces mortality, especially among middle-aged and older men and women—an association which is likely due to the protective effects of moderate alcohol consumption on CHD, diabetes, and ischemic stroke.<sup>35</sup>
- » It is estimated that 26,000 deaths were averted in 2005 because of reductions in ischemic heart disease, ischemic stroke, and diabetes from the benefits attributed to moderate alcohol consumption.<sup>36</sup>
- » Expanding our understanding of the relationship between moderate alcohol consumption and potential health benefits remains a challenge, and, although there are positive effects, alcohol may not benefit everyone who drinks moderately.
- » More information about the potential health benefits, as well as risks, of moderate alcohol consumption can be found at <https://www.ncbi.nlm.nih.gov/pubmed/15201626>.





## For more information, please visit: [www.niaaa.nih.gov](http://www.niaaa.nih.gov)

- <sup>1</sup> Substance Abuse and Mental Health Services Administration (SAMHSA). 2015 National Survey on Drug Use and Health (NSDUH). Table 2.41B—Alcohol Use in Lifetime, Past Year, and Past Month among Persons Aged 12 or Older, by Demographic Characteristics: Percentages, 2014 and 2015. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.htm#tab2-41b>. Accessed 1/18/17.
- <sup>2</sup> Substance Abuse and Mental Health Services Administration (SAMHSA). 2015 National Survey on Drug Use and Health (NSDUH). Table 2.46B—Alcohol Use, Binge Alcohol Use, and Heavy Alcohol Use in Past Month among Persons aged 12 or Older, by Demographic Characteristics: Percentages, 2014 and 2015. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.htm#tab2-46b>. Accessed 1/18/17.
- <sup>3</sup> Substance Abuse and Mental Health Services Administration (SAMHSA). 2015 National Survey on Drug Use and Health (NSDUH). Table 5.6A—Substance Use Disorder in Past Year among Persons Aged 18 or Older, by Demographic Characteristics: Numbers in Thousands, 2014 and 2015. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.htm#tab5-6a>. Accessed 1/18/17.
- <sup>4</sup> Substance Abuse and Mental Health Services Administration (SAMHSA). 2015 National Survey on Drug Use and Health (NSDUH). Table 5.6B—Substance Use Disorder in Past Year among Persons Aged 18 or Older, by Demographic Characteristics: Percentages, 2014 and 2015. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.htm#tab5-6b>. Accessed 1/18/17.
- <sup>5</sup> Substance Abuse and Mental Health Services Administration (SAMHSA). 2015 National Survey on Drug Use and Health (NSDUH). Table 5.56A—Need for and Receipt of Treatment at a Specialty Facility for an Alcohol Problem in the Past Year among Persons Aged 18 or Older, by Demographic Characteristics: Numbers in Thousands and Percentages, 2014 and 2015. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.htm#tab5-56a>. Accessed 1/18/17.
- <sup>6</sup> Substance Abuse and Mental Health Services Administration (SAMHSA). 2015 National Survey on Drug Use and Health (NSDUH). Table 5.5A—Substance Use Disorder in Past Year among Persons Aged 12 to 17, by Demographic Characteristics: Numbers in Thousands, 2014 and 2015. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.htm#tab5-5a>. Accessed 1/18/17.
- <sup>7</sup> Substance Abuse and Mental Health Services Administration (SAMHSA). 2015 National Survey on Drug Use and Health (NSDUH). Table 5.5B—Substance Use Disorder in Past Year among Persons Aged 12 to 17, by Demographic Characteristics: Percentages, 2014 and 2015. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.htm#tab5-5b>. Accessed 1/18/17.
- <sup>8</sup> Substance Abuse and Mental Health Services Administration (SAMHSA). 2015 National Survey on Drug Use and Health (NSDUH). Table 5.36A—Received Substance Use Treatment at a Specialty Facility in the Past Year among Persons Aged 12 to 17, by Demographic Characteristics: Numbers in Thousands, 2014 and 2015. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.htm#tab5-36a>. Accessed 1/18/17.
- <sup>9</sup> Centers for Disease Control and Prevention (CDC). *Alcohol and Public Health: Alcohol-Related Disease Impact (ARDI). Average for United States 2006–2010 Alcohol-Attributable Deaths Due to Excessive Alcohol Use*. Available at: [https://nccd.cdc.gov/DPH\\_ARDI/Default/Report.aspx?T=AAM&P=f6d7eda7-036e-4553-9968-9b17fad620e&R=d7a9b303-48e9-4440-bf47-070a4827e1fd&M=8E1C5233-5640-4EE8-9247-1ECA7DA325B9&F=&D=](https://nccd.cdc.gov/DPH_ARDI/Default/Report.aspx?T=AAM&P=f6d7eda7-036e-4553-9968-9b17fad620e&R=d7a9b303-48e9-4440-bf47-070a4827e1fd&M=8E1C5233-5640-4EE8-9247-1ECA7DA325B9&F=&D=). Accessed 1/18/17.
- <sup>10</sup> Mokdad, A.H.; Marks, J.S.; Stroup, D.F.; and Gerberding, J.L. Actual causes of death in the United States 2000. [Published erratum in: JAMA 293(3):293–294, 298] *JAMA: Journal of the American Medical Association* 291(10):1238–1245, 2004. PMID: 15010446
- <sup>11</sup> National Center for Statistics and Analysis. (2015, November). *2014 Crash Data Key Findings* (Traffic Safety Facts Crash Stats. Report No. DOT HS 812 219). Washington, DC: National Highway Traffic Safety Administration. Available at: <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812219>. Accessed 9/19/16.
- <sup>12</sup> Sacks, J.J.; Gonzales, K.R.; Bouchery, E.E.; et al. 2010 national and state costs of excessive alcohol consumption. *American Journal of Preventive Medicine* 49(5):e73–e79, 2015. PMID: 26477807
- <sup>13</sup> World Health Organization (WHO). *Global Status Report on Alcohol and Health*. p. XIV. 2014 ed. Available at: [http://www.who.int/substance\\_abuse/publications/global\\_alcohol\\_report/msb\\_gsr\\_2014\\_1.pdf?ua=1](http://www.who.int/substance_abuse/publications/global_alcohol_report/msb_gsr_2014_1.pdf?ua=1). Accessed 1/18/17.
- <sup>14</sup> World Health Organization (WHO). *Global Status Report on Alcohol and Health*. p. XIII. 2014 ed. Available at: [http://www.who.int/substance\\_abuse/publications/global\\_alcohol\\_report/msb\\_gsr\\_2014\\_1.pdf?ua=1](http://www.who.int/substance_abuse/publications/global_alcohol_report/msb_gsr_2014_1.pdf?ua=1). Accessed 1/18/17.
- <sup>15</sup> Lim, S.S.; Vos, T.; Flaxman, A.D.; et al. A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: A systematic analysis for the Global Burden of Disease Study 2010. *Lancet* 380(9859):2224–2260, 2012. PMID: 23245609
- <sup>16</sup> World Health Organization (WHO). *Alcohol*. 2015. Available at: <http://www.who.int/mediacentre/factsheets/fs349/en/#>. Accessed 9/19/16.
- <sup>17</sup> Substance Abuse and Mental Health Services Administration (SAMHSA). *Data Spotlight: More than 7 Million Children Live with a Parent with Alcohol Problems*, 2012. Available at: <http://media.samhsa.gov/data/spotlight/Spot061ChildrenOfAlcoholics2012.pdf>. Accessed 9/19/16.
- <sup>18</sup> Substance Abuse and Mental Health Services Administration (SAMHSA). 2015 National Survey on Drug Use and Health (NSDUH). Table 2.19B—Alcohol Use in Lifetime, Past Year, and Past Month, by Detailed Age Category: Percentages, 2014 and 2015. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.htm#tab2-19b>. Accessed 1/18/17.
- <sup>19</sup> Substance Abuse and Mental Health Services Administration (SAMHSA). 2015 Key Substance Use and Mental Health Indicators in the United States: Results from the 2015 National Survey on Drug Use and Health. Figure 24. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2015/NSDUH-FFR1-2015/NSDUH-FFR1-2015.htm#fig24>. Accessed 1/18/17.
- <sup>20</sup> Substance Abuse and Mental Health Services Administration (SAMHSA). 2015 National Survey on Drug Use and Health (NSDUH). Table 2.83B—Alcohol Use, Binge Alcohol Use, and Heavy Alcohol Use in Past Month among Persons Aged 12 to 20, by Demographic Characteristics: Percentages, 2014 and 2015. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.htm#tab2-83b>. Accessed 1/18/17.
- <sup>21</sup> National Institute on Alcohol Abuse and Alcoholism (NIAAA). *Alcohol Alert*, No. 67, “Underage Drinking,” 2006. Available at: <https://pubs.niaaa.nih.gov/publications/AA67/AA67.htm>. Accessed 9/19/16.
- <sup>22</sup> Substance Abuse and Mental Health Services Administration (SAMHSA). 2015 National Survey on Drug Use and Health (NSDUH). Table 6.84B—Tobacco Product and Alcohol Use in Past Month among Persons Aged 18 to 22, by College Enrollment Status: Percentages, 2014 and 2015. Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.htm#tab6-84b>. Accessed 1/18/17.
- <sup>23</sup> Hingson, R.W.; Zha, W.; and Weitzman, E.R. Magnitude of and trends in alcohol-related mortality and morbidity among U.S. college students ages 18–24, 1998–2005. *Journal of Studies on Alcohol and Drugs* (Suppl. 16):12–20, 2009. PMID: 19538908
- <sup>24</sup> Hingson, R.; Heeren, T.; Winter, M.; et al. Magnitude of alcohol-related mortality and morbidity among U.S. college students ages 18–24: Changes from 1998 to 2001. *Annual Review of Public Health* 26:259–279, 2005. PMID: 15760289
- <sup>25</sup> Blanco, C.; Okuda, M.; Wright, C. et al. Mental health of college students and their non-college-attending peers: Results from the National Epidemiologic Study on Alcohol and Related Conditions. *Archives of General Psychiatry* 65(12):1429–1437, 2008. PMID: 19047530
- <sup>26</sup> Wechsler, H.; Dowdall, G.W.; Maenner, G.; et al. Changes in binge drinking and related problems among American college students between 1993 and 1997: Results of the Harvard School of Public Health College Alcohol Study. *Journal of American College Health* 47(2):57–68, 1998. PMID: 9782661



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- <sup>27</sup> Stratton, K.; Howe, C.; Battaglia, F.; Eds. *1996 Fetal Alcohol Syndrome: Diagnosis, Epidemiology, Prevention, and Treatment*. Washington, DC: Institute of Medicine, National Academy Press, 1996.
- <sup>28</sup> May, P.A.; Gossage, J.P.; Kalberg, W.O.; et al. Prevalence and epidemiologic characteristics of FASD from various research methods with an emphasis on recent in-school studies. *Developmental Disabilities Research Reviews* 15(3):176–192, 2009. PMID:19731384
- <sup>29</sup> May, P.A.; Keaster, C.; Bozeman, R.; et al. Prevalence and characteristics of fetal alcohol syndrome and partial fetal alcohol syndrome in a Rocky Mountain Region City. *Drug and Alcohol Dependence* 155:118–127, 2015. PMID: 26321671
- <sup>30</sup> Estimated liver disease deaths include deaths with the underlying cause of death coded as alcoholic liver disease (K70), liver cirrhosis, unspecified (K74.3–K74.6, K76.0, K76.9), liver cancer (C22), or other liver diseases (K71, K72, K73, K74.0–K74.2, K75, and K76.1–K76.8). Number of deaths from Multiple Cause of Death Public-Use Data File, 2013 (<http://wonder.cdc.gov/mcd.html>). Alcohol-attributable fractions (AAFs) from CDC Alcohol-Related Disease Impact ([http://nccd.cdc.gov/DPH\\_ARDI/Default/Default.aspx](http://nccd.cdc.gov/DPH_ARDI/Default/Default.aspx), Accessed 9/19/16). Prevalence of alcohol consumption from the National Survey on Drug Use and Health, 2013, for estimating indirect AAFs for liver cancer.
- <sup>31</sup> Yoon, Y.H., and Chen, C.M. *Surveillance Report #105: Liver Cirrhosis Mortality in the United States: National, State, and Regional Trends, 2000–2013*. Bethesda, MD: National Institute on Alcohol Abuse and Alcoholism (NIAAA), 2016. Available at: <http://pubs.niaaa.nih.gov/publications/Surveillance105/Cirr13.pdf>. Accessed 11/7/16.
- <sup>32</sup> Singal, A.K.; Guturu, P.; Hmoud, B.; et al. Evolving frequency and outcomes of liver transplantation based on etiology of liver disease. *Transplantation* 95(5):755–760, 2013. PMID: 23370710 (Please note: The “almost 1 in 3” figure aggregates the total number of transplants necessitated by alcoholic cirrhosis, alcoholic liver disease plus hepatitis C virus infection, and 40 percent of transplants necessitated by hepatocellular carcinoma.)
- <sup>33</sup> National Cancer Institute. *Alcohol Consumption*, November 2015 update. Available at: <http://www.progressreport.cancer.gov/prevention/alcohol>. Accessed 9/19/16.
- <sup>34</sup> U.S. Department of Agriculture and U.S. Department of Health and Human Services. *2015–2020 Dietary Guidelines for Americans*. 8th ed., Appendix 9. Available at: <http://health.gov/dietaryguidelines/2015/guidelines/appendix-9/>. Accessed 9/19/16.
- <sup>35</sup> U.S. Department of Agriculture. *Scientific Report of the 2015 Dietary Guidelines Advisory Committee, Part D*. Chapter 2, Table D2.3, p. 43. Available at: <https://health.gov/dietaryguidelines/2015-scientific-report/pdfs/scientific-report-of-the-2015-dietary-guidelines-advisory-committee.pdf>. Accessed 1/18/17.
- <sup>36</sup> Danaei, G.; Ding, E.L.; Mozaffarian, D.; et al. The preventable causes of death in the United States: Comparative risk assessment of dietary, lifestyle, and metabolic risk factors. *PLoS Medicine* 6(4):1–23, 2009. PMID: 19399161
- <sup>37</sup> National Institute on Alcohol Abuse and Alcoholism (NIAAA). NIAAA Council Approves Definition of Binge Drinking. *NIAAA Newsletter*, No. 3, Winter 2004. Available at: [http://pubs.niaaa.nih.gov/publications/Newsletter/winter2004/Newsletter\\_Number3.pdf](http://pubs.niaaa.nih.gov/publications/Newsletter/winter2004/Newsletter_Number3.pdf). Accessed 9/19/16.
- <sup>38</sup> Substance Abuse and Mental Health Services Administration (SAMHSA). *Binge Drinking: Terminology and Patterns of Use*. Available at: <https://www.samhsa.gov/capt/tools-learning-resources/binge-drinking-terminology-patterns>. Accessed 1/18/17.



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