Changing the Conversation around Alcohol in the United States – Acknowledging the Elephant in the Room

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Changing the Conversation to Include Alcohol

"I'm right there in the room, and no one even acknowledges me."

"I'm right there in the room, and no one even acknowledges me."
NIAAA Efforts to Change the Conversation Around Alcohol

• Raising awareness about the scope of the problem by tracking drinking trends and consequences
• Embracing the Changing Culture Around Alcohol in Society
• Advancing Alcohol Screening, Brief intervention, and Referral to treatment (SBIRT) as part of routine healthcare
• Promoting widespread use of the Healthcare Professional’s Core Resource on Alcohol (HPCR)
• Assessing and implementing the Addictions Neuroclinical Assessment framework: Window on individualized etiology, prevention and treatment
• Enhancing recovery research
• Supporting research to integrate alcohol use disorder (AUD) treatment with treatment for co-occurring conditions – hepatologists leading the way
• Combating stigma
• Disseminating NIAAA resources
Raising Awareness about the Scope of the Problem by Tracking Drinking Trends and Consequences
## Alcohol by the Numbers: Scope of the Problem

<table>
<thead>
<tr>
<th>Source</th>
<th>Death Certificate Listings</th>
<th>Increase from 2019 to 2020</th>
<th>Increase from 2020 to 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death certificates listing alcohol</td>
<td>1 in 6 drug overdose deaths</td>
<td>25.5%</td>
<td>10%</td>
</tr>
<tr>
<td>Alcohol-related traffic fatalities</td>
<td>11,654</td>
<td>14%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Death certificates listing alcohol increased 25.5% from 78,927 in 2019 to 99,017 in 2020, the first year of the pandemic. And 10% more to 108,791 in 2021.

Alcohol was listed in 1 in 6 (16%) drug overdose deaths in 2020 and 2021.

Alcohol-related traffic fatalities increased by 14% to 11,654 in 2020 – highest since 2008.

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2021 National Survey on Drug Use and Health (SAMHSA), Nationwide Emergency Department Sample (AHRQ), National Center for Vital Statistics and 2015-2019 C Alcohol-Related Disease Impact (ARDI) (CDC), White et al. 2022, NHTSA
Alcohol-Related Deaths Increased During the Pandemic

The number of death certificates listing alcohol as the primary cause or a contributing factor among people age 16+ increased 25% from 2019-2020 and another 10% in 2021. Preliminary data for 2022 suggest that the overall number of alcohol-related deaths decreased slightly compared to 2021.

“Most middle- and high-income countries globally have become largely inured to the endemic premature mortalities related to more commonly used substances such as alcohol and tobacco. While these account for a much larger number of deaths and economic and social harms than opioids each year, the devastation wreaked by these substances, their casualties, and the associated blood and tears are all relatively willingly absorbed into the social fabric.”

John F Kelly and Sarah E. Wakeman, 2019
Drinking Alcohol Increases Cancer Risk—But Very Few Americans Are Aware of the Link
Scope of the Problem – Trends in Alcohol Misuse and Consequences

- Adolescent alcohol use
- Women and alcohol
- Older adults and alcohol
- Effect of the COVID-19 pandemic on alcohol use and its consequences
Percentage of Adolescents Aged 12-17 Who Drink is Declining

Note: Methods changed in 2020

Source: NSDUH
Male and Female Drinking Patterns Are Converging

- **Adolescents (12-17) and young adults (18-25)**
  - Alcohol use is decreasing but faster for males than females

- **Young adults (26-29)**
  - Alcohol use is increasing but faster for females than males

- **Middle adults (30-65)**
  - Alcohol use is increasing for females but not for males

- **Older adults (65+)**
  - Alcohol use increasing more in females than males

Source: National Survey on Drug Use and Health, 2002-2020
Note: The methods changed in 2020 so data might not be comparable to prior years
Alcohol and Women’s Health

Studies suggest that women are more likely than men to experience a variety of alcohol-related harms at comparable doses, including:

- Hangovers (Vatsalya et al. 2018)
- Blackouts (Hingson et al., 2016)
- Liver disease (Guy and Peters, 2013)
- Brain atrophy (Ceylan-Isik et al., 2010)
- Cognitive deficits (Flannery et al., 2007)
- Cardiomyopathy (Fernández-Solà and Nicolás-Arfelis, 2002)
- Faster progression of AUD (Diehl et al., 2007)
- Certain cancers (Liu et al, 2015)
- Larger increases in alcohol-related ED visits, hospitalizations and death for women than men over past 20 years (White et al. 2020)

- Women are less likely than men to receive AUD treatment (Gilbert et al., 2019)
- Whereas only 26% of 230 structural neuroimaging studies on substance use over 23 years evaluated sex differences (Lind et al., 2017)
- More research is needed to better understand sex differences in alcohol use and consequences
Concerns About Alcohol Use By Adults Aged 65+

- Alcohol affects behavior and health differently as we age. Health consequences of alcohol tend to shift from acute causes (injuries) to chronic causes (e.g., cancer, heart disease) with age.

- Older adults:
  - Are more sensitive to the sedative effects of alcohol, as well as to the effects of alcohol on reaction time, balance, attention, and driving skills.
  - Experience reductions in body weight and body water leading to higher BACs.
  - Take more medications that may interact with alcohol.
  - Have an increased risk of injury from falls that is compounded by alcohol.

- Both alcohol and aging:
  - Involve widespread inflammation that can contribute to cardiovascular diseases and cancer.
  - Disrupt sleep.

Sources: Novier et al., 2015; Sklar et al., 2014; Vogel-Sprott and Barrett, 1984; Price et al., 2018
Alcohol and the COVID-19 Pandemic

One-quarter of the population in the U.S. increased drinking during the pandemic

• For several measures, women were generally more likely to increase drinking than males

• Greater increases in quantity of alcohol consumption observed among Black and non-White participants, especially in the U.S

• Individuals who increased their drinking were more likely to drink to cope with stress

Factors Associated with Increased Drinking During the Pandemic

A recent systematic review and meta-analysis examining changes in alcohol use during the pandemic found factors most consistently associated with increases in drinking included:

- Income loss/financial stress
- Greater depression or anxiety
- Greater general psychological distress
- Greater drinking to cope with stress
- Home and work factors
  - Greater number of children in the household associated with increases in drinking
  - Working remotely associated with increased drinking
  - Essential workers more likely to increase drinking compared to others

Interaction of Alcohol and Social Determinants of Health

• The COVID-19 pandemic also highlighted how certain social determinants of health influence alcohol misuse.

• A variety of social determinants of health can impact the likelihood of alcohol misuse and AUD, such as:
  • Social environment (e.g., growing up in a home with parental AUD, discrimination, racism, social isolation,)
  • Physical environment (e.g., alcohol outlet density, exposure to violence)
  • Health care services (e.g., access to and quality of care)
  • Economic stability (e.g., job security, income)
  • Education access and quality (e.g., educational opportunities and support)

• Adverse social determinants of health serve as allostatic loads on the body’s stress systems, increase vulnerability to mental and physical health conditions, and contribute to health disparities and inequities.

• Such stressors can drive alcohol misuse to cope which, in turn, exacerbates the initial problems, further fueling alcohol misuse.
Increase in a Variety of Alcohol-Related Harms During the COVID 19 Pandemic

- Increase in the percentage of emergency department visits that involve acute excessive alcohol consumption (Esser et al., 2022)
- Increase in the incidence of alcohol withdrawal in hospitalized patients (Schimmel et al., 2021; Sharma et al., 2021)
- Increase in deaths from alcohol-associated liver disease that was bigger than increases in prior years (Deutsch-Link et al., 2022)
- 14% increase in alcohol-impaired driving fatalities (NHTSA, 2022)
- Increase in hospitalizations for alcohol-associated hepatitis (AH) between 2019 and 2020 – particularly among women and people < age 40 (Sohal et al., 2022)
The COVID-19 Pandemic Contributed to a Global Decline in Mental Health

- World Health Organization estimates the following global changes:
  - 28% increase in cases of major depressive disorder (MDD)
  - 26% increase in cases of anxiety disorders (AD)

- The pandemic also worsened already declining mental health in the US

- Given links between poor mental health and alcohol misuse, one might expect more drinking to cope during COVID

World Health Organization (2022); Vahratian et al. (2021); Everett Jones et al (2022)
Alcohol and Mental Health are Intertwined

- AUD is highly co-morbid with mental health disorders
  - The prevalence of AUD among people with anxiety and mood disorders ranges from about 20-40%
  - Between 30-60% of people who seek AUD treatment have PTSD
- Alcohol misuse often precedes diagnoses of mental health conditions
- Alcohol misuse is commonly used in an effort to cope with symptoms
- In the end, alcohol misuse makes the prognosis worse
- Similarly, mental health conditions complicate treatment for AUD


NIAAA Healthcare Professional's Core Resource on Alcohol ("Mental Health Issues")
Alcohol, Pain, and Opioids are Intertwined

• The opioid crisis overlaps with other public health challenges, such as undertreated chronic pain, mental illness, and alcohol use disorder.

• Alcohol misuse contributes to both physical and emotional pain, and pain contributes to alcohol misuse through drinking to cope.

• There are overlapping brain mechanisms in chronic pain, alcohol use disorder, and opioid use disorder. A detailed understanding of this relationship provides an opportunity for preventing and treating these problems.

• Addressing alcohol misuse in individuals with chronic pain, opioid use disorder, or both, may help improve patient outcomes.

Dr. Koob at the Rx and Illicit Drug Summit in April during a session with Dr. Larry Tabak and Dr. Nora Volkow.
Alcohol Can Reduce Physical Pain

- In a meta-analysis of 18 studies, a mean blood alcohol content (BAC) of ~0.08% produced a small elevation in pain threshold and a significant reduction in pain intensity.

- Higher BAC = Lower pain sensitivity.

- Could explain why people in chronic pain often misuse alcohol despite potential consequences to health.


“I don’t prescribe opioids anymore, so have your bartender fill this prescription.”
Embracing the Changing Culture Around Alcohol in Society
Changing the Conversation Around Alcohol: Health Risks at All Levels

Drinking Alcohol Increases Cancer Risk—But Very Few Americans Are Aware of the Link

The New York Times
Even a Little Alcohol Can Harm Your Health
Recent research makes it clear that any amount of drinking can be detrimental. Here's why you may want to cut down on your consumption beyond Dry January.
Changing the Conversation Around Alcohol: Dry January

The benefits of ‘Dry January’ last longer than a month, studies show

People who abstained from alcohol for a month started drinking less the rest of the year and showed striking improvements in their health.

By Anahad O’Connor
December 27, 2022 at 6:00 a.m. EST

Dry January has health benefits
Taking a Break from Alcohol During Dry January

“Dry January helps us evaluate our relationship with alcohol... If you stop drinking in the month of January, and suddenly you feel better... then your body is trying to tell you something. You should listen to your body.”

After celebrating the holidays, maybe it's time to try 'dry January'

January 3, 2023 · 7:17 AM ET
Heard on Morning Edition
Changing the Conversation Around Alcohol: Mocktails

The Washington Post

Do mocktails really help you drink less alcohol?
Nonalcoholic drinks may help those staying sober for Dry January, but they could be a trigger for anyone with alcohol use disorder.

Not just ‘Dry January’: More Baltimore bars are offering alcohol-free drinks year-round.
Promoting Alcohol Screening, Brief intervention, and Referral to treatment (‘‘SBIRT’’) as part of routine healthcare
The U.S. Preventive Services Task Force recommends alcohol screening and brief intervention (alcohol SBI) or counseling in primary care settings for adults age 18 and older.

NIAAA is promoting the use of SBI or SBIRT as part of routine healthcare.

Screening for alcohol misuse can also help clinicians spot other physical and mental health-related issues:

- Adults who binge drink are more likely than drinkers who do not binge to report past-year suicidal ideation (6.3% vs 3.8%), episodes of major depression (9.2% vs 6.5%) and prescription pain medication misuse (6.2% vs 2.7%).
Changing the Conversation: Moving Beyond Screening

- **Alcohol Screening but little Brief Intervention and Referral to Treatment**

![Graph showing prevalence of AUD and interventions](image)

Using NSDUH data, Mintz et al (2021) showed screening, but little advice and referral for people with alcohol use disorder.

- In the U.S., women appear to have lower odds of receiving brief intervention for unhealthy alcohol use across all age groups, particularly during middle age.
- Black women and Latina/Hispanic women appear to be less likely to receive brief intervention than women in other race/ethnicity groups. Parthasarathy S, et al.(2023)
Addictions Neuroclinical Assessment framework: Window on individualized etiology, prevention and treatment
Origin of the 3 Stage Cycle of Addiction Construct

Psychology 188: Impulse Control Disorders
University of California San Diego
April, 1997
Lecture 3: Addiction Model of Self-Regulation Failure

Addiction
Drugs as Reinforcers
Addiction Cycle

Conceptual Framework for Neurobiological Bases Driving Substance Use Disorders

The goals of the ANA are to identify how the three domains influence differences between people diagnosed with AUD, which can then be used to guide treatment decisions, and to better understand the differences between individuals with and without AUD.

Validation of Three Neurofunctional Domains in AUD by Deep Behavioral Phenotyping

In a large, diverse clinical sample representing the spectrum of AUD, the three neurobiological domains hypothesized to be critical to the addiction cycle (incentive salience, negative emotionality, and executive function) could be identified through factor analysis.

Measures of addiction, personality, cognition, behavior, and exposure to early-life stress were collected in 454 patients. The study confirmed the relevance of the three neurofunctional domains to AUD. Using a multiple indicators, multiple causes (MIMIC) approach, early life stress and sociodemographic factors were identified as predictors.

Among heavy drinkers,

- three factors: executive function, incentive salience, and emotionality, were all associated with current AUD. Significant predictors included history of AUD, positive family history of alcohol dependence, earlier age of first drink, and history of childhood emotional abuse and physical neglect (DeMartini et al., 2021).

Among problem drinkers,

- four core constructs were identified: incentive salience, negative emotionality, executive function, and negative alcohol-related consequences (Nieto et al., 2021).
Implications of a Heuristic Framework for the Neurofunctional Domains in Alcohol Use Disorder

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Implications of the Three Neurofunctional Domains framework for alcohol Use Disorder (AUD)

• **Reduces stigma**: AUD is considered a brain disorder that can be treated.

• **Individualizes diagnosis and treatment**: Facilitates treatment based on individual differences in which domain one enters the addiction cycle.

• **Facilitates recovery**: Provides a framework to help clinicians focus on the different triggers for relapse.

• **Facilitates prevention**: Provides a framework for identifying individuals with domain specific vulnerabilities both genetic and environmental.

For example, high scores in the negative emotionality domain showed significant associations with more frequent and heavier drinking and drinking to regulate negative affect (Votaw et al., 2021).
Enhancing Recovery Research
Changing the Conversation Around Recovery

• Most people who need treatment receive no treatment of any kind, and little is known about what sustains longer-term recovery.

• To enhance health, NIAAA is expanding focus on longer-term recovery.

• NIAAA has defined recovery from alcohol use disorder (AUD) based on qualitative feedback from key recovery stakeholders (e.g., researchers, clinicians, and recovery specialists).

• Recovery is viewed as both a process of behavioral change and an outcome that incorporates time periods for two key components:
  – Remission from DSM-5 AUD
  – Cessation from heavy drinking (a non-abstinent recovery outcome)

• The NIAAA definition of recovery also emphasizes the importance of biopsychosocial functioning and quality of life in enhancing recovery outcomes.

Additional Ongoing Recovery Research Projects

Within NIAAA’s portfolio of recovery research, projects include:

- Neurobehavioral markers and predictors associated with long-term trajectories of recovery and relapse
- Understanding mechanisms of behavioral change associated with recovery outside of treatment
- Factors associated with different phases of recovery, such as peer helping and social networks
- Assessing the benefits of secular mutual help organizations in sustaining recovery
Greater Relief/Negative Emotionality at Baseline Predicted Greater Drinking Intensity and More Frequent Heavy Drinking During Recovery

Beta coefficient is the degree of change in the outcome variable for every 1-unit of change in the predictor variable.

<table>
<thead>
<tr>
<th>Predictor</th>
<th>% Heavy Drinking Days (PHDD)</th>
<th>β</th>
<th>B (SE), p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reward / incentive salience</td>
<td></td>
<td>.01</td>
<td>0.35 (0.87), p = 0.690</td>
</tr>
<tr>
<td>Relief / negative emotionality</td>
<td></td>
<td>.09</td>
<td>2.69 (0.53), p &lt; 0.001</td>
</tr>
<tr>
<td>Loss of control / executive functioning</td>
<td></td>
<td>.001</td>
<td>0.02 (1.17), p = 0.988</td>
</tr>
</tbody>
</table>

- This study also validated the 3 domains of the 3-stage addiction cycle.
- Using measures from Project MATCH and COMBINE, this study supported the utility of the domains of the 3-stage addiction cycle in predicting AUD treatment outcomes and recovery one year post treatment.
- Addiction cycle domains were more strongly associated with outcomes than AUD symptoms.
- At one year follow-up, relief/ negative emotion scores were associated with drinks per day and percent heavy drinking days.

In order to make these slides make sense, need the previous slides on brain domains from neuroclinical assessment
Hepatologists are Changing the Conversation Around Alcohol and Liver Disease
Hepatologists are Changing the Conversation Around Alcohol and Liver Disease

- Alcohol misuse accounts for nearly half of liver disease deaths each year
- Alcohol associated liver disease (ALD) is the most common alcohol-related cause of death and the leading cause of liver transplantation
- ALD-related deaths increased 47% between 2000-2019 (Chen and Yoon, 2022)
- Rates increasing faster for women and among young adults ages 25-34 (Tapper and Parikh, 2018; Chen and Yoon, 2022)

Paradigm shift: Integrated treatment

- Integrated treatment of ALD and AUD can improve patient outcomes (Leggio and Jung, 2022)
- Treating AUD with medications reduces the likelihood of developing ALD and the progression of existing ALD (Vannier et al., 2022)
- Behavioral or pharmacotherapy for AUD after discharge from hospitalization for ALD reduces readmission and death (Peeraphatdit et al., 2019; Winters et al., 2021)
Early Liver Transplants for ALD?

• Currently, many U.S. transplant centers typically require a 6-month period of alcohol abstinence prior to liver transplantation:
  – To select patients who will be more likely to abstain from alcohol after transplant
  – To exclude patients from transplant who might improve and not require transplant

• Yet, it is not realistic in severe alcohol-associated hepatitis, where a majority (75-90%) of patient deaths occur within 2 months of diagnosis.

• Data suggests that patients who receive a liver transplant without the 6-month waiting period (called early liver transplant) have similar survival outcomes and alcohol relapse rates as patients who receive a transplant after the 6-month waiting period.

• To build on this research, NIAAA issued a Request for Applications to encourage studies on factors that influence the selection, management, and outcomes of patients who receive early liver transplantation.
Combatting Stigma in the Alcohol Field
We can help alleviate the stigma associated with alcohol-related conditions by consistently using non-pejorative, non-stigmatizing language to describe these concerns and the people who are affected by them. Some words that are commonly used in society, such as “alcoholic” and “alcohol abuse,” are stigmatizing.

- Use **alcohol use disorder** instead of **alcohol abuse**, **alcohol dependence**, and **alcoholism**
- Use **alcohol misuse** instead of **alcohol abuse** when referring broadly to drinking in a manner that could cause harm
- Use **person-first language** to describe people with alcohol-related problems (e.g., **person with alcohol use disorder** instead of **alcoholic**, **person in recovery** instead of **recovering alcoholic**)
- Use **alcohol-associated liver disease** instead of **alcoholic liver disease**

Volkow ND, Gordon JA, Koob GF. Choosing appropriate language to reduce the stigma around mental illness and substance use disorders. Neuropsychopharmacology. 2021 Dec;46(13):2230-2232.
Advancing Diversity, Equity, Inclusion, and Accessibility in Alcohol Research
How Can We More Effectively Address Diversity and Health Disparities in the Alcohol Field?

• NIAAA fully supports and is committed to the NIH UNITE initiative, a coordinated effort to address structural racism and promote racial equity and inclusion at NIH and within the larger biomedical research enterprise
  – see www.nih.gov/ending-structural-racism

• NIAAA is also focusing on 3 primary areas to advance diversity, equity, and inclusion: improving the NIAAA workplace and culture, increasing diversity and equity in the NIAAA scientific and administrative workforce, and enhancing the NIAAA scientific research portfolio
Ms. Dawn Wayman is NIAAA's new Scientific Diversity Officer, helping to catalyze and coordinate NIAAA-specific goals and resolve critical issues that will enhance the diversity and equity of research programs. Ms. Wayman was previously the branch director for Strategic Diversity and Inclusion in NIH's Office of Equity, Diversity, and Inclusion.
Advancing Diversity, Equity, Inclusion, and Accessibility

NIAAA is participating in several funding opportunities to enhance the diversity of the research workforce across the career spectrum:

• ADVANCE Predoctoral T32 Training Program to Promote Diversity in Health Disparities Research, Preventive Interventions, and Methodology (RFA-OD-23-018)
• BRAIN Initiative Advanced Postdoctoral Career Transition Award to Promote Diversity (K99/R00) (RFA-MH-23-331, RFA-MH-23-330)
• NIH Neuroscience Development for Advancing the Careers of a Diverse Research Workforce (R25) (PAR-23-178)
• Research Supplements to Promote Diversity in Health-Related Research (PA-23-189)
NIAAA Resources
Healthcare Professional’s Core Resource (HPCR) on Alcohol

What Every Healthcare Professional Should Know about Alcohol
Launched in May 2022, this new online educational resource covers the basics of what every healthcare professional needs to know about alcohol, including the many ways that alcohol can impact a patient’s health, and provides strategies for alcohol screening and interventions.

For healthcare providers who are not addiction specialists, it can help overcome barriers to care for patients with alcohol problems including ways to counteract stigma in their practice.

It was developed by NIAAA with input from 70 contributors including practicing physicians and clinical psychologists with busy clinicians in mind.

https://www.niaaa.nih.gov/health-professionals-communities/core-resource-on-alcohol
The Core Resource on Alcohol was designed to help address common barriers to optimal alcohol-related healthcare by providing:

- Knowledge to fill common gaps in training about addiction, including the neuroscience of addiction, evidence-based AUD therapy and medications, and the varied paths to recovery
- Quick, validated alcohol screening and assessment tools that address time constraints while providing a definitive picture of drinking levels and AUD symptoms
- Clarity about what constitutes heavy drinking, AUD severity levels, and recovery to build confidence in providing brief advice and collaborating on recovery plans
- Steps to reduce stigma surrounding alcohol-related problems and encourage greater patient acceptance of alcohol treatment when needed
HPCR Designed for Ease of Use by Non-specialists, Yet Robust Enough for Specialist Certification

Now designated an:

• American College of Academic Addiction Medicine (ACAAM) Recommended Educational Activity

• American Board of Addiction Medicine (ABAM) Recognized Activity for Certification of Diplomates
Additional Resources for the Public and Healthcare Professionals

Rethinking Drinking
A website and print publication for a general audience to help individuals assess their drinking habits and find ways to make a change.

NIAAA Alcohol Treatment Navigator
An online resource to help people understand treatment options and locate nearby treatment, including telehealth options. Also includes a portal for healthcare professionals to build or expand their referral lists to include providers offering science-backed AUD treatments to meet the varied needs of their patients.
Information for the Public

• NIAAA offers the public research-based information on drinking and its impact, in plain language.

• Materials are available in English and Spanish, and select content is also translated to more than a dozen languages.

• Visit niaaa.nih.gov to find these free resources—and share them with your stakeholders and colleagues.
**NIAAA Spectrum**

- **NIAAA Spectrum** is an online newsletter featuring articles and news updates on NIAAA and the alcohol field.

- Explore the newsletter and sign up for updates at [spectrum.niaaa.nih.gov/](spectrum.niaaa.nih.gov/)
NIAAA’s Open-Access Peer-Reviewed Journal

ALCOHOL RESEARCH Current Reviews

- Published online on a continuous, rolling basis
- Covers a wide variety of research topics and disciplines through invited reviews
- 2021 Impact Factor: 7.7
- Visit the journal’s website or LinkedIn page for more information

[arcr.niaaa.nih.gov](http://arcr.niaaa.nih.gov/)
[linkedin.com/company/alcohol-research-current-reviews](https://www.linkedin.com/company/alcohol-research-current-reviews)
THANK YOU!
NIAAA is your source for credible, evidence-based information and resources on alcohol’s effects on health

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