

# HEAVY EPISODIC DRINKING

Working together to deliver change: how a whole-of-society approach can combat heavy episodic drinking



### **ABOUT IARD**

The International Alliance for Responsible Drinking (IARD) is a not-for-profit organization dedicated to reducing harmful drinking. We are supported by the leading global beer, wine, and spirits producers, who have come together to be part of the solution in combating the harmful use of alcohol. To achieve this, we work with public sector, civil society, and private sector stakeholders.

### **GLOSSARY**

- Heavy episodic drinking (HED):
  - in the Global status report on alcohol and health 2018, HED is defined as having consumed 60 or more grams of pure alcohol on at least one occasion in the past 30 days<sup>1</sup>. HED is different from regular heavy drinking in that the person's usual consumption is of smaller amounts of alcohol than the defined threshold. Definitions of HED by national sources may differ as to the amount of alcohol, the period of time over which it occurs (an occasion or a day, for example), and the frequency that comprises this pattern of drinking. HED is also referred to as binge drinking or high-intensity drinking.
- Young people:

consistent with the United Nations definition, people under the age of 25.

Social norms:

common standards in a group, community, or culture regarding appropriate behavior in social situations.

Whole-of-society approach:

all stakeholders from all parts of society contributing and working together to achieve a shared goal, as outlined by out by the United Nations in its 2012 Political Declaration on the prevention and control of noncommunicable diseases [1]. For example, these stakeholders could include communities, academia, the media, governments, intergovernmental organizations, and the private sector.

- 3 Introduction
- 4 National trends and perceptions
- 6 What drives heavy episodic drinking?
- Working together to deliver change
- Conclusion: It's in everyone's interests to tackle heavy episodic drinking
- 14 References and data sources

**INTRODUCTION** 

A whole-of-society approach is key to reducing heavy episodic drinking.

Heavy episodic drinking (HED), also called binge drinking, is associated with a wide range of negative health and social consequences. It can lead to acute harms, such as unintentional injuries [2, 3], which are concentrated among young men [4], and alcohol poisoning [2]. HED is also associated with many chronic outcomes, including brain alterations [5-7], cognitive impairment [8], and heart disease [9, 10]. As HED is clearly related to these negative outcomes, it is appropriate to use its prevalence as an indicator of the progress made by efforts to reduce harmful drinking.

IARD and its members are determined to support government efforts to achieve their Sustainable Development Goal target "3.5: Strengthen the prevention and treatment of substance abuse, including...harmful use of alcohol" by 2030. The United Nations, in its 2018 Political Declaration on noncommunicable diseases (NCDs) [11], affirmed that all stakeholders can come together towards the common goal of reducing the harmful use of alcohol, including HED. And, government regulation – supported by industry, civil society, and communities – is vital for the successful implementation of effective approaches to reduce HED and associated harms.

Many governments have developed **drinking guidelines** that tell the public about the outcomes associated with different levels and patterns of consumption. The definitions of HED used in these guidelines and in population surveys vary from country to country, according to different national and cultural contexts. The World Health Organization (WHO) tracks the prevalence of HED under the Noncommunicable Diseases (NCDs) global monitoring framework [12], as an important indicator<sup>2</sup> of harmful use of alcohol. To this end, WHO has developed methods that use the existing country-level information to produce estimates

that can be used to compare between countries and years. An in-depth understanding of the local trends and the ability to compare, provide overviews, and track trends are both needed to develop effective prevention approaches. And both sets of metrics can be strengthened by stakeholders coming together to expand and improve data collection on HED prevalence at the country level.

Successful strategies for preventing HED maximize the unique contributions of different stakeholders through a whole-of-society approach. Broad partnerships with a variety of stakeholders, underpinned with data providing a clear understanding of trends and drivers, are needed to create lasting change. Although the information available from WHO indicates that heavy episodic drinking is declining in most regions, the private sector can – and should – do more to accelerate progress, help reduce HED in every community, and build on and reinforce the message that HED is socially unacceptable.

Together, the public and private sector, with civil society stakeholders and communities, can shift social norms toward eliminating heavy episodic drinking:

- Supporting government health objectives and programs, including screening and brief intervention implementation, to prevent HED and related harms
- Strengthening monitoring and enforcement of regulations
- Developing and promoting education campaigns about the harms associated with HED

IARD and its members want to accelerate action against heavy episodic drinking to support government health objectives to eliminate harmful drinking.

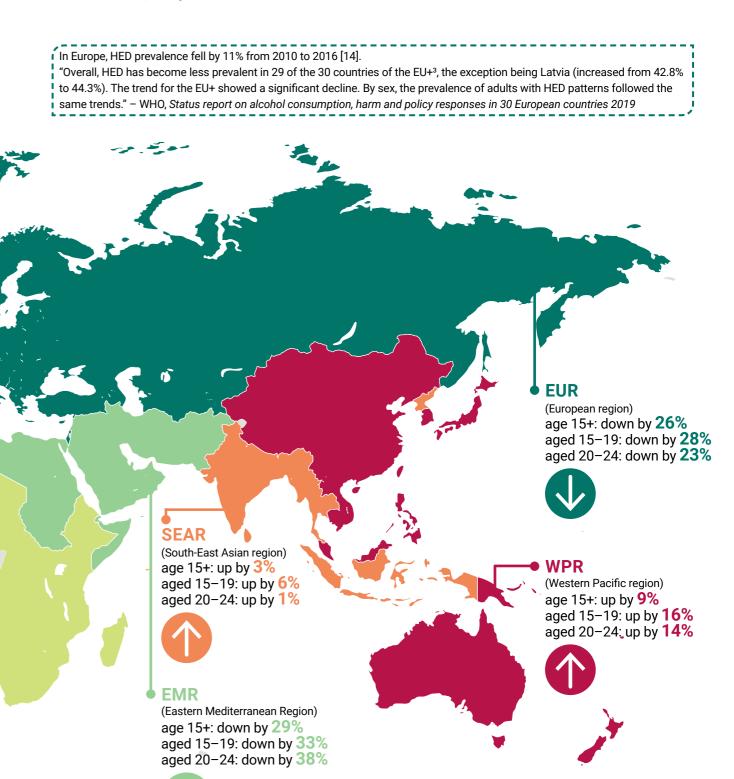
"WHO's Noncommunicable Diseases (NCDs) global monitoring framework includes the indicator "Age-standardized prevalence of heavy episodic drinking among adolescents and adults, as appropriate, within the national context".

### TRENDS AND PERCEPTIONS

The prevalence of heavy episodic drinking decreased by 18% or more in four regions and increased in two regions between 2005 and 2016 [Table 1, page 11]. Despite WHO data showing that HED among youth

REGIONAL-LEVEL CHANGE (PERCENTAGE DECLINE) IN THE PREVALENCE OF HEAVY EPISODIC DRINKING IN THE TOTAL POPULATION, 2005–2016

also fell in many regions during this period, its prevalence (up to 24% in EUR in 2016) is deeply concerning. Not only is underage drinking illegal, this pattern of drinking when young is associated with risk of alcohol dependence later in life [13] and with increased risk of injury [3]. It is therefore vital that further action is taken to stop those underage from consuming any alcohol.



**AMR** Region of the Americas age 15+: down by 18% aged 15-19: down by 21% aged 20-24: down by 16% PROGRESS AND IMPROVEMENT **CANNOT BE ASSESSED WITHOUT** DATA Data gathering, analysis, and monitoring are all essential to better track and understand the evolving trends and to help identify the most appropriate strategies to tackle HED. Improved monitoring of HED prevalence, especially in places where trend data are not yet available, will help all stakeholders deliver a whole-of-society

(African region) age 15+: down by 18% aged 15-19: down by 19% aged 20-24: down by 16%

approach to prevent it.

IIIn its report, WHO defined EU+ as the 28 EU Member States plus Norway and Switzerland

TRENDS REPORT: HEAVY EPISODIC DRINKING

TRENDS REPORT: HEAVY EPISODIC DRINKING

### WHAT DRIVES HEAVY EPISODIC DRINKING?

The leading beer, wine, and spirits producers are committed to a whole-of-society approach to better understand what drives HED in each community, and to seek ways to use this knowledge to craft effective interventions to prevent it.

Drinking patterns, like other behaviors that affect people's health and wellbeing, are embedded in the surrounding cultures. Social norms help shape what people believe to be acceptable drinking behaviors; these can differ for each community and peer group and be associated with certain life stages and roles in society. The drivers of heavy episodic drinking are better understood for younger age groups and in North American and European populations [15]; little is known about whether they differ in other cultures. Regular data gathering and analysis are vitally important to gain a better understanding of HED and address it most appropriately in different communities. There are several other factors that affect people's likelihood to engage in HED, including:

## The social environment, peer influence, and social norms

Recent reviews of the evidence have concluded that "major risk factors for binge drinking are frequently spending time with friends who drink, and the drinking norms observed in the wider social environment (e.g. school, community, culture)" [16] and that "when the group expectations of drinking and illicit drug use are lower, this was associated with lighter drinking" [15].

An earlier systematic review of the evidence in Europe found that "[p]ressure from peers was one of the strongest influencing factors for binge drinking and seemed to outweigh parental influences, especially from late adolescence onwards. Binge drinking also varied according to both the predominant adult and adolescent drinking culture" [17].

A cross-sectional study among college students in nine countries in Asia found HED associated with "lower level of non-organized religious...and high level physical activity" [18], among other factors. A review of studies that examined contextual factors for HED also found that "engaging in spiritual activities on weekdays and engaging in athletics activities such as sports on weekends were contexts associated with lighter drinking than usual" [15].

### People's mood and stress levels

"Binge drinkers tend to be extrovert, impulsive and sensation-seeking. Stress, anxiety, traumatic events and depression are also related to binge drinking" [16]. A systematic review focusing on contextual factors found that negative mood (especially among socially anxious people) and having a series of stressful days (especially among people with lower levels of education attained) increased the likelihood of HED, but so did positive mood (especially among people with high self-esteem) [15].

### For young people, their family

"Both alcohol-related behavior of parents and general parenting (e.g. parenting styles, monitoring) are also important", according to a recent evidence review [16]. A longitudinal study in the U.S. found that parents' "low monitoring, low warmth, parent alcohol use, parent expectancies, and underage consumption were associated with binge drinking in early adulthood" [19]. Another longitudinal study in Denmark concluded that "[s]trict alcohol-specific rules are associated with lower rates of binge drinking, but with time young people with strict rules close in on their peers' alcohol use" [20].

### · For adults, their roles in the family and society

For example, a U.S. study found that "relative to the past, today's young adults are more likely to hold social roles associated with more binge drinking (going to a four-year college full-time) and are more likely to delay the transition to social roles associated with less binge drinking (working full-time, getting married, having children, and living independently" [21]. In a study in Japan, HED in men was "significantly higher among those who belonged to high household income, were married, and managers or professionals [and in women among those] who were employed, as compared with those who engaged in housework" [22].



### **WORKING TOGETHER TO DELIVER CHANGE**

# ADDRESSING HED IS A SHARED AGENDA WITH FEASIBLE SHARED SOLUTIONS

Polling conducted by YouGov for IARD among 12,000 adults in nine countries (Australia, New Zealand, Japan, South Africa, Germany, France, the U.K., Mexico, and the United States, see Table 3, p.14) indicates that the public place responsibility for HED onto individual drinkers and not enough on other actors. In each country, over 6 in 10 people said that heavy episodic drinkers themselves, and their families, are responsible for preventing HED, followed by the alcohol industry (ranging between 25% and 45%), while less than one third of respondents placed this responsibility with their government.

The leading beer, wine, and spirits producers are determined to do more to help prevent heavy episodic drinking. The following case studies in this report highlight regional, national, and

international actions being taken by IARD members and their partners, working with other organizations, to support government regulations and programs to reduce HED<sup>4</sup>.

These case studies illustrate how partnerships, as part of a whole-of-society approach, can contribute to tackling HED. Our intent is not to claim that these programs have directly caused HED to decline.

### PERCEPTIONS OF HED

Understanding trends in HED can help identify and address negative movements and build positive societal norms that can be celebrated and reinforced (see pages 11–13).

58% of survey respondents to the YouGov survey in Australia believed that HED had increased in the past 10 years, whereas it had actually decreased from 30% in 2004 to 26% in 2016 (population aged 14 years and above) [16].

#### **BEST BAR NONE**

Best Bar None (BBN) is a voluntary annual accreditation program, supported by local law enforcement and the drinks industry. It aims to improve standards of practice at licensed premises, and includes regular staff training about responsible alcohol sales practices, such as not selling to intoxicated consumers.

BBN currently operates in over 75 U.K. towns and cities, and is expanding to airports, with trial programs running at London Stanstead, East Midlands, and Manchester airports. The original program is also spreading globally, with local partners and government agencies working together to launch adaptations in cities in Ontario and Alberta, Canada, and in Northern Virginia, USA.







T

### **HOW TO DRINK PROPERLY**

This social marketing campaign aims to make drinking to get drunk less socially acceptable, particularly among young Australian adults aged between 18 and 24 years. Running since 2014, it employs confronting but relatable messaging, integrated through media partnerships that include social media platform Snapchat and online dating app Tinder, as well as working with influencers at Australia's leading music festivals.

Independent surveys of 18- to 24-year-olds indicate that:

# **OVER 70%**

AGREED THAT IT HAS MADE THEM
THINK ABOUT THE BENEFITS OF
DRINKING IN MODERATION

40% DRANK LESS ON A NIGHT OUT





### **RESPONSIBLE PARTY**



61%

of students said they had changed their drinking habits as a result of the program Since 2010, nearly 600 **Responsible Party** events have been held in 32 countries across Europe. The Responsible Party program works directly with the Erasmus Students Network (ESN), whose volunteers act as role-models, organize activities, and share information about the risks of HED with their peers.

REACHED
367,000
EUROPEAN STUDENTS
SINCE 2010

### **TIPS**

The TIPS (Training for Intervention ProcedureS) program offers training to equip bartenders, waiters, cashiers, clerks, and anyone else who serves or sells alcohol with the skills and confidence they need to prevent customer intoxication, underage sales, and drink driving. TIPS training sessions are offered to staff in schools, government institutions, and businesses, available as both online and in-person training.

5.5 million participants certified in over 50 different

countries

6,000 CERTIFIED TRAINERS

### SMASHED: BREAKING UNDERAGE DRINKING

REACHED MORE THAN 700,000 STUDENTS OVER 10 YEARS



86%

of pupils knew where to get help with alcoholrelated issues after the program



Smashed is a theatre-in-education program for 12- to 13-year-old students, which includes an interactive workshop and video-based online resources. The program has been adapted and run in 23 countries, including Peru, Mozambique, Nigeria, Chinese Taipei, Vietnam, Thailand, Cambodia, Indonesia, New Zealand, and Australia.

An evaluation of Smashed's impact in the 2018–2019 academic year found:

95%

knew more about the dangers of underage drinking after Smashed

### **SOBER SELF BOT**

Based on the theme of planning a 'Night to Remember', the Sober Self Bot was launched in New Zealand on national TV as part of a multimedia campaign featuring celebrities.

Using a Facebook Messenger bot, drinkers receive messaging around responsible drinking, as well as a discount code if they book an Uber home at a pre-scheduled time.

The campaign engaged consumers to change their behavior using their own communication channels, with financial incentives to support take-up of the service.

105,000 MESSAGES SENT, 40,000 RECEIVED



13,000 UNIQUE USERS

9

TRENDS REPORT: HEAVY EPISODIC DRINKING

TRENDS REPORT: HEAVY EPISODIC DRINKING

# CONCLUSION: IT'S IN EVERYONE'S INTERESTS TO TACKLE HEAVY EPISODIC DRINKING

[N]ot only is the prevalence of current drinkers going down in some parts of the world but, even among those who continue to drink, the prevalence of individuals drinking in **heavy drinking sessions is decreasing**.

WHO, Global status report on alcohol and health [24]

## MOVING FROM A SHARED AGENDA TO SHARED SOLUTIONS ON HEAVY EPISODIC DRINKING

Binge drinking is harmful and, although it is positive to see downward trends in many WHO regions, there is still much work to be done. It is critical that, across the world, we continue to build on these positive, downward trends and reinforce the message that binge drinking hurts the health and wellbeing of consumers and communities.

Successful strategies for preventing binge drinking maximise the most of the unique contributions that different stakeholders can offer through a whole-of-society approach. It takes partners from public, private, and civil society sectors to work together to bring further positive change. Together, we can ensure that the positive decline in binge drinking seen in many areas continues to spread.

In support of the World Health Organization's call for:

strengthened partnerships and better coordination among stakeholders and increased mobilization of resources required for appropriate and concerted action to prevent the harmful use of alcohol.

WHO, Global strategy to reduce the harmful use of alcohol [25]

### REFERENCES AND DATA SOURCES

#### SELECTION OF THE ILLUSTRATED TREND INFORMATION

At the time of preparing this report, national-level estimates for age-standardized HED [26] and past-month HED prevalence [27] from the WHO's Global information system on alcohol and health (GISAH) are only available for the year 2016. Hence this report illustrates regional-level trends from 2005 to 2016, which are included in the Global status report on alcohol and health 2018 [24], and seeks to add detail from the national information sources that informed this set of HED estimates in GISAH [28]. Note that for the following countries, the data source documentation includes references to reports that are not accessible in the online collection of STEPS country reports in September 2019: Burkina Faso, Eritrea, Morocco, Bhutan, Cook Islands, Fiji, Laos, Mongolia, Samoa, Vanuatu, and Vietnam. For several other countries, reports for multiple years are available but the definitions of heavy episodic drinking differ in each report.

Table 1: Trends in prevalence of HED

Reproduced from the Global status report on alcohol and health 2018 Tables 3.5 and 3.6

	AFR	AMR	EMR	EUR	SEAR	WPR	AFR	AMR	EMR	EUR	SEAR	WPR
	Populat	ion aged	15+ yea	rs			Drinkers	s aged 1	5+ years			
2000	23.1	29.4	0.8	37.9	14.4	22.4	55.5	47.2	12.6	52.8	43.1	43.0
2005	21.2	26	0.7	35.7	13.5	20	53.9	45.2	11.6	50.7	41.6	40.4
2010	19.4	24.4	0.6	31.6	14.3	23.9	52.3	43.3	11.5	47.6	41.5	43.4
2016	17.4	21.3	0.5	26.4	13.9	21.9	50.2	40.5	10.4	42.6	40.7	40.6
	Populat	ion aged	15-19				Drinkers	s aged 1	5-19			
2000	17.3	25.8	0.4	35.1	10.2	18.1	59.7	55.7	13.3	61.7	48.1	48.9
2005	15.7	23.4	0.3	33.5	9.6	16.2	58.3	53.5	12.0	60.0	46.9	46.6
2010	14.3	21.4	0.2	29	10.4	20.3	56.8	51.8	11.9	56.3	47.3	50.7
2016	12.7	18.5	0.2	24.1	10.2	18.8	55.1	49.3	10.9	51.2	46.8	49.0
	Population aged 20-24					Drinkers aged 20-24 years						
2000	26.9	36.3	0.9	46	17.4	27.2	62.1	57.9	15.6	64	51	52
2005	24.8	33.4	8.0	44.2	16.6	24.7	60.6	56	14.2	62.5	49.9	49.7
2010	22.9	31.2	0.7	40	17.8	29.9	59.3	54.4	14.2	60.2	50.2	53.5
2016	20.8	28	0.5	33.9	17.6	28.2	57.4	51.8	13	54.7	49.9	51.8

### **WHO REGIONS**













Table 2: Selected national trend figures on heavy episodic drinking

Country	Definition	Year	%
Australia	Population 14+, consumed more than four standard drinks (40g) on one occasion at least once a month in the past 12 months [23]	2001 2004 2007 2010 2013 2016	29.2 29.5 29.2 29.0 26.4 25.5
Canada	Population 12+, males who reported having five or more drinks (67.5g), or women who reported having four or more drinks (54g), on one occasion, at least once a month in the past year [29]	2015 2016 2017 2018	19.2 19.0 19.5 19.1
France	Population 18–75, drank at least 6 units (60g) on a single occasion at least once in the past year [30]	2010 2014	36.0 38.0
Italy	Population 11+, drank six standard drinks (72g) or more in a single occasion [31]	2003 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015	11.7 14.2 13.9 13.1 12.1 12.4 13.4 12.1 11.1 10.3 10.0 10.8
Mexico	Population 18–65, consumed five or more drinks (70g) on a single occasion in the case of men, or four or more drinks (56g) on a single occasion in the case of women, in the past month [32]	2011 2016	13.9 22.1
New Zealand	Past-year drinkers age 15+, drank six or more drinks (60+g) on one occasion at least monthly [33]	2015 2016	26.6 27.3
Switzerland	Population 15+, drank four standard units (40–48g) for women or five (50-60g) for men or more on one occasion at least once a month in the past 12 months [34]	2007 2017	11 16
Slovenia	Population 25–74, drank six or more drinks (60g) on one occasion for men and four (40g) or more for women at least once in the past year [35]	2001 2004 2008 2012	43.7 43.0 41.5 50.4
Singapore	Population 18–69, consumed four or more standard drinks (40g) on one occasion for women, five (50g) or more for men [36]	2001 2017	2.2 9.0
Uruguay	Past-month drinkers aged 12–65, consumed at least 100g on one or more occasions in the past 30 days [37-39]	2006 2011 2016	25 25 25.7
USA	Population 12+, drank five or more drinks (70g) for males or four or more drinks (56g) for females on the same occasion (that is, at the same time or within a couple of hours of each other) on at least one day in the past 30 days [40, 41]	2015 2016 2017 2018	24.9 24.2 24.5 24.5

12

#### PERCEPTIONS ABOUT HEAVY EPISODIC DRINKING

IARD commissioned YouGov to conduct online surveys on adults' perceptions about how heavy episodic drinking and ways to prevent it have evolved in nine countries. All figures, unless otherwise stated, are from YouGov Plc. The total sample size was 12,137 adults in the U.K, Germany, France, Australia, Japan, Mexico, New Zealand, the United States, and South Africa. Fieldwork was undertaken between June 19 and July 4, 2019. The surveys were carried out online.

Table 3: Perceptions about heavy episodic drinking in nine countries

Thinking about the last 10 years (i.e. since June 2009): in general, do you think that instances of "binge" drinking have increased or decreased in your country, or has it stayed about the same? (Please select one option on each row)

	Australia	Mexico	S.Africa	France	USA	Germany	UK	Japan	NZ
Increased (a lot or a bit)	58%	87%	76%	73%	40%	35%	41%	21%	54%
Decreased (a lot or a bit)	10%	1%	2%	3%	10%	32%	20%	32%	9%
Stayed the same	24%	10%	15%	14%	32%	23%	29%	35%	29%
Don't know	8%	1%	6%	10%	19%	10%	11%	12%	8%

Who, if anyone, of the following do you think has responsibility for preventing "binge" drinking in your country? (Please select all that apply.)

Family members	59%	80%	64%	44%	46%	46%	51%	43%	69%
(e.g. parents, siblings etc.)									
Education professionals	29%	27%	29%	18%	21%	21%	18%	20%	26%
(e.g. teachers etc.)									
The national government	25%	30%	31%	21%	10%	10%	21%	13%	25%
Healthcare professionals	22%	20%	21%	20%	20%	12%	15%	8%	20%
(e.g. doctors etc.)									
Law enforcement	27%	26%	41%	19%	17%	16%	18%	13%	28%
(i.e. the police)									
Social services	17%	17%	26%	11%	12%	13%	8%	5%	17%
The alcohol industry	41%	35%	42%	32%	25%	27%	41%	29%	45%
Community groups or charities	15%	12%	26%	9%	14%	12%	8%	11%	15%
The individuals who do this	64%	59%	64%	40%	54%	46%	63%	73%	68%
Other	3%	2%	2%	3%	3%	4%	2%	13%	3%
Don't know	5%	1%	2%	12%	9%	8%	6%	4%	3%
Not applicable	8%	2%	6%	12%	15%	19%	9%	8%	7%
I do not think anyone in particular									
has responsibility for preventing									
"binge" drinking									

### MODELLED DATA ON HEAVY EPISODIC DRINKING

Because data availability is unequal and definitions differ across countries, several initiatives produce modelled estimates of its prevalence and related measures for selected age groups. Some of them are listed below. These estimates have the main advantage of facilitating comparisons across countries and over time. However, they rely on past trends from a subset of countries with available data to generate estimates in other countries that may not be very precise for each country.

World Health Organization (WHO). Global information system on alcohol and health: Heavy episodic drinking, past 30 days by country 2018. Retrieved 30 July, 2019, from http://apps.who.int/gho/data/node.main.A1047

World Health Organization (WHO). Global information system on alcohol and health: Age-standardized heavy episodic drinking by country 2018. Retrieved 30 July, 2019, from http://apps.who.int/gho/data/view.main.57020

Manthey, J., Shield, K. D., Rylett, M., Hasan, O. S. M., Probst, C., & Rehm, J. (2019). Global alcohol exposure between 1990 and 2017 and forecasts until 2030: A modelling study. *The Lancet*, 393(10190), 2493-2502.

Peacock, A., Leung, J., Larney, S., Colledge, S., Hickman, M., Rehm, J., et al. (2019). Global statistics on alcohol, tobacco and illicit drug use: 2017 status report. *Addiction*, 114(10), 1905-1926.

13

Azzopardi, P. S., Hearps, S. J. C., Francis, K. L., Kennedy, E. C., Mokdad, A. H., Kassebaum, N. J., et al. (2019). Progress in adolescent health and wellbeing: Tracking 12 headline indicators for 195 countries and territories, 1990-2016. *The Lancet*. https://doi.org/10.1016/S0140-6736(18)32427-9

Institute for Health Metrics and Evaluation (IHME). Global Burden of Disease Study (GBD): Compare Visualization Hub. Retrieved 30 July 2019,

from http://vizhub.healthdata.org/gbd-compare

#### **REFERENCES**

- United Nations General Assembly (UNGA). (2012). /RES/66/2. Political declaration of the High-level Meeting of the General Assembly on the prevention and control of NCDs. Retrieved from
  - https://www.who.int/nmh/events/un\_ncd\_summit2011/political\_declaration\_en.pdf?ua=1
- 2. GBD 2016 Alcohol Collaborators. (2018). Alcohol use and burden for 195 countries and territories, 1990–2016: A systematic analysis for the Global Burden of Disease Study 2016. The Lancet, Vol 392, No 10152, 12018, pp11015-11035.
- 3. Peltzer, K., & Pengpid, S. (2015). Factors associated with unintentional injury among university students in 26 countries. Public Health Nurs, 32(5), 440-452.
- 4. Institute for Health Metrics and Evaluation (IHME). (2018). Global injuries attributable to alcohol use summary exposure variable, 2017. Retrieved from https://vizhub.healthdata.org/gbd-compare/
- 5. Lannoy, S., Billieux, J., Dormal, V., & Maurage, P. (2019). Behavioral and cerebral impairments associated with binge drinking in youth: A critical review. Psychologica Belgica, 59(1), 116-155.
- 6. Hermens, D. F., Lagopoulos, J., Tobias-Webb, J., De Regt, T., Dore, G., Juckes, L., et al. (2013). Pathways to alcohol-induced brain impairment in young people: A review. Cortex, 49(1), 3-17.
- 7. Waszkiewicz, N., Galińska-Skok, B., Nestsiarovich, A., Kułak-Bejda, A., Wilczyńska, K., Simonienko, K., et al. (2018). Neurobiological effects of binge drinking help in its detection and differential diagnosis from alcohol dependence. Dis Markers, 2018, 9.
- 8. Virtaa, J. J., Jarvenpaa, T., Heikkila, K., Perola, M., Koskenvuo, M., Raiha, I., et al. (2010). Midlife alcohol consumption and later risk of cognitive impairment: A twin follow-up study. Journal of Alzheimer's Disease, 22(3), 939-948.
- Roerecke, M., & Rehm, J. (2010). Irregular heavy drinking occasions and risk of ischemic heart disease: A systematic review and meta-analysis. American Journal of Epidemiology, 171(6), 633-644.
- Roerecke, M., & Rehm, J. (2014). Alcohol consumption, drinking patterns, and ischemic heart disease: A narrative review of meta-analyses and a systematic review and meta-analysis of the impact of heavy drinking occasions on risk for moderate drinkers. BMC Medicine, 12(1), 182.
- 11. United Nations General Assembly (UNGA). (2018). A/RES/73/2 Political declaration of the third high-level meeting of the General Assembly on the prevention and control of non-communicable diseases. Retrieved from <a href="https://www.un.org/en/ga/search/view\_doc.asp?symbol=A/RES/73/2">https://www.un.org/en/ga/search/view\_doc.asp?symbol=A/RES/73/2</a>
- 12. World Health Organization (WHO). (2013). Noncommunicable Diseases (NCDs) global monitoring framework. Retrieved 1 August, 2019, from
  - https://www.who.int/nmh/global\_monitoring\_framework/2013-11-06-who-dc-c268-whp-gap-ncds-techdoc-def3.pd-f2ua-1
- 13. Tavolacci, M.-P., Berthon, Q., Cerasuolo, D., Dechelotte, P., Ladner, J., & Baguet, A. (2019). Does binge drinking between the age of 18 and 25 years predict alcohol dependence in adulthood? A retrospective case—control study in France. BMJ Open, 9(5), e026375
- 14. International Alliance for Responsible Drinking (IARD). (2019). Working together to deliver change: How a whole-of-society approach can combat underage drinking (Trends report: Underage drinking). Retrieved from <a href="http://www.iard.org/resources/trendsreportunderagedrinking2019/">http://www.iard.org/resources/trendsreportunderagedrinking2019/</a>
- 15. WHO Regional Office for Europe. (2019). Status report on alcohol consumption, harm and policy responses in 30 European countries. Retrieved from
- http://www.euro.who.int/\_\_data/assets/pdf\_file/0019/411418/Alcohol-consumption-harm-policy-responses-30-Europe-an-countries-2019.pdf
- 16. Stanesby, O., Labhart, F., Dietze, P., Wright, C. J. C., & Kuntsche, E. (2019). The contexts of heavy drinking: A systematic review of the combinations of context-related factors associated with heavy drinking occasions. PLoS One, 14(7), e0218465.
- 17. Kuntsche, E., Kuntsche, S., Thrul, J., & Gmel, G. (2017). Binge drinking: Health impact, prevalence, correlates and interventions. Psychol Health, 32(8), 976-1017.
- 18. Kuntsche, E., Rehm, J., & Gmel, G. (2004). Characteristics of binge drinkers in Europe. Social Science and Medicine, 59(1), 113-127.
- 19. Yi, S., Ngin, C., Peltzer, K., & Pengpid, S. (2017). Health and behavioral factors associated with binge drinking among university students in nine ASEAN countries. Substance abuse treatment, prevention, and policy, 12(1), 32-32.
- 20. Donaldson, C. D., Handren, L. M., & Crano, W. D. (2016). The enduring impact of parents' monitoring, warmth, expectancies, and alcohol use on their children's future binge drinking and arrests: A longitudinal analysis. Prevention Science, 17(5), 606-614.
- 21. Østergaard, J., Järvinen, M., & Andreasen, A. G. (2018). A matter of rules? A longitudinal study of parents' influence on young people's drinking trajectories. European Addiction Research, 24(4), 206-215.
- 22. Jager, J., Keyes, K. M., & Schulenberg, J. E. (2015). Historical variation in young adult binge drinking trajectories and its link to historical variation in social roles and minimum legal drinking age. Developmental Psychology, 51(7), 962-974.
- 23. Australian Institute of Health and Welfare. (2017). National Drug Strategy Household Survey 2016. Supplementary data tables: Alcohol chapter. Retrieved from
  - https://www.aihw.gov.au/getmedia/c4ca55cb-6bae-494b-a995-54a361b1c135/chapter-4-alcohol.xlsx.aspx

- 24. World Health Organization (WHO). (2018). Global status report on alcohol and health 2018. Geneva. Retrieved from <a href="http://apps.who.int/iris/bitstream/handle/10665/274603/9789241565639-eng.pdf">http://apps.who.int/iris/bitstream/handle/10665/274603/9789241565639-eng.pdf</a>
- 25. Kinjo, A., Kuwabara, Y., Minobe, R., Maezato, H., Kimura, M., Higuchi, S., et al. (2018). Different socioeconomic backgrounds between hazardous drinking and heavy episodic drinking: Prevalence by sociodemographic factors in a Japanese general sample. Drug and Alcohol Dependence, 193, 55-62.
- 26. World Health Organization (WHO). (2010). Global strategy to reduce the harmful use of alcohol. Geneva. Retrieved from <a href="https://www.who.int/substance\_abuse/publications/global\_strategy\_reduce\_harmful\_use\_alcohol/en/">https://www.who.int/substance\_abuse/publications/global\_strategy\_reduce\_harmful\_use\_alcohol/en/</a>
- 27. World Health Organization (WHO). (2018). Global information system on alcohol and health: Age-standardized heavy episodic drinking by country. Retrieved 30 July, 2019, from http://apps.who.int/gho/data/view.main.57020
- 28. World Health Organization (WHO). (2018). Global information system on alcohol and health: Heavy episodic drinking, past 30 days by country. Retrieved 30 July, 2019, from http://apps.who.int/gho/data/node.main.A1047
- World Health Organisation (WHO). (2018). Sources of abstainer and heavy episodic drinking data by WHO Member State.
   Retrieved from
   https://www.who.int/gho/alcohol/GISAH\_1\_data\_sources\_of\_abstainer\_and\_heavy\_episodic\_drinking\_data.pdf
- 30. Statistics Canada. Table 13-10-0096-01 (formerly CANSIM 105-0508) Health characteristics, annual estimates. Retrieved 12 September 2019, from https://doi.org/10.25318/1310009601-eng
- 31. French Monitoring Centre for Drugs and Drug Addiction (OFDT). (November 2018). Health barometer alcohol [Baromètre santé alcool]. Retrieved 21 August, 2019, from <a href="https://www.ofdt.fr/statistiques-et-infographie/sources-statistiques/barometre-sante-alcool/">https://www.ofdt.fr/statistiques-et-infographie/sources-statistiques/barometre-sante-alcool/</a>
- 32. National Statistical Institute (ISTAT). (2016). Data tables (Use and abuse of alcohol in Italy). Retrieved from https://www.istat.it/it/archivio/184658
- 33. Reséndiz Escobar, E., Bustos Gamiño, M. N., Mujica Salazar, R., Soto Hernández, I. S., Cañas Martínez, V., Fleiz Bautista, C., et al. (2018). National trends in alcohol consumption in Mexico: Results of the National Survey on Drug, Alcohol and Tobacco Consumption 2016-2017. Salud Mental, 41(1), 7-15.
- 34. Ministry of Health. (2017). New Zealand Health Survey annual data explorer. Retrieved 12 September 2018, from <a href="https://minhealthnz.shinyapps.io/nz-health-survey-2016-17-annual-data-explorer/w\_637b9b7d/#!/home">https://minhealthnz.shinyapps.io/nz-health-survey-2016-17-annual-data-explorer/w\_637b9b7d/#!/home</a>
- 35. Swiss Health Observatory. Heavy episodic alcohol consumption (age: 15+). Retrieved 12 September, 2019, from https://www.obsan.admin.ch/en/indicators/MonAM/heavy-episodic-alcohol-consumption-age-15
- Lovrečič, M., & Lovrečič, B. (2014). Izzivi v izboljševanju vedenjskega sloga in zdravja. Desetletje CINDI raziskav v Sloveniji [Challenges in improving behaviour style and health. Ten years of CINDI research in Slovenia]. Retrieved from https://www.nijz.si/files/publikacije-datoteke/izzivi\_desetletje\_cindi\_14.pdf
- 37. Ministry of Health. (2018). Executive summary to National Population Health Survey 2016/17. Retrieved from <a href="https://www.moh.gov.sg/docs/librariesprovider5/resources-statistics/reports/executive-summary-nphs-2016\_17.pdf">https://www.moh.gov.sg/docs/librariesprovider5/resources-statistics/reports/executive-summary-nphs-2016\_17.pdf</a>
- Uruguay Drugs Observatory. (2007). 4th National Household Survey on Drug Use. Retrieved from https://www.gub.uy/junta-nacional-drogas/sites/junta-nacional-drogas/files/2018-01/OUD\_4ta\_encuesta\_drogas\_ Uruguay\_hogares\_2006.pdf
- Uruguay Drugs Observatory. (2012). 5th National Household Survey on Drug Use (Research report). Retrieved from http://dspace.mides.gub.uy:8080/xmlui/bitstream/handle/123456789/618/633\_JND\_2012\_5ta%20Encuesta%20de%20 consumo%20de%20Drogas%20\_2011.pdf?sequence=1&isAllowed=y
- Uruguay Drugs Observatory. (2016). 6th National Household Survey on Drug Use (Research report). Retrieved from https://www.gub.uy/junta-nacional-drogas/sites/junta-nacional-drogas/files/documentos/publicaciones/201609\_VI\_ encuesta\_hogares\_OUD\_ultima\_rev.pdf
- 41. Substance Abuse and Mental Health Services Administration (SAMHSA). (2019). Table 2.1B Tobacco product and alcohol use in lifetime, past year, and past month among persons aged 12 or older, by age group: Percentages, 2017 and 2018 (NSDUH detailed tables). Retrieved from https://www.samhsa.gov/data/report/2018-nsduh-detailed-tables
- 42. Substance Abuse and Mental Health Services Administration (SAMHSA). (2017). Table 2.20B Alcohol Use, binge alcohol use, and heavy alcohol use in past month among persons aged 12 or older, by detailed age category: Percentages, 2015 and 2016 (NSDUH detailed tables). Retrieved from

https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2016/NSDUH-DetTabs-2016.pdf

14



International Alliance for Responsible Drinking (IARD), 1225 19th Street NW, Suite 500, Washington, DC 20036, USA +1 202 986 1159 www.iard.org