

Advancing Alcohol Research

An Update and an Eye Toward the Future

George F. Koob, Ph.D.
Director

National Institute on Alcohol Abuse and Alcoholism

Research Society on Alcohol
June 23, 2024, 8:15-9:15am



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In Memoriam



Dr. Sally Anderson made major and seminal contributions to efforts in FASD. For more than two decades, she was integral to the leadership of the Interagency Coordinating Committee on Fetal Alcohol Spectrum Disorders (ICCFASD).

Dr. Anderson was an esteemed colleague, mentor, and member of the NIAAA family. Her drive to increase awareness of FASD, and her desire to help address the real-life challenges faced by individuals with FASD has benefited the individuals affected and their families.



Dr. Dale Hereld served as a Health Scientist Administrator in the NIAAA Division of Metabolism and Health Effects (DMHE) from 2008 until his retirement in 2019. He managed the fetal alcohol spectrum disorders research portfolio and was the NIAAA Project Scientist for the Prenatal Alcohol, SIDS, and Stillbirth Research (PASS) Network, the Collaborative Initiative on FASD (CIFASD) research consortium, and the Collaboration on FASD Prevalence (CoFASP) research consortium.

Dr. Hereld was a beloved member of the NIAAA family. You counted yourself lucky to have known him, witnessed his charm and kindness, or experienced a touch of his quick-witted humor.

Outline

- **NIAAA Budget & Staff Announcements**
- **The Scope of the Problem**
- **NIAAA's 2024-2028 Strategic Plan**
- **Examples of Cross-Cutting Research Areas**
 - Diversity, Equity, Inclusion, and Accessibility
 - Women's Health
 - Fetal Alcohol Spectrum Disorders
 - Older Adults
 - Whole Person and Integrated Approach to Health
 - Innovation Through Data Science
- **NIAAA Tools and Resources**

NIAAA Budget & Staff Announcements

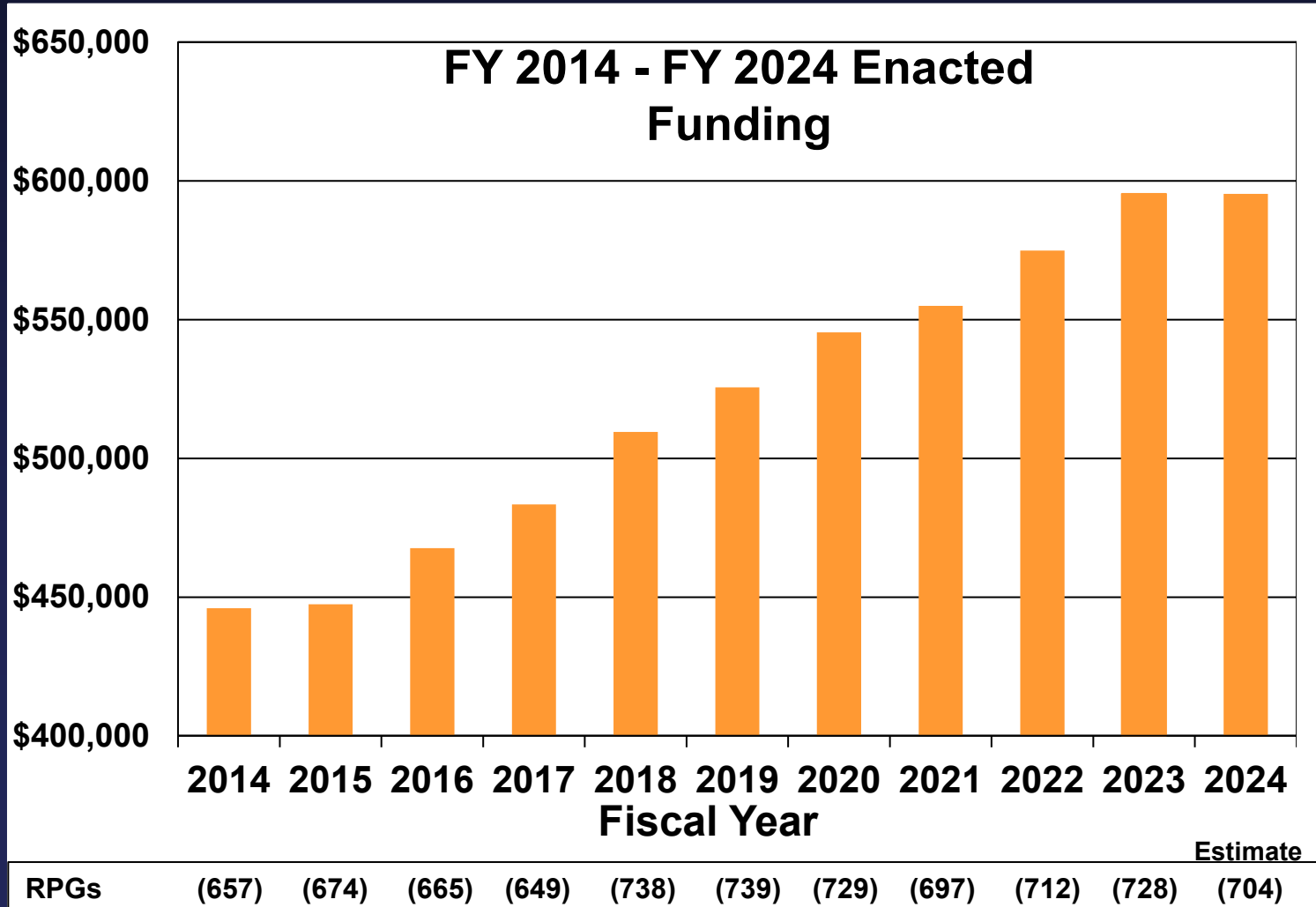


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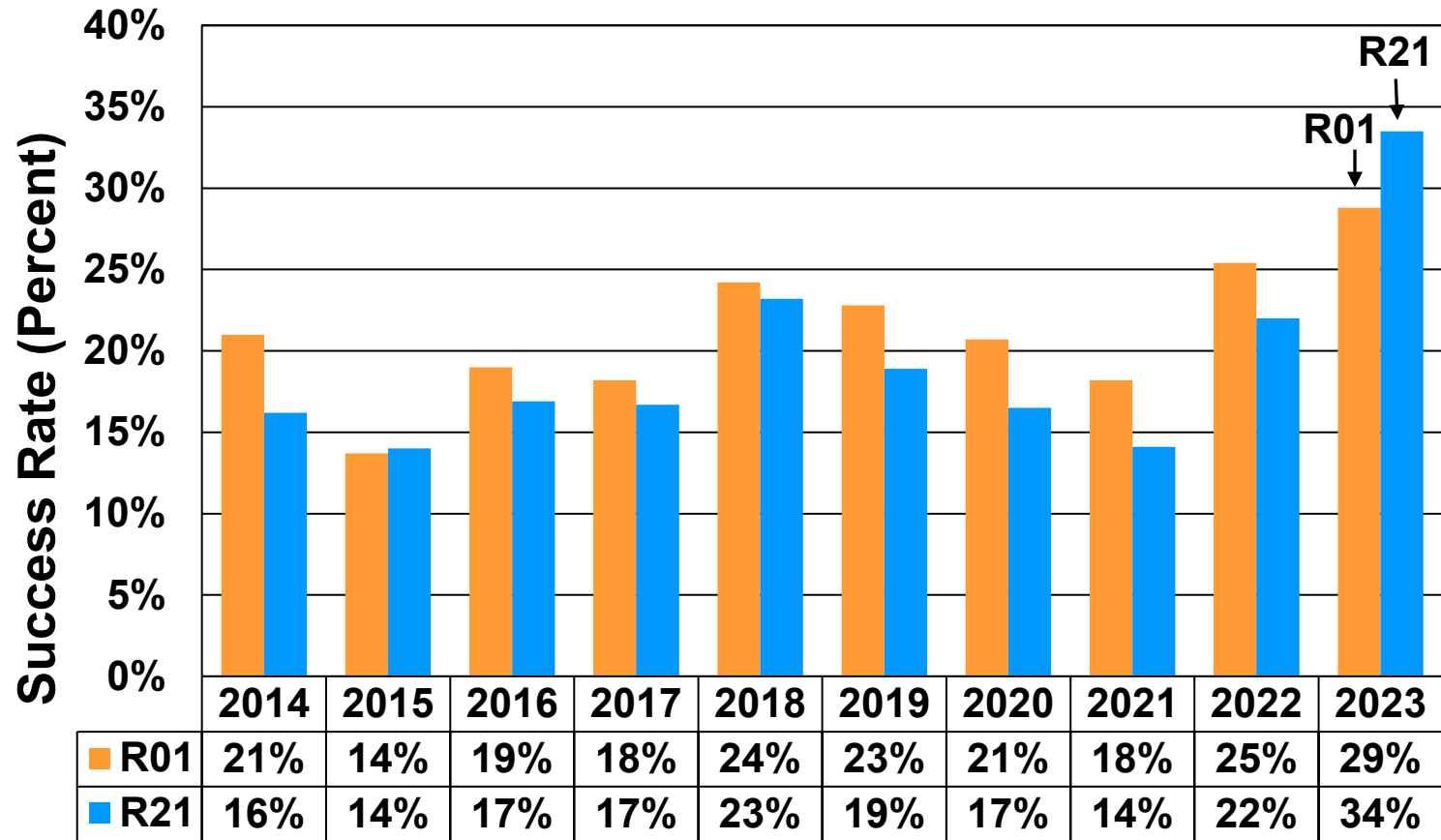
NIAAA Budget

For fiscal year 2024, NIAAA received \$597.1 million, including a \$1.8 million AIDS transfer. This represents a \$0.5 million (0.08%) increase over FY2023.



Success Rates for R01s and R21s

FY 2014 - 2023



Fiscal Year

Changes to Pay for NIH Pre- and Post-Doctoral Scholars

- For postdoctoral scholars supported by the Ruth L. Kirschstein National Research Service Awards:
 - Based on fiscal year 2024 appropriations, NIH will increase annual pay by approximately 4% for predoctoral trainees and by approximately 8% for postdoctoral scholars.
 - Eligible recipients will receive \$500 increases in subsidies for childcare (increase from \$2,500 to \$3,000) and an additional \$200 for training-related expenses.



(NOT-OD-24-104)

Senior Staff Announcement



Dr. Philippe Marmillot has been selected as NIAAA's new Director of the Office of Extramural Activities (OEA). He served as the Acting Director of NIAAA OEA prior to his new appointment.

Dr. Marmillot provides oversight of NIAAA's grants management, peer review, and committee management activities. He serves as the Executive Secretary of the NIAAA Advisory Council. He also serves as the Referral Officer and Research Integrity Officer for the Institute.

Senior Staff Announcement (cont.)



Alicia Caffi has joined NIAAA as the new Budget Officer. In her new role, Alicia will oversee all aspects of NIAAA's financial management and budget operations.

She joins NIAAA after serving as the Deputy Budget Officer of the National Human Genome Research Institute for the past 5 years. Alicia's career with the NIH spans more than 19 years working in budget offices of multiple Institutes and Centers.

The Scope of the Problem



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Alcohol by the Numbers

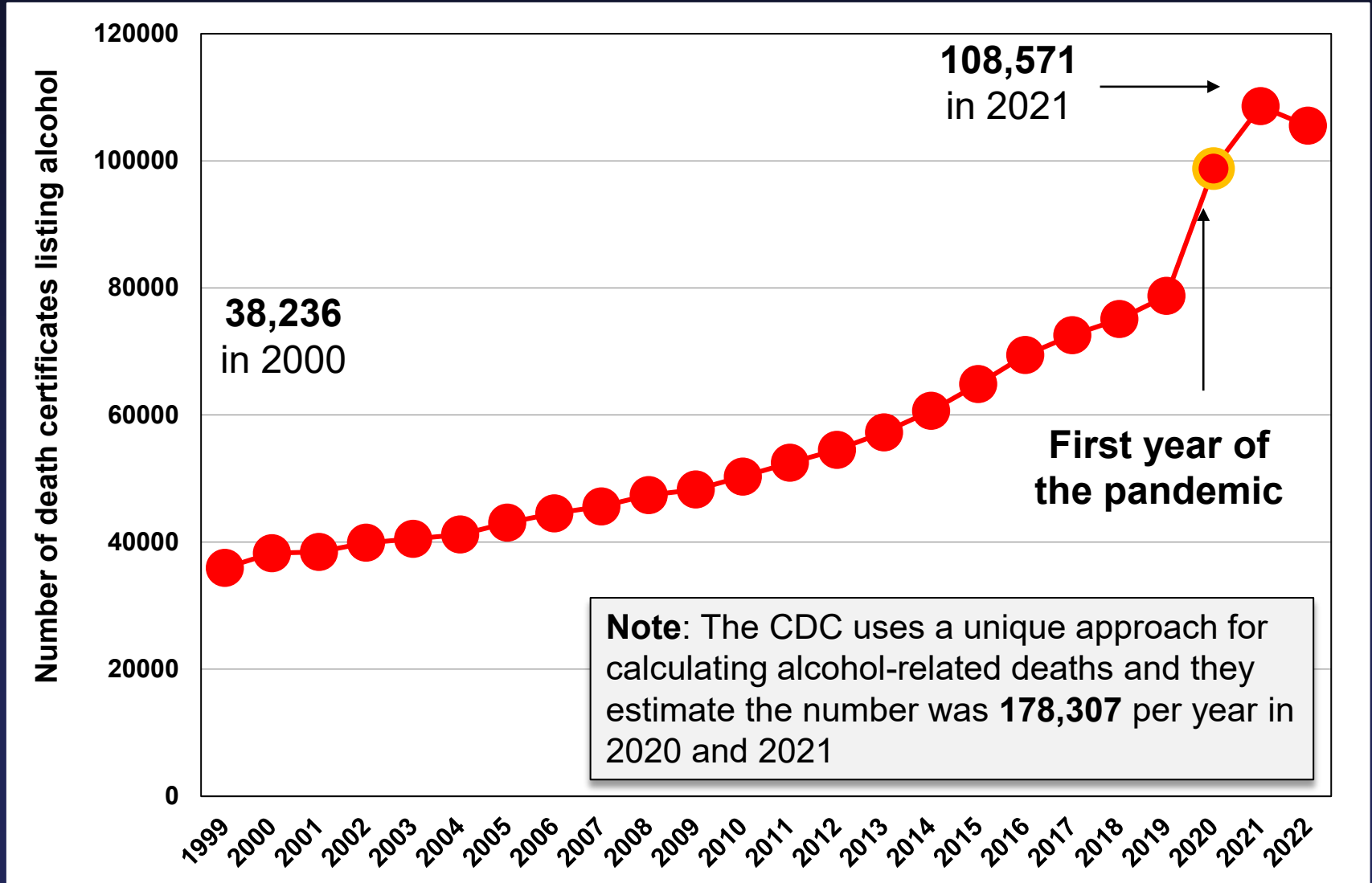
Past Year Use	176,975,000
% of population	63%

DSM-5 Alcohol Use Disorder	29,544,000
% of population	11%

Emergency Department Visits	1,714,757
	Primary reason
	4,936,690
	All alcohol-related

Deaths	178,000
	Total annual deaths
	61,000
	Acute (e.g., injury)
	117,000
	Chronic (e.g., liver disease)

Death Certificates Listing Alcohol as a Factor Nearly Tripled Since 2000, With a Lasting Increase During the Pandemic



NIAAA's 2024-2028 Strategic Plan

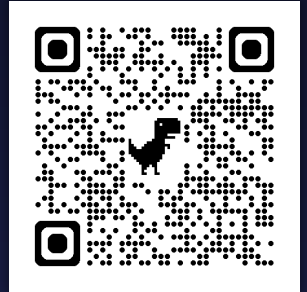
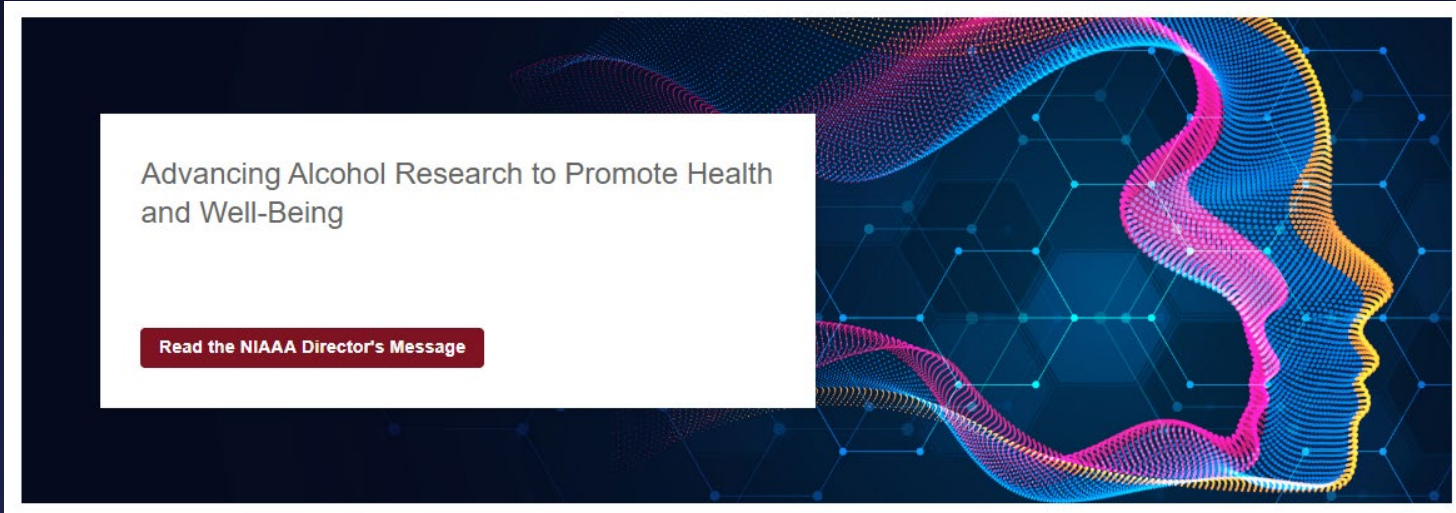
Advancing Alcohol Research to Promote
Health and Well-Being



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New NIAAA Strategic Plan



The plan charts a course for alcohol research over the next five years while maintaining flexibility to address emerging research opportunities and urgent public health needs.

Overview of the NIAAA Strategic Plan

Research Goal 1	Research Goal 2	Research Goal 3	Research Goal 4
Elucidate the Biological Mechanisms and Consequences of Alcohol Misuse	Identify Patterns, Trends and Public Health Impact of Alcohol Misuse	Prevent and Reduce Alcohol Misuse, Alcohol Use Disorder, and Associated Consequences	Improve Diagnosis and Expand Treatment of Alcohol Use and Alcohol-Related Conditions

Cross-Cutting Research Themes

Advancing Diversity, Equity, Inclusion, and Accessibility

Advancing Women's Health

Applying a Life Course Approach to Alcohol Research

Encouraging a Whole Person, Integrated Approach to Health

Innovating Alcohol Research Through Data Science

Cross-Cutting Research Programs

Fetal Alcohol Spectrum Disorders

Alcohol and HIV

Supporting the Mission

Building a Robust Research Capacity

Serving as a Responsible Steward of the Public's Investment

Strategic Plan Research Goals

- **Goal 1: Elucidate the Biological Mechanisms and Consequences of Alcohol Misuse**

The goal is to advance research on the brain cells and circuits that underlie and are altered by alcohol misuse, and on the complex relationships between alcohol misuse and physiological effects throughout the body.



- **Goal 2: Identify Patterns, Trends, and Public Health Impact of Alcohol Misuse**

The goal is to use epidemiological research to track patterns of alcohol use and misuse, drinking-related outcomes and disparities, and individual and environmental variables that confer risk or resilience.



Strategic Plan Research Goals (cont.)

- **Goal 3: Prevent and Reduce Alcohol Misuse, Alcohol Use Disorder, and Associated Consequences**

The goal is to develop, evaluate, and implement culturally appropriate strategies to prevent alcohol misuse, alcohol use disorder, and related consequences.



- **Goal 4: Improve Diagnosis and Expand Treatment of Alcohol Use Disorder and Alcohol-Related Conditions**

The goal is to improve the diagnosis and treatment of AUD and alcohol-related conditions, sustaining recovery, and ultimately, reducing the treatment gap.



Thank You To Everyone Who Contributed to the Development of the NIAAA Strategic Plan

- **The NIAAA Strategic Plan Working Group, who spearheaded content organization, development, and coordinated review, included:**
 - **Rachel Anderson**
 - **Cara Anjos Breeden**
 - **Laura C. Manella**
 - **Laura Brockway-Lunardi**
 - **Bridget Williams-Simmons**
- **Many additional people contributed to the strategic plan, including:**
 - **NIAAA and contract staff across divisions and offices who helped develop content and the webpages**
 - **Researchers, advocates, and community members across the country who responded to an early request for information about what should be included in the strategic plan**

Cross-Cutting Area: Advancing Diversity, Equity, Inclusion, and Accessibility

**Expanding the alcohol research workforce
and supporting research on minority
health and health disparities**



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Supporting Minority Health and Health Disparities Research is a Priority

Examples of NIAAA research in this domain include:

- Improving and expanding implementation of Screening, Brief Intervention and Referral to Treatment (SBIRT) in populations that experience health disparities
- Developing culturally-appropriate prevention interventions
- Identifying and addressing barriers in access to care
- Developing interventions that target social determinants of alcohol misuse and alcohol use disorder
- Determining how social determinants of health interact with neurobiological and other mechanisms to mediate alcohol misuse and associated consequences



([PAR-23-270](#), [PAR-24-077](#), [PAR-23-285](#), [RFA-NR-24-004](#))

Enhancing the Diversity of the Alcohol Research Workforce is a Priority

NIAAA efforts in this domain include:

- Leveraging our intramural training program to advance diversity and inclusion in the scientific workforce**
- Requiring that Alcohol Research Centers include a formal plan for enhancing diverse perspectives in their research proposals**
- Promoting collaboration between Minority Serving Institutions (MSI) and Alcohol Research Centers to strengthen the research capacity and scientific workforce at MSIs**

Cross-Cutting Area: Promoting Research on Women's Health

To address alcohol use and
misuse among women



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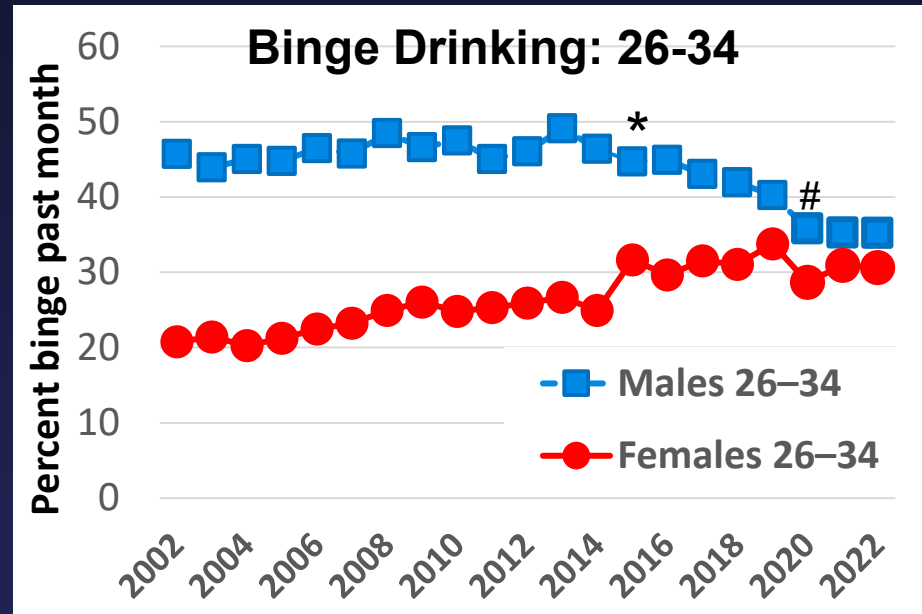
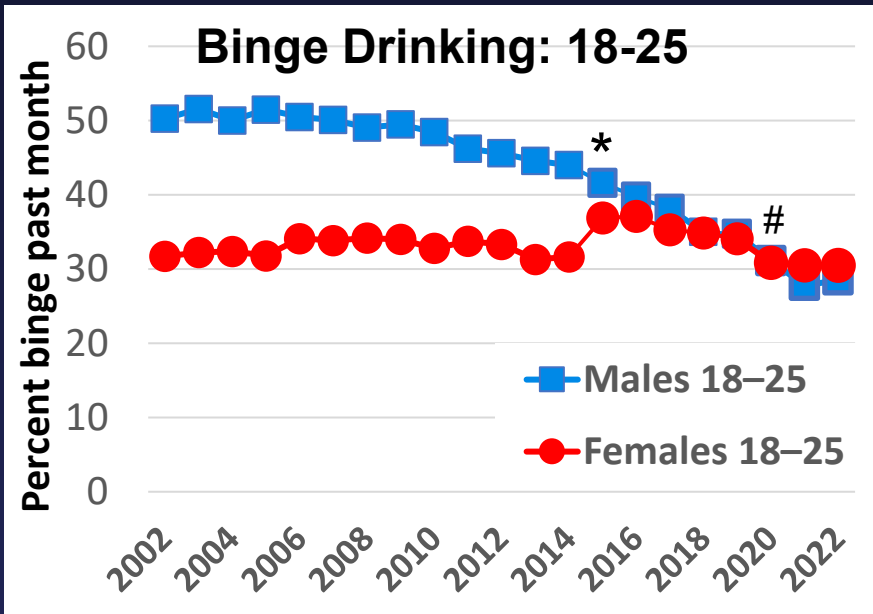


Male and Female Drinking Patterns Are Converging

- **Adolescents (12-17)**

- Alcohol use has decreased, but faster for males than females.
- Females are more likely to binge drink than males.

- **Young adults**



* Definition of binge drinking changed from 5+ to 4+F/5+M; # Data collection methods changed.

- Females are now binge drinking more than males, for the first time.

- Females are catching up to males.

- **Older adults (65+)**

- Alcohol use is increasing more in females than males.

What are Concerns About Alcohol and Women's Health?

- There is a **risk-severity paradox** for women:
 - Women tend to experience a range of alcohol-related harms at lower doses of alcohol and over shorter periods of time than men.
 - Women are more likely to experience hangovers, blackouts, liver disease, brain atrophy, cognitive deficits, cardiomyopathy, and certain cancers.
 - Women have a faster progression of AUD severity.
- Women are less likely than men to receive treatment for AUD.
- Women are about twice as likely to develop anxiety disorders, PTSD, and depression, which can motivate drinking to cope.

NIAAA's Model Continuums of Care Initiative (MCCI) to Advance Health Equity and End Health Disparities Among Women and Girls in Racial/Ethnic Minority and Other Underserved Communities is Underway

- **The goal of MCCI is to reduce the prevalence and impact of multi-morbidity among racial/ethnic minority women and girls of reproductive age who are at risk of and living with mental health disorders, substance use disorders, and common co-occurring physical conditions.**
- **Using implementation and dissemination science, the initiative proposes a continuum of care approach that integrates preventive health services, primary care, behavioral health, integrative care, and cardiopulmonary and endocrine specialties to fully address health care needs.**

A White House Initiative on Women's Health Research has been Launched

- In coordination with the White House Initiative on Women's Health Research, NIH issued a Notice of Special Interest to encourage applications focused on diseases and health conditions that predominantly affect women, that present and progress differently in women, or that are female-specific ([NOT-OD-24-079](#)). All NIH Institutes and Centers are participating.



- **NIAAA's areas of interest are research on:**
 - Alcohol misuse and common comorbidities, including mental health conditions and chronic conditions.
 - Health issues that affect young women including the etiology, prevention, and treatment of alcohol misuse.
 - Mechanisms through which common environmental factors influence resilience and disease among women across the lifespan.

Cross-Cutting Area: Supporting Research on Fetal Alcohol Spectrum Disorders

**To improve the prevention, diagnosis,
and treatment of FASD**



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What are Concerns About Alcohol During Pregnancy?

- 11% of pregnant women report current alcohol use, and over 5% report binge drinking. There is no known safe amount of alcohol consumption during pregnancy.
- Alcohol exposure during pregnancy can increase the risk of fetal alcohol spectrum disorders (FASD).
- FASD refers to the wide range of life-long physical, behavioral, and cognitive impairments that occur because of alcohol exposure before birth.



NIAAA is Supporting Research on Fetal Alcohol Spectrum Disorders

More research is needed on FASD, including:

- Identifying mechanisms, diagnostic biomarkers, and potential treatment targets for FASD**
- Scaling mechanisms to reduce stigma and raise awareness about the harms of prenatal alcohol exposure in a range of populations and settings.**
- Improving implementation of existing evidence-based FASD diagnostic approaches across the lifetime**
- Developing and evaluating new pre- and post-natal therapeutic approaches to combat pre-natal alcohol exposure**
- Pursuing interventions for FASD and FASD-related health conditions across the lifespan**

([PAR-24-067](#), [PAR-24-068](#))

Cross-Cutting Area: Advancing Research on Alcohol Use in Older Adults

To address the unique impacts of alcohol
at this life stage



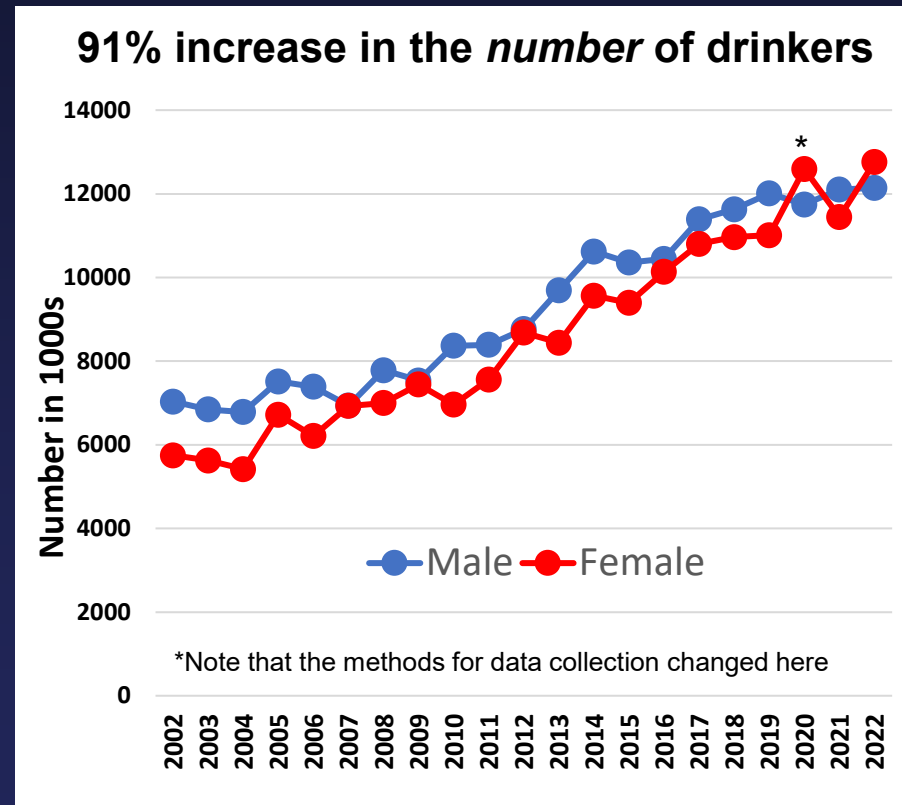
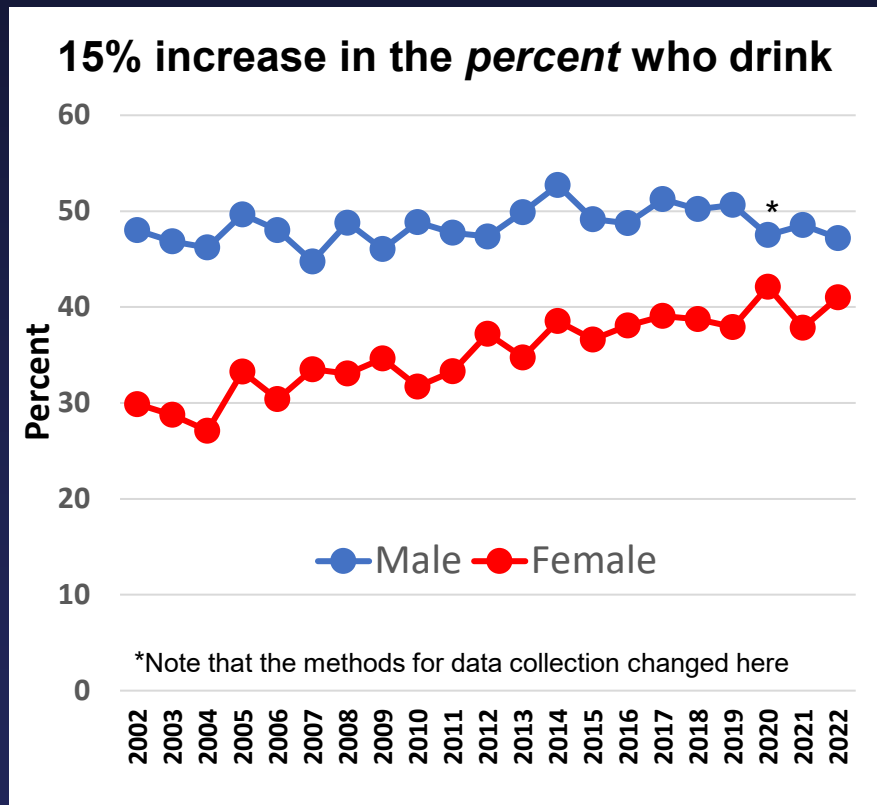
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As the Population of Adults Aged 65+ Increases, So Does Drinking Among Older Adults

The *percentage* of people 65+ who drank alcohol in the past month increased 15% overall from 2002-2022, with increases seen in women but not men

Due to the rapid increase in the size of the population, the *number* of 65+ people that drink alcohol increased 91% overall between 2002-2022



The number and rate of alcohol-related deaths among adults 65+ have also continuously increased for more than a decade ([White et al. 2020](#); [2022](#))

What are Some of the Concerns About Alcohol and the Health of Older Adults?

- Health consequences of alcohol tend to shift from acute conditions (injuries) to chronic conditions (e.g., cancer, heart disease) with age.
- Alcohol impairs balance and coordination more as we get older, increasing risk of falls.
- Older adults are more sensitive to the sedative effects of alcohol, take more medications that may interact with alcohol, and are more likely to have problems with sleep.
- Alcohol misuse has been associated with faster cognitive decline, with links to Alzheimer's disease and other dementias.



NIAAA is Supporting Research on Alcohol and Older Adult Health

- In collaboration with the National Institute on Aging, NIAAA is supporting research into the mechanisms by which alcohol affects brain aging processes and influences dementias and Alzheimer's disease.
- Additional priorities include research on:
 - Factors that influence alcohol use and associated harms in older adults
 - The effects of alcohol on the “health span” of older adults and age-related diseases
 - The improvement of alcohol screening, prevention, and treatment for older adults
 - Cognitive decline, behavioral consequences, and functional impairment in older adults, including those with HIV



Cross-Cutting Area: Encouraging a Whole Person and Integrated Approach to Health

**By investigating how alcohol misuse
impacts the many domains of health**

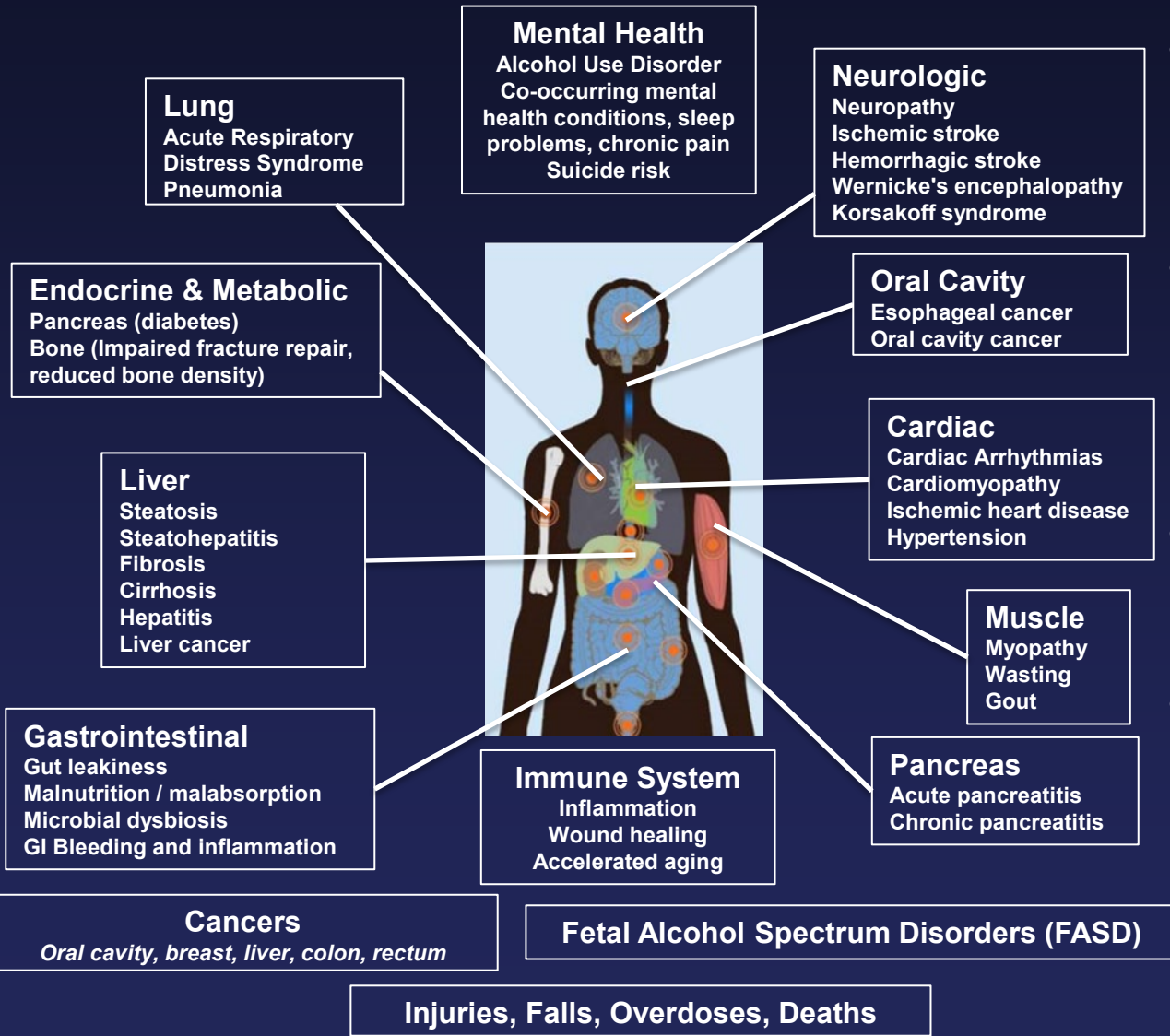


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Alcohol Affects the Whole Body

Alcohol misuse is associated with more than 200 diseases & injury-related conditions



- Alcohol misuse can cause **damage to nearly every major organ system** in the body
- The **liver is the primary site of alcohol metabolism**, making it particularly vulnerable to alcohol-related tissue injury
- Alcohol is also a **leading cause** of acute and chronic pancreatitis
- About 6% of **cancer** cases and 4% of **cancer** deaths attributed to alcohol

The Multifaceted Relationship Between Alcohol and Health Supports a Whole Person Approach

A whole person approach looks at the connections across domains of health to address disease to inform and improve prevention, diagnosis, treatment, and recovery strategies. These domains include:

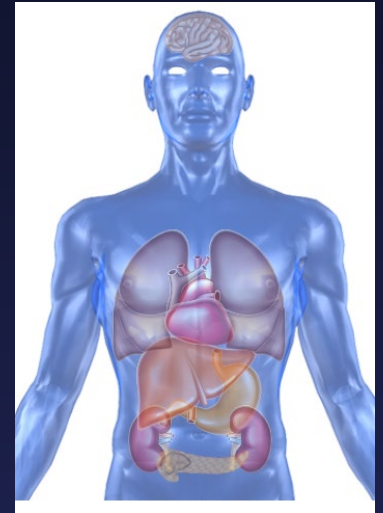
- **Biological:** genetics, co-occurring conditions
- **Behavioral:** diet, lifestyle, stress, sleep
- **Social/environmental:** conditions in which people are born, grow, live, work, and age, such as community connection, spirituality, and access to care and resources, also known as “social determinants of health”



NIAAA is Supporting Research Integrating Whole Person Health

Examples of research in this domain include:

- Understanding the relationships between alcohol misuse, AUD, and commonly co-occurring conditions and developing integrated prevention and treatment strategies
- Exploring the trends and health implications of co-use of alcohol, cannabis, and other substances
- Exploring alcohol's effects on organ-organ interactions, such as gut-liver-brain, gut-brain, gut-lung, and others
- Understanding the effects of alcohol use on efficacy of and adherence to therapies for unrelated conditions



Cross-Cutting Area: Accelerating Innovation Through Data Science

**By supporting methods and technologies
that will advance alcohol research**



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Data Science Approaches Offer Opportunities to Improve Accessibility, Accuracy, and Timeliness of Alcohol Research

New methods and data science techniques, including artificial intelligence and machine learning, have exciting applications for:

- **Automated tools for data harmonization and management**
- **Prediction of treatment effectiveness**
- **Real-time data analysis and visualization**
- **Generation of interactive tools for the prevention of alcohol misuse**
- **Guidance of recovery management**

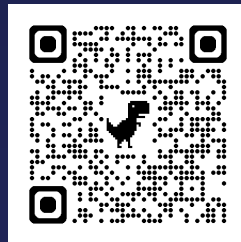
NIAAA is Facilitating Data Science and Data Sharing

- **Research areas in data science include:**
 - **Novel strategies to identify biomarkers for alcohol-related diagnoses, treatment and recovery**
 - **Machine learning algorithms to interpret and process multiomic biosensor data**
 - **Secondary data analysis**
- **Research areas in data management and sharing include:**
 - **Developing common data elements for preclinical and clinical research**
 - **Participating in data repositories and knowledge bases**
 - **Facilitating data science tools for analyses and predictions**

(NOT-OD-24-096, PAR-23-236, PAR-23-237, NOT-OD-24-087)

NIAAA's Data Archive

- In 2019, NIAAA established a new repository for data generated by NIAAA-funded studies in humans, the [NIAAA Data Archive](#). The archive is housed within the National Institute of Mental Health Data Archive.
- This growing archive contains data from over **400 collections** representing more than **55,000 research participants** from NIAAA-funded studies.
- Datasets will be made available to the research community in early July.
- Questions? Email at NIAAADataArchiveHelp@mail.nih.gov



nda.nih.gov/niaaa

NIAAA Tools and Resources



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Tools and Resources to Help Researchers, the Public, and Healthcare Professionals

Rethinking Drinking

Website and print publication for a general audience to help individuals assess their drinking habits and find ways to make a change.



CollegeAIM

Comprehensive information on prevention approaches found to be effective in college environments.



Alcohol Treatment Navigator

Online resource that helps individuals understand and search for treatment options, including telehealth services. It also includes a portal to assist healthcare providers in making referrals for their patients.



Healthcare Professional Core Resource

Online educational resource that 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.



niaaa.nih.gov

NIAAA Facts and Statistics

Your Source For Updated Alcohol Statistics



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[Alcohol's Effects on Health](#)

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[Research](#)

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[About NIAAA](#)

Alcohol's Effects on Health

Research-based information on drinking and its impact.

[Home](#) / [Alcohol's Effects on Health](#) / [Alcohol Topics](#) / [Alcohol Facts and Statistics](#)

In this Section

[Alcohol Use in the United States](#)

[Underage Drinking in the United States \(ages 12 to 20\)](#)

[Alcohol and Young Adults Ages 18 to 25](#)

[Alcohol Use Disorder \(AUD\) in the United States](#)

[Alcohol Treatment in the United States](#)

[Alcohol and the Human Body](#)

[Alcohol and Pregnancy in the United States](#)

[Consequences for Families in the](#)

Alcohol Facts and Statistics



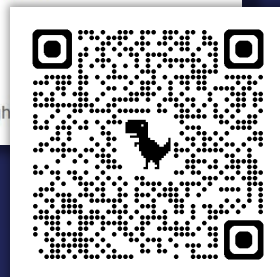
Updated: 2023

[Spanish / En español](#)

Learn up-to-date facts and statistics on alcohol consumption and its impact in the United States and globally. Explore topics related to alcohol misuse and treatment, underage drinking, the effects of alcohol on the human body, and more.

[Alcohol Use in the United States: Age Groups and Demographic Characteristics](#) >

Find up-to-date statistics on lifetime drinking, past-year drinking, past-month drinking, binge drinking, heavy alcohol use, and high drinking.



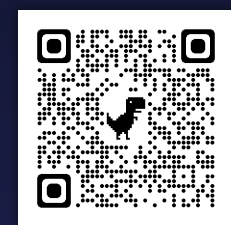
New NIAAA Web Resources For Youth

NIAAA for Middle School: Contains interactive activities to help parents, caregivers, and teachers introduce and reinforce key messages about peer pressure, resistance skills and other topics related to underage drinking.

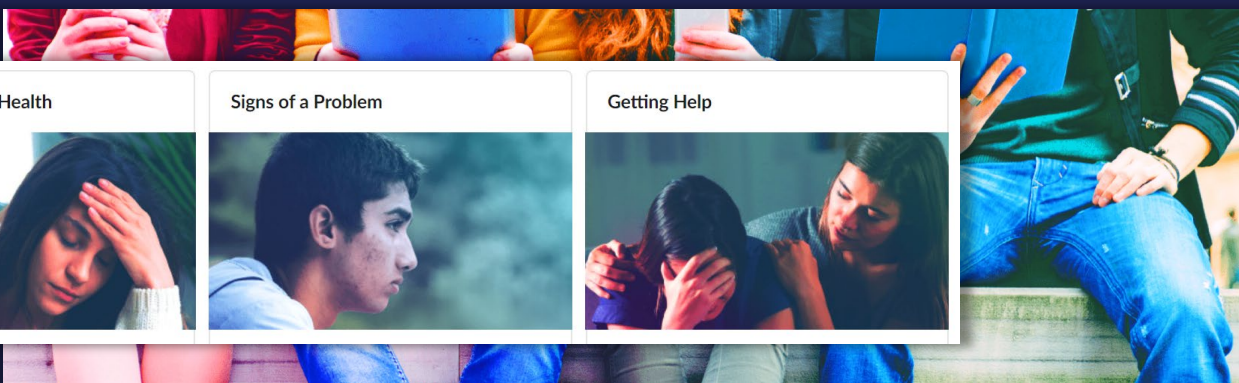
In this Section

- Too Soon = Too Dangerous
- Peer Pressure
- The Right to Resist
- Helpful Resources


NIAAA for Middle School




NIAAA for Teens: A research-based online resource for teens highlighting how alcohol affects health, warning signs and symptoms, and where to get help for alcohol-related problems.



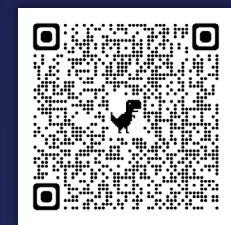
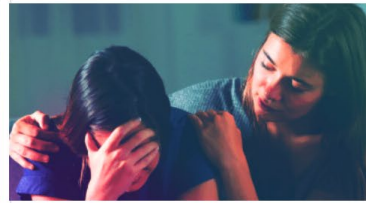
Alcohol and Your Health



Signs of a Problem



Getting Help



NIAAA's Open-Access Peer-Reviewed Journal

- 2024 marks the 50th anniversary
- Published online on a continuous, rolling basis
- Covers a wide variety of research topics and disciplines through invited reviews
- 2022 Impact Factor of 9.4
- Visit the journal's website or LinkedIn page for more information on ARCR and its anniversary celebrations



arcr.niaaa.nih.gov/

linkedin.com/company/alcohol-research-current-reviews

NIAAA Recently Launched a LinkedIn Page to Engage With Researchers and Other Professionals



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National Institute on Alcohol Abuse and Alcoholism

NIAAA is the world's largest funder of alcohol research, focusing on topics that touch the lives of almost everyone.

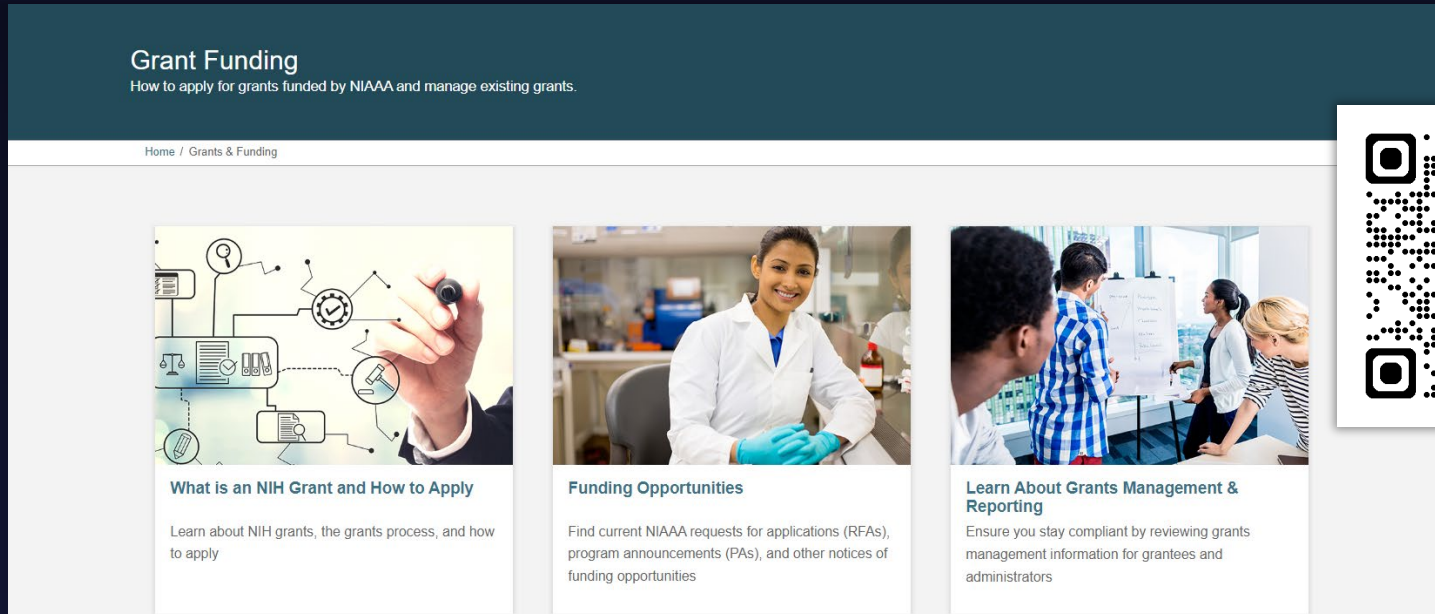
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[linkedin.com/company/nih-national-institute-on-alcohol-abuse-and-alcoholism](https://www.linkedin.com/company/nih-national-institute-on-alcohol-abuse-and-alcoholism)



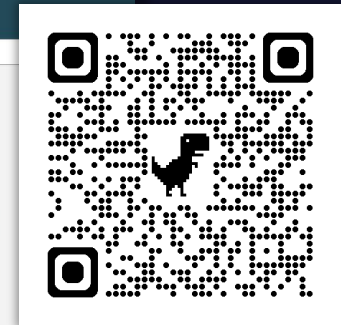
NIAAA Grants and Funding Opportunities

- Visit our website to learn more about how to apply for grants funded by NIAAA, the selection process, and how to manage existing grants.



The screenshot shows the 'Grant Funding' section of the NIAAA website. The header includes the title 'Grant Funding' and the subtitle 'How to apply for grants funded by NIAAA and manage existing grants.' Below the header is a navigation bar with 'Home / Grants & Funding'. The main content area features three columns of information:

- What is an NIH Grant and How to Apply:** Learn about NIH grants, the grants process, and how to apply. The image shows a hand pointing to a diagram with various icons representing research and funding.
- Funding Opportunities:** Find current NIAAA requests for applications (RFAs), program announcements (PAs), and other notices of funding opportunities. The image shows a smiling female scientist in a lab coat.
- Learn About Grants Management & Reporting:** Ensure you stay compliant by reviewing grants management information for grantees and administrators. The image shows a group of people in a meeting room looking at a whiteboard.



For-Profit Small Businesses:

- NIAAA's **Small Business Innovation Research (SBIR)/Small Business Technology Transfer Research (STTR) program** offers small businesses non-dilutive funding and resources, including grants, contracts, and technical support to explore and create new solutions for alcohol use disorder (AUD).



Connect With NIAAA at RSA!

- **NIAAA exhibit booth**
 - 6/23-6/25, 7:30am-7pm, Nicollet Promenade
 - Find a full list of NIAAA presentations and events
- **NIAAA-Supported Research: Grant Skills Workshop**
 - 6/25, 11am-1pm, Nicollet BC
- **The RSA Student Luncheon (RSVP required)**
 - 6/23, 11:40am-1:10pm
- NIAAA moderated sessions
- Poster sessions presented by NIAAA researchers
- Or send an email to the NIAAA staff member you'd like to meet



THANK YOU!

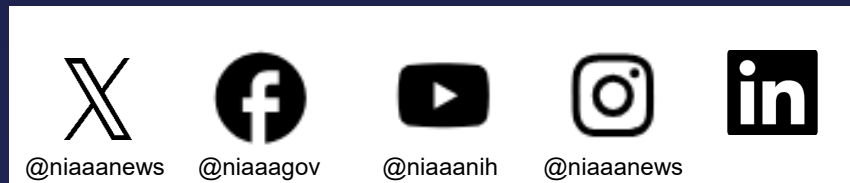
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Special thanks to:
Cara Anjos Breeden
Laura Brockway-Lunardi
Laura Manella
Devin Plote
Elizabeth Powell
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Aaron White
Bridget Williams-Simmons



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