

JOINT MEETING OF THE NATIONAL ADVISORY COUNCILS FOR THE COLLABORATIVE RESEARCH ON ADDICTION AT NIH: NIAAA UPDATE



George F. Koob, Ph.D.

Director

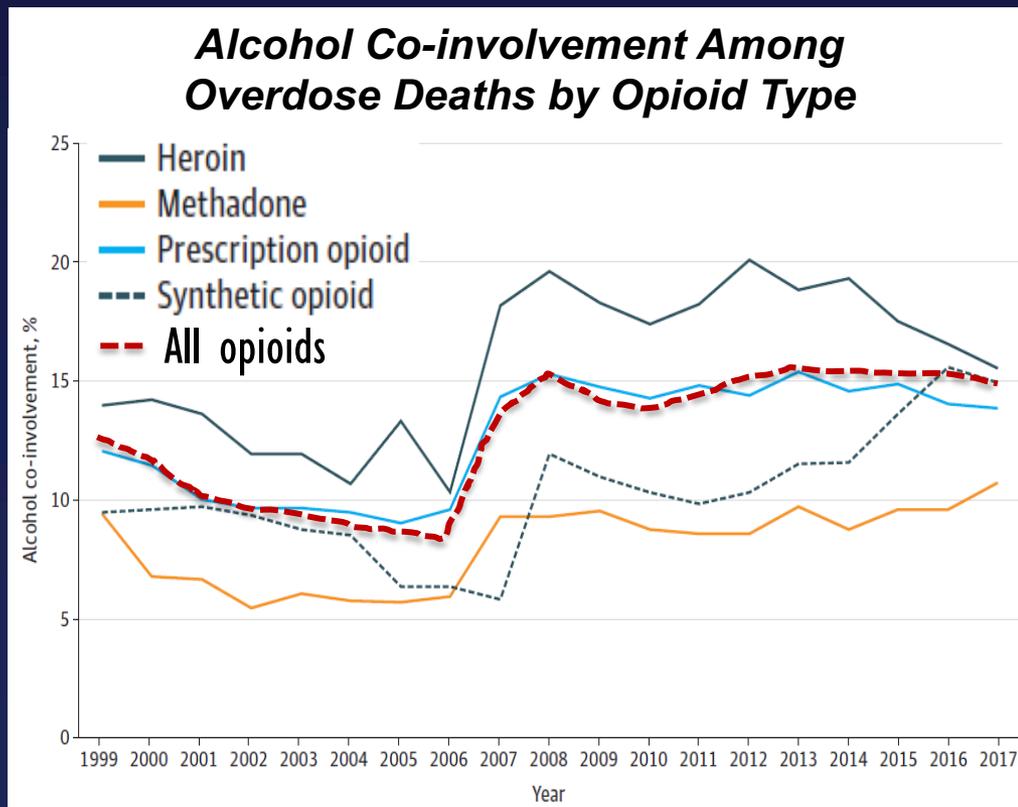
National Institute on Alcohol Abuse and Alcoholism

National Institutes of Health

**MAY 13, 2020
VIRTUAL MEETING**

Alcohol Involvement in Opioid Overdose Deaths

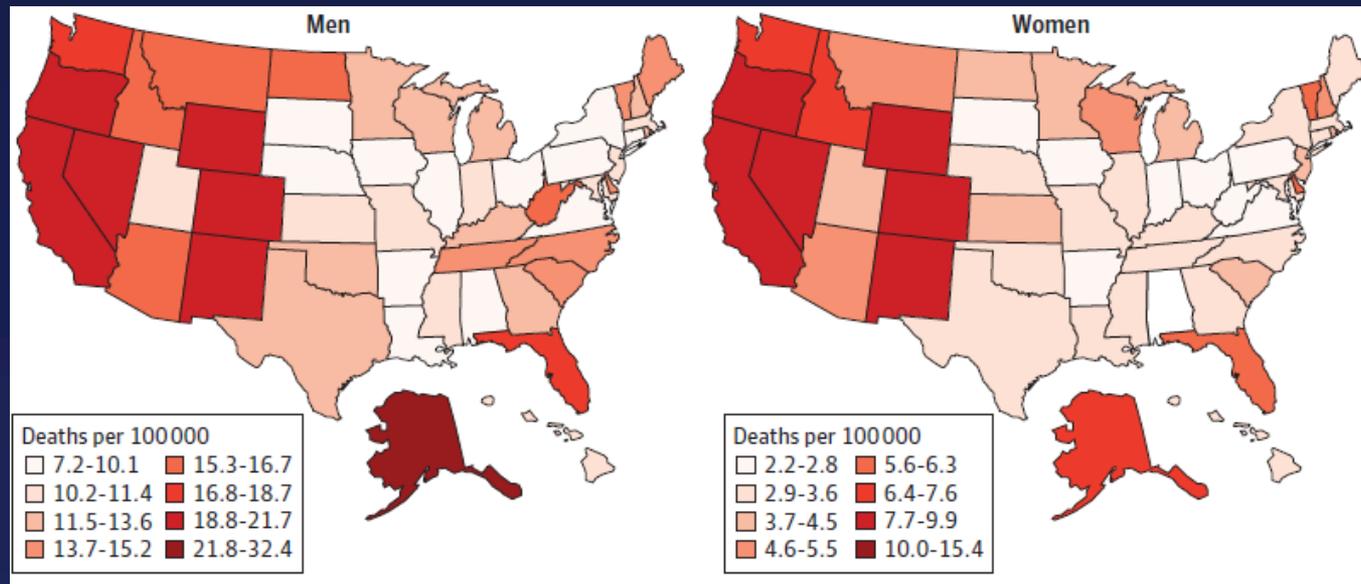
- Opioid deaths, 1999-2017: **399,230** (per CDC WONDER database)
 - Alcohol co-involvement for all opioid overdose deaths increased nonlinearly from 12.4% in 1999 to 14.7% in 2017
 - Alcohol co-involvement persisted near **15% for all opioid overdoses since 2008**
- State-level rates of binge drinking were significantly correlated with alcohol co-involvement in all opioid overdose deaths
- Alcohol use is a modifiable risk factor for opioid overdose



Alcohol-Related Mortality: A Series of Reports

- Alcohol-related deaths, 1999-2017: **944,880** (per CDC WONDER database)
 - Alcohol-related mortality **doubled** from 1999 to 2017
 - Death rates were highest among men and middle-aged and older adults (ages 45-74)
 - Increase in death rate over time was greater in women than men

Age-standardized rates of alcohol-induced death among non-Latino white individuals 2000-2003

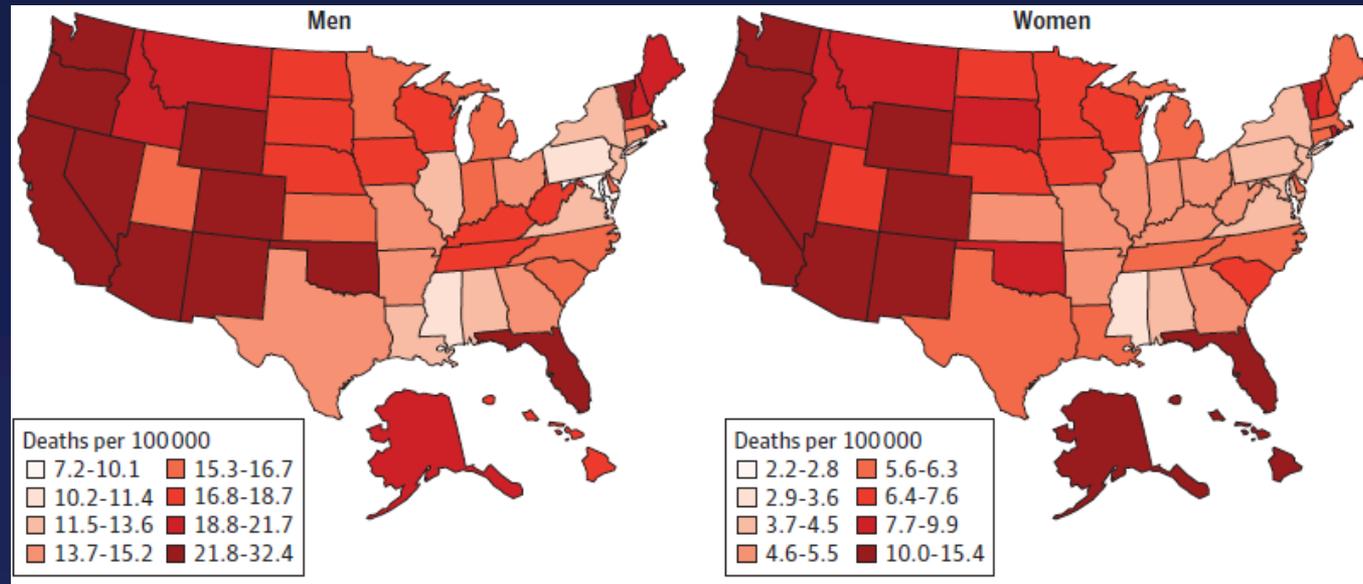


Citations: White AM, Castle IP, Hingson RW, and Powell PA. *Alcohol Clin Exp Res.* 2020 Jan;44(1):178-187. Spillane S, Shiels MS, Best AF, Haozous EA, Withrow DR, Chen Y, Berrington de Gonzalez A, and Freedman ND. *JAMA Netw Open.* 2020 Feb 5;3(2):e1921451

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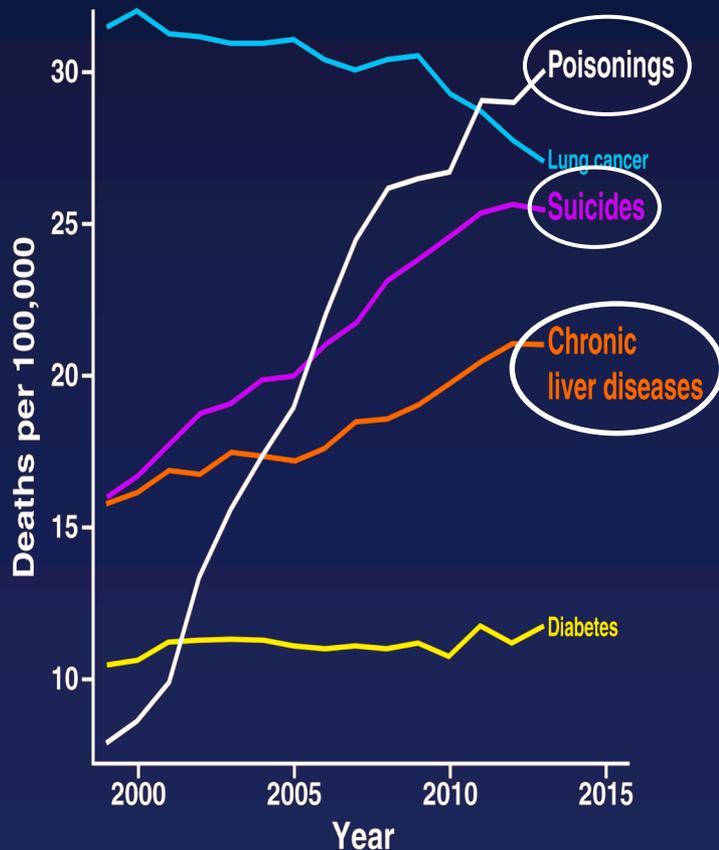
Age-standardized rates of alcohol-induced death among non-Latino white individuals 2013-2016



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“Deaths of Despair”: Update

Mortality by cause among White non-Hispanics (age 45-54)



Deaths of despair contribute to the decreasing life expectancy in the U.S. observed since 2014 (Woolf et al., 2019)

Alcohol plays a prominent role in deaths of despair, contributing to:

~20% of all drug overdoses (Warner et al., 2016)

~26% of all suicides (Ertl et al., 2019)

~50% of liver disease deaths (Yoon and Chen, 2018)

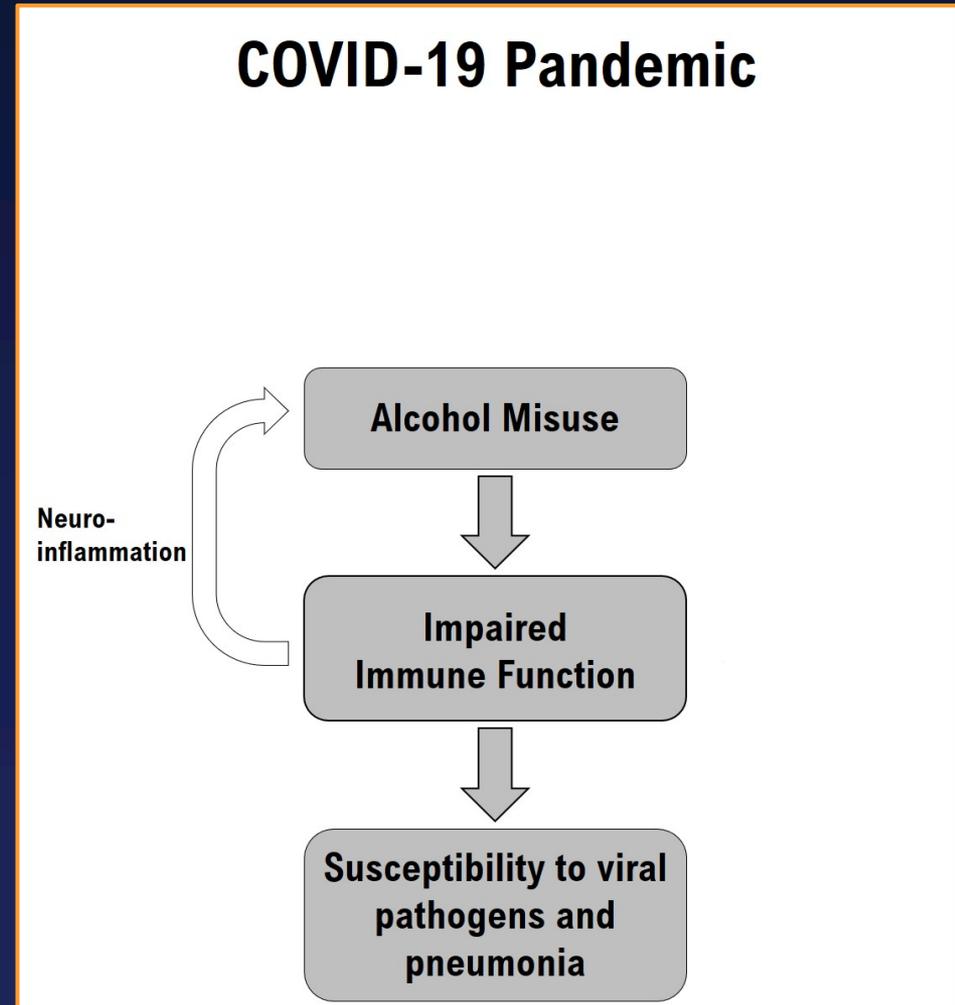
Since 2015, these patterns of increased mortality are now observed across many racial/ethnic groups and age groups (Woolf et al., 2018)

Role of Alcohol in the COVID-19 Pandemic

Impact of alcohol use on COVID pandemic

Biological effects: Alcohol effects on immune function

Chronic alcohol consumption increases the risk for Acute Respiratory Distress Syndrome (ARDS), with increased need for mechanical ventilation, prolonged intensive care unit stay, and higher incidence of mortality



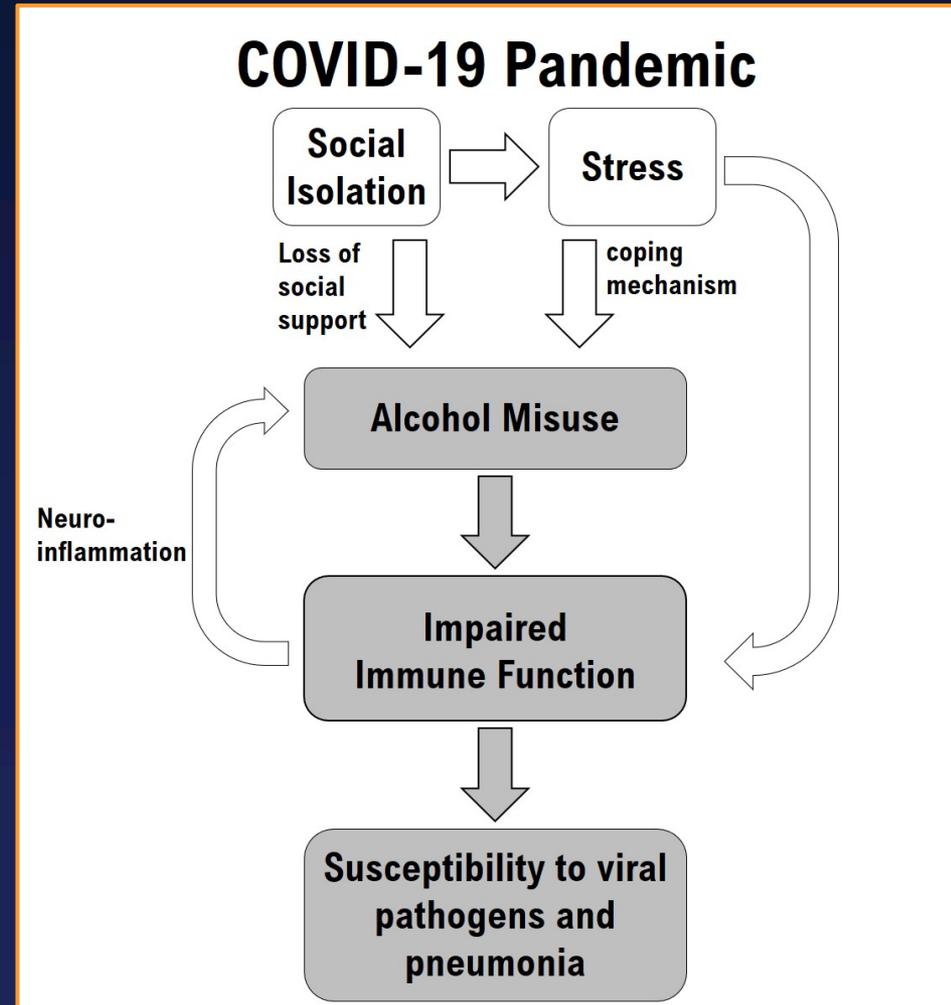
Role of Alcohol in the COVID-19 Pandemic

Impact of COVID pandemic on alcohol use and treatment

Isolation: Physical distancing can lead to social isolation or loss of social support, which can lead to stress

Stress: Drinking to cope with the stress of the pandemic

Treatment and Recovery: Physical distancing poses challenges for those with alcohol use disorder and emphasizes the need for telehealth and virtual meeting options for individuals seeking treatment or in recovery from AUD



NIAAA Response to COVID-19 Pandemic

- New [landing page on NIAAA website](#) that links to:
 - Updates to the [NIAAA Treatment Navigator](#) that include COVID-19 telehealth messages and links in banners
 - Updates to the [Alcohol Policy Information System \(APIS\)](#) that include new information about state level alcohol-related COVID-19 policies
 - Fact sheet: [“Alcohol and Physical Distancing”](#)
 - Director’s blog: [“Alcohol poses different challenges during the COVID-19 pandemic”](#)
- Ongoing press engagement and social media outreach (including Twitter chats with ASAM and APA)
- In progress: Collecting data on apparent per capita alcohol consumption during the pandemic

COVID-19 Funding Opportunities: Notices of Special Interest (NOSIs)

COVID-19 science-focused NOSIs (including [NOT-AA-20-011](#)) are linked to:

- [PA-18-591](#) - Administrative Supplements to Existing NIH Grants and Cooperative Agreements *to request additional funding to increase or preserve the parent award's overall impact within the original scope of award or **expand one of the existing specific aims***
- [PA-18-935](#) - Urgent Competitive Revision to Existing NIH Grants and Cooperative Agreements *to request additional funds during the current project period for **new or additional activities (e.g., new specific aim)** that reflect an expansion of the scope of the grant-approved activities*

Administrative Supplements for Activities Disrupted by COVID-19

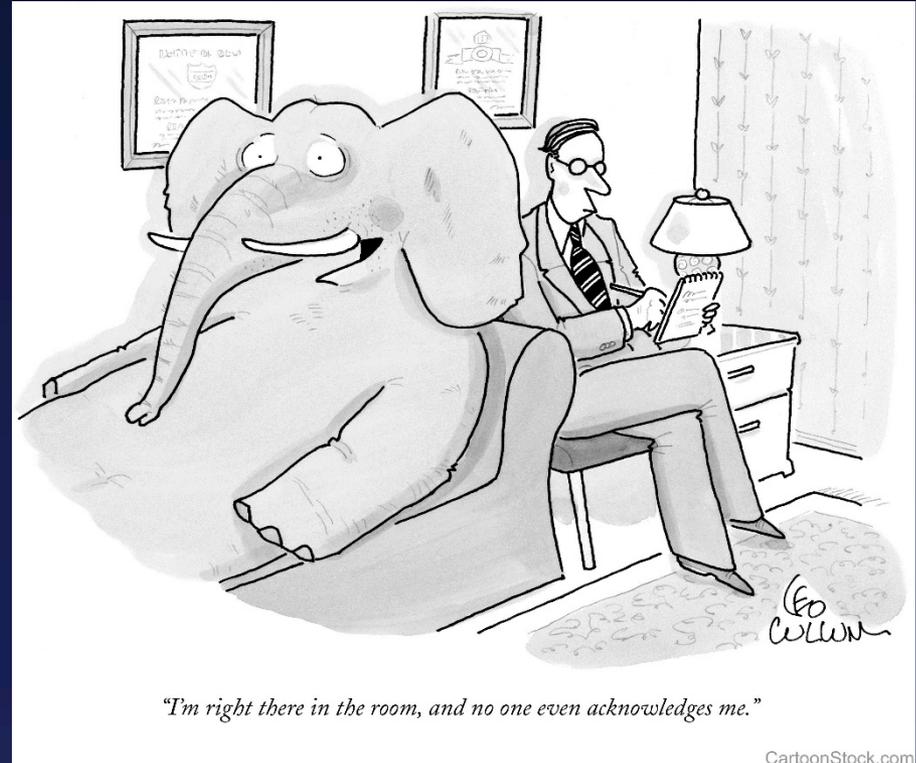
- Covers unexpected increases in cost and hardships due to the COVID-19 pandemic
- All Administrative Supplement applications for activities disrupted by COVID-19 must be submitted through the parent administrative supplement FOA [PA-18-591](#)

NIAAA-specific instructions for Administrative Supplements are available on [our website](#).

Alcohol and Mental Health – The Elephant in the Room

Alcohol misuse correlates with poor mental health

- Often precedes diagnoses of mental health conditions
- Commonly used in an effort to cope with symptoms
- In the end it makes the prognoses worse
- Similarly, mental health conditions complicate treatment for AUD



Sources: Centanni, S. W., Bedse, G., Patel, S. and Winder, D. G. (2019), Driving the Downward Spiral: Alcohol-Induced Dysregulation of Extended Amygdala Circuits and Negative Affect. *Alcohol Clin Exp Res*; Mäkelä P, Raitasalo K, Wahlbeck K (2015) Mental health and alcohol use: a cross-sectional study of the Finnish general population, *European Journal of Public Health*, 25, 2, 225–231; Markou A, Kosten TR, Koob GF (1998) Neurobiological Similarities in Depression and Drug Dependence: A Self-Medication Hypothesis. *Neuropsychopharmacology* 18, 135–174.

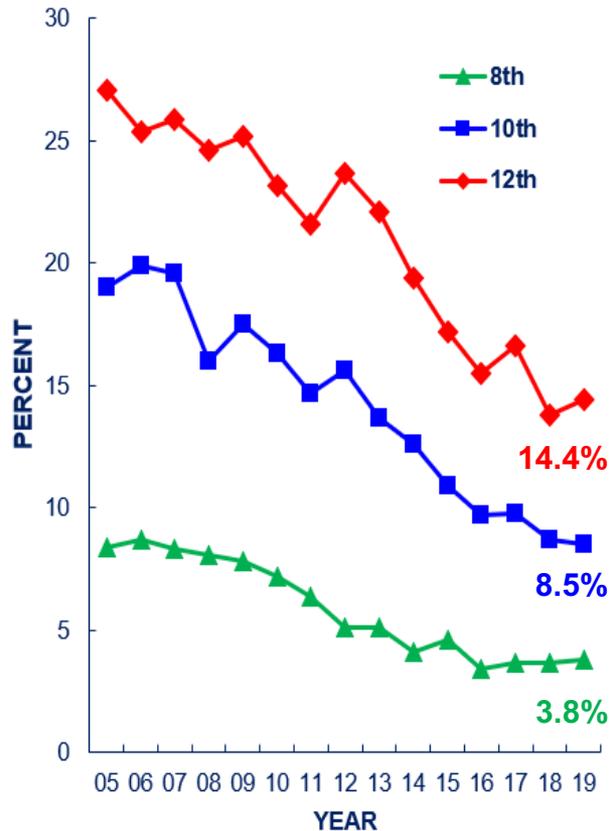
Examples of NIAAA Collaborations with other NIH Institutes

- **Research on health effects**
 - Fatty liver disease (NIDDK)
 - Alcohol and cancer (NCI)
- **Aging research**
 - Alcohol and progression of dementias (NIA)
- **Pain research**
 - HEAL Initiative
- **Neuroscience research across NIH**
 - NIH Blueprint for Neuroscience Research
 - BRAIN Initiative
 - Intramural collaboration: NIH Center for Compulsive Behavior
- **Collaborative Research on Addiction at NIH (CRAN)**
 - ABCD study (longitudinal study on brain development)
- **HEALthy Brain and Child Development Study**

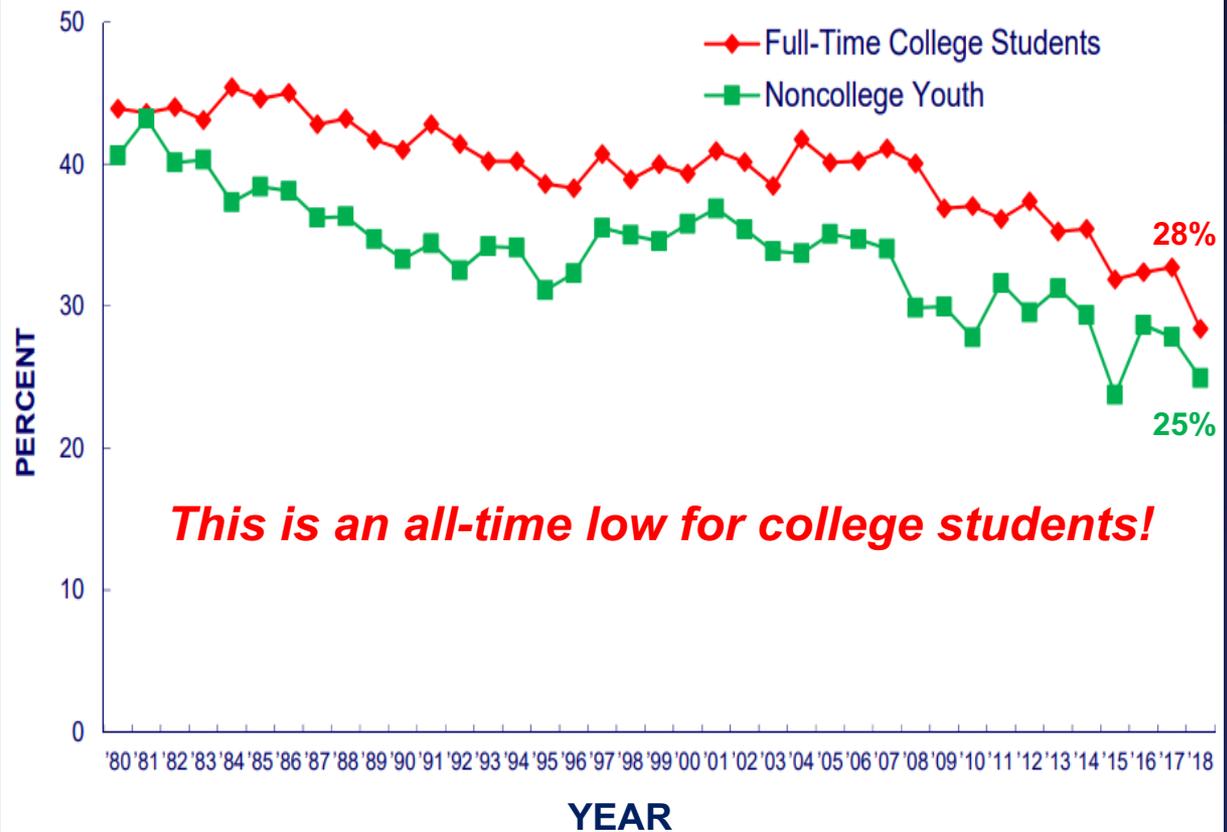
Success in Reducing Binge Drinking in Underage and College-Aged Individuals

FIVE OR MORE DRINKS IN A ROW: Trends in 2-Week Prevalence

Middle and High Schoolers



College-Aged Individuals

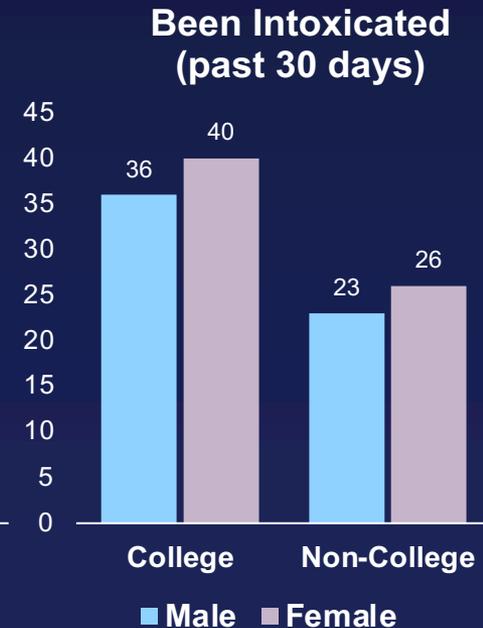
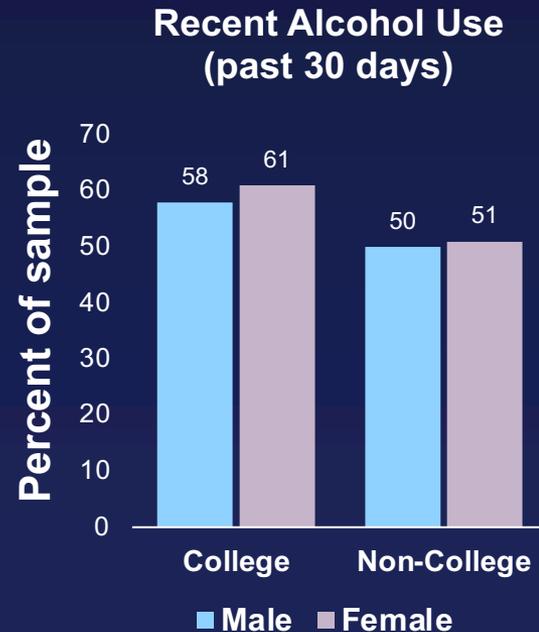
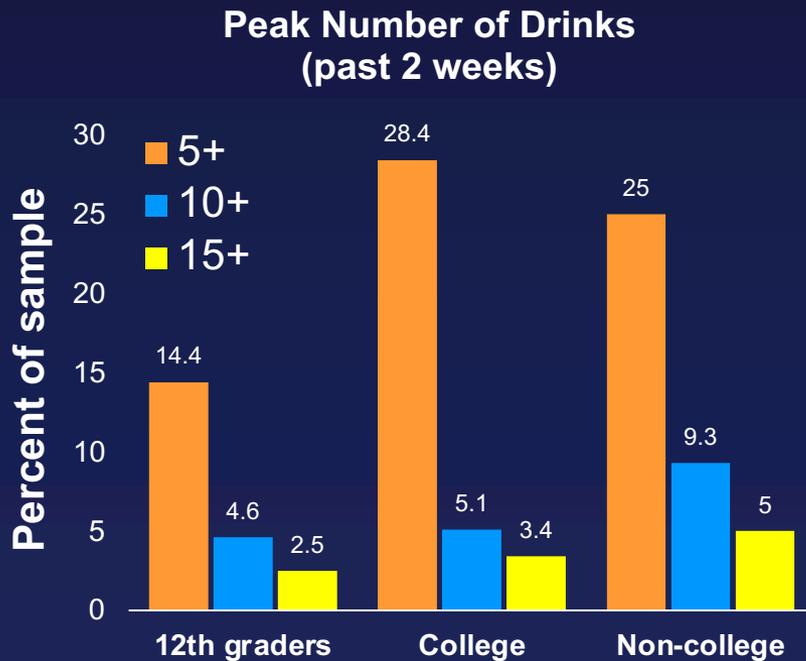


This is an all-time low for college students!

Emerging Issue: But...It's Not All Good News For Young People

High Intensity Drinking

Disappearance of Gender Gaps and Reversal of Gender Patterns

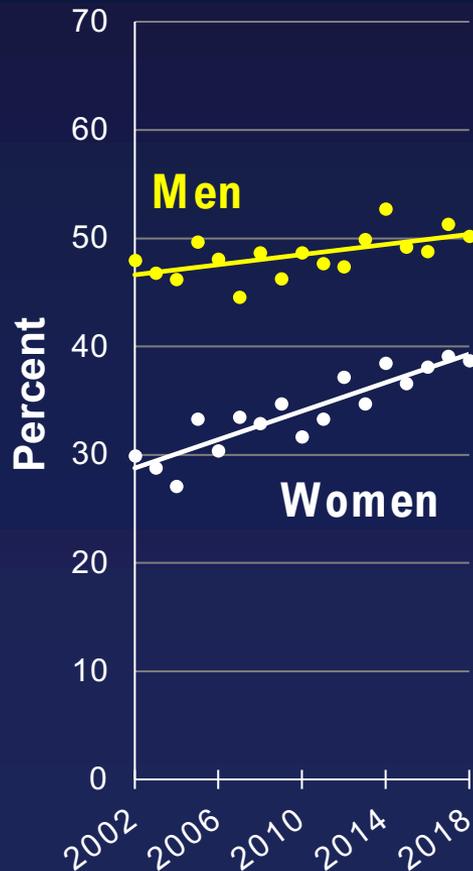


Emerging Issue: Alcohol and Women's Health

- **Gaps between women and men are narrowing** for prevalence, early onset drinking, frequency and intensity of drinking, having AUD, drunk driving, and self-reported consequences (Grucza et al., 2018; Slade et al., 2016; White et al., 2015)
- Women **more likely to experience** blackouts, liver inflammation, brain atrophy, cognitive deficits, certain cancers, negative affect during withdrawal and stress, and anxiety-induced relapse (Becker and Koob, 2016)
- **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**

Emerging Issue: Rising Alcohol Use Among Older Adults (Aged 65+)

From 2002-2018, past-month alcohol use increased for men and women aged 65 and older, with a greater increase observed in women.



Source: NSDUH, 2018

- **1 in 10 older adults in the U.S. engage in binge drinking** (Han et al., 2019)
- **Alcohol misuse among this population contributes to:**
 - **Accelerated aging** in some brain regions, including the frontal cortex (Sullivan et al., 2018)
 - **Pronounced reductions in brain volume** in multiple cortical regions (Sullivan et al., 2018)
 - **Impaired cognitive function, learning, memory, and motor function** (Woods et al., 2016)
- In collaboration with the **National Institute on Aging**, NIAAA supports research investigating mechanisms by which alcohol affects brain aging processes to produce dementias and influences development of Alzheimer's disease

Priority: Resources for Clinicians

Updates to Alcohol Treatment Navigator

New portal to help healthcare professionals **build or expand their referral lists** to include providers offering science-backed AUD treatments, including **telehealth options**, that meet the varied needs of their patients

<https://alcoholtreatment.niaaa.nih.gov/healthcare-professionals>

In Development: Clinician's Core Resource

Modules include:

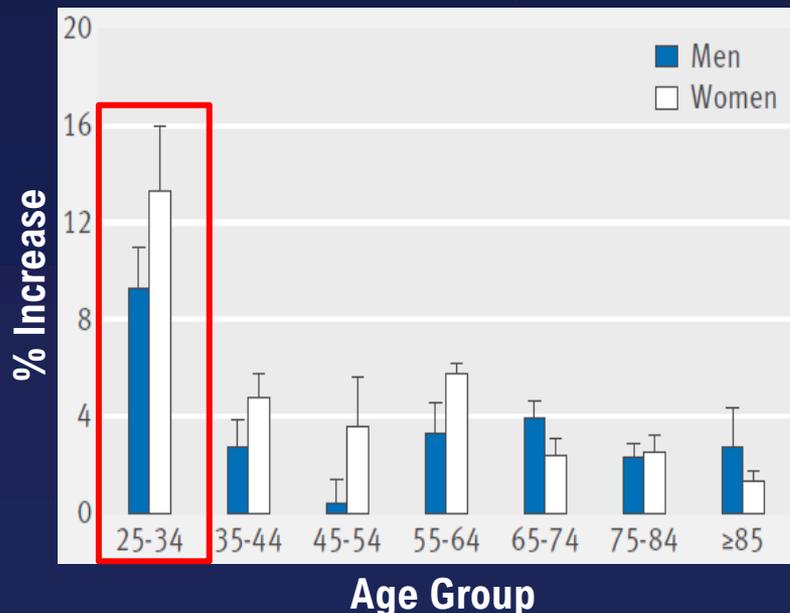
- Presentation in primary care
- Role in common co-occurring conditions
- Neuroscience
- Diagnostic criteria, recommended drinking limits
- Evidence-based therapies/medications
- Addressing stigma
- Interactions with commonly used medications

The screenshot shows the NIAAA Alcohol Treatment Navigator website interface. At the top, it identifies the user as 'For Healthcare Professionals' and includes a search bar. The main navigation menu includes: 'WHAT TO KNOW ABOUT ALCOHOL TREATMENT', 'HOW TO FIND ALCOHOL TREATMENT', 'SUPPORT THROUGH THE PROCESS', 'FAQS', and 'TOOLKIT'. The central banner features the text 'FIND YOUR WAY TO ALCOHOL TREATMENT' and a sub-message: 'The search for alcohol treatment can feel overwhelming. We'll help you focus your search to find options that increase the chance for success.' Below the banner are two main content cards. The left card is titled 'WHAT TO KNOW ABOUT ALCOHOL TREATMENT' and contains sections for 'What is alcohol use disorder (AUD)?', 'What types of alcohol treatment are available?', and 'Why do different people need different options?'. The right card is titled 'HOW TO FIND ALCOHOL TREATMENT' and contains sections for 'How to spot quality treatment' and 'How to search—And what to ask'.

Priority: Integrating Treatment of Alcohol Use Disorder and Alcohol-Associated Liver Disease

- Nearly half of liver disease deaths are related to alcohol misuse
- ALD is the most common alcohol-related cause of death and the leading cause of liver transplantation
- ALD-related deaths have increased by 40.6% since 1999 (Woolf et al., 2019)
- **Greatest increase in deaths driven by alcoholic cirrhosis seen in young adults ages 25-34** (Tapper and Parikh, 2018)

Average yearly increase in mortality due to liver disease, 2009-2016



From: Tapper and Parikh *BMJ* 2018;362:k2817

Paradigm shift:

“Whole person” treatment approach

- **Integrated treatment** of ALD and AUD may improve patient outcomes
- A recent study of patients recovering from alcoholic hepatitis found that participation in alcohol rehabilitation shortly after hospital discharge was associated with improved outcomes, including reduced hospital readmission rates, alcohol relapse, and mortality (Peeraphatdit et al., 2019)

U.S. Dietary Guidelines for Alcohol Consumption

- **For adults 21 and older:**
 - No more than 2 drinks per day for men
 - No more than 1 drink per day for women
- **For individuals under age 21:**
 - No alcohol*
- **Others should avoid alcohol completely, including those who:**
 - Plan to drive or operate machinery, or participate in activities that require skill, coordination, and alertness
 - Have certain medical conditions or take certain medications
 - Are recovering from alcohol use disorder or are unable to control the amount that they drink
 - Are pregnant or trying to become pregnant

**The National Minimum Legal Drinking Age Act requires that States prohibit persons under 21 years of age from purchasing or publicly possessing alcoholic beverages as a condition of receiving State highway funds.*

Are we experiencing a cultural shift in attitudes about alcohol use?

- Observance of sober months (Dry January, Sober October, etc) is gaining popularity
- Sober Curious movement is also receiving a lot of attention: Practicing mindfulness versus going along with the dominant drinking culture
- These trends, largely driven by millennials, encourage a focus on wellness

ADDICTION > ALCOHOL USE

What Does It Mean to Be Sober Curious?

By Sarah Sheppard | Updated on November 27, 2019

THRILLIST

FOOD & DRINK

The Rise of Dry Cocktails Is Changing Drinking Culture for All

DAILY BEAST

The Newest Trend in Bars: No Booze



SHAPE

SHAPE.COM > HEALTHY EATING > HEALTHY DRINKING

10 Tasty Mocktails That Are Perfect for Dry January

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Dry January: The Health Benefits From Taking A Break From Alcohol

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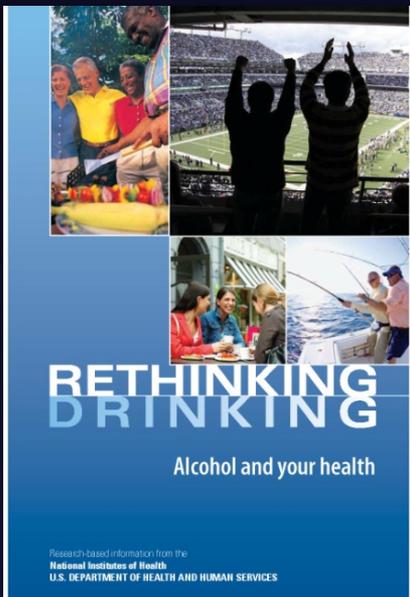
News & Features

The Rise of the 'Sober-Curious' Movement

By Angelo Franco

Supporting the Next Generation of Alcohol Researchers: Increases in NIAAA Training and Career Development Awards





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Special thanks to Rachel Anderson

