# Can the Americas reduce harmful use of alcohol by 2030?

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# The role of alcohol in international treaties

The harmful use of alcohol has been part of several international treaties and strategies

# Global strategy to reduce the harmful use of alcohol

- WHO strategy, adopted 2010
- For the first time, delegations from all 193 Member States of World Health Organization (WHO) reached consensus at the World Health Assembly on a **global strategy** to confront the harmful use of **alcohol**.
- However, it has not a lot of teeth, as its just offering a toolbox

# WHO NCD framework

Integrated framework of risk factors and outcomes -> clear pathways to prevention

A **25%** relative reduction in risk of premature mortality from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases.

At least **10%** relative reduction in the harmful use of alcohol, as appropriate, within the national context.

A **10%** relative reduction in prevalence of insufficient physical activity.

A **30%** relative reduction in mean population intake of salt/sodium.

A **30%** relative reduction in prevalence of current tobacco use in persons aged 15+ years.

A **25%** relative reduction in the prevalence of raised blood pressure or contain the prevalence of raised blood pressure, according to national circumstances.

**Halt the rise** in diabetes and obesity.

At least **50%** of eligible people receive drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes.

An **80%** availability of the affordable basic technologies and essential medicines, including generics, required to treat major noncommunicable diseases in both public and private facilities.

# Alcohol and "substance abuse" in Sustainable Development Goals 2030

**SDG Agenda:** 17 goals (1 health), 169 targets (13 health) adopted at the United Nations Sustainable Development Summit in 25 – 27 September 2015



Ensure healthy lives and promote well-being for all at all ages

**3.5** Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol
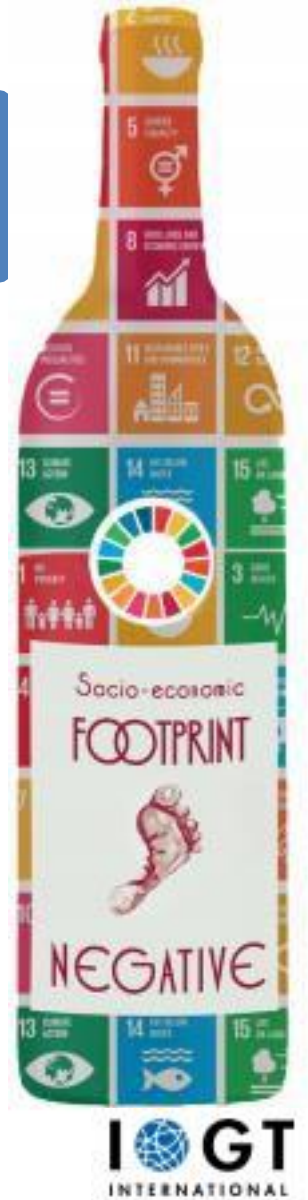
- 3.5.1 Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders
- 3.5.2 Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol

# 13 SDGs, 52 Targets Affected By Alcohol

> **Recognition that alcohol adversely affects the social, environmental and the economic dimensions, cutting across all aspect of sustainable development.**

- Direct costs to the household frequently underestimated
- Loss of job/unemployment
- Increased health expenditure

- Alcohol during pregnancy - higher mortality rates for pregnant women and infants
- Major risk factor for TB, HIV, NCDs, road traffic injuries and fatalities
- Strong relationship between alcohol and domestic abuse, intimate partner violence and sexual assault – fuels violence against women
- Parental role neglected

- Water-use efficiency? 298 l water to produce 1L beer – scarce resources are drained for the production of alcohol
- Costs of alcohol harm are massive: European Union - €156 billion yearly
- Neighborhoods with a high density of alcohol outlets have a higher rate of violence; alcohol is a barrier to inclusive, enabling public space for children, adolescents and youth
- ………

The problem | The solutions | The decisions | The actions

WHO EXPERT COMMITTEE ON PROBLEMS RELATED TO ALCOHOL CONSUMPTION
Second Report

ALCOHOL
NO ORDINARY COMMODITY
research and public policy
SECOND EDITION

'Best buys' and other recommended interventions for the prevention and control of noncommunicable diseases

TACKLING NCDs
Best buys
World Health Organization — SUSTAINABLE DEVELOPMENT GOALS

SUMMARY
THE GLOBAL BURDEN OF DISEASE

The WORLD HEALTH REPORT 2002
Reducing Risks, Promoting Healthy Life

alcohol
Global status report on alcohol and health 2018
World Health Organization

alcohol
Global strategy to reduce the harmful use of alcohol

GLOBAL ACTION PLAN
FOR THE PREVENTION AND CONTROL OF NONCOMMUNICABLE DISEASES
2013-2020

SUSTAINABLE DEVELOPMENT GOALS

TIME TO DELIVER
Political declaration of the third high-level meeting of the General Assembly on the prevention and control of non-communicable diseases

Resolution adopted by the General Assembly on 10 October 2018 for accelerating the response: new report 2024 UNGA on progress in implementation

Talk is cheap, but what is the reality?

# And where do we stand now?

Not much better than in 2010!

# Where do we stand now?

**THE LANCET**

**Imperial College London**

NCD Countdown 2030

NCD Alliance

World Health Organization

## NCD Countdown 2030: worldwide trends in non-communicable disease mortality and progress towards Sustainable Development Goal target 3.4

*NCD Countdown 2030 collaborators**

The third UN High-Level Meeting on Non-Communicable Diseases (NCDs) on Sept 27, 2018, will review national and global progress towards the prevention and control of NCDs, and provide an opportunity to renew, reinforce, and enhance commitments to reduce their burden. NCD Countdown 2030 is an independent collaboration to inform policies that aim to reduce the worldwide burden of NCDs, and to ensure accountability towards this aim. In 2016, an estimated 40·5 million (71%) of the 56·9 million worldwide deaths were from NCDs. Of these, an estimated 1·7 million (4% of NCD deaths) occurred in people younger than 30 years of age, 15·2 million (38%) in people aged between 30 years and 70 years, and 23·6 million (58%) in people aged 70 years and older. An estimated 32·2 million NCD deaths (80%) were due to cancers, cardiovascular diseases, chronic respiratory diseases, and diabetes, and another 8·3 million (20%) were from other NCDs. Women in 164 (88%) and men in 165 (89%) of 186 countries and

# Years in which non-communicable disease (NCD) reduction target is expected to be achieved

Women
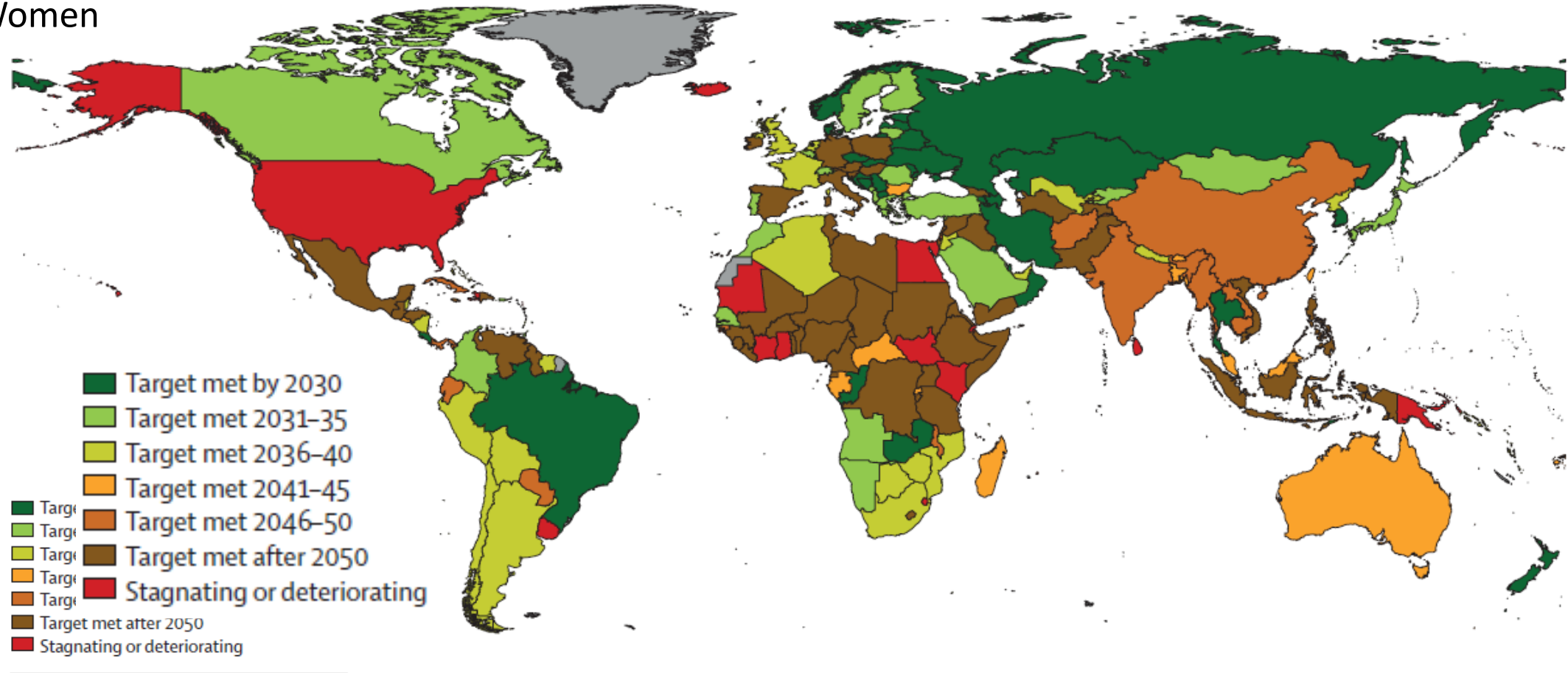


The color scale indicates the years in which countries are expected to achieve a one-third reduction (relative to 2015 levels, if trends from 2010 to 2016 continue) in the probability of death from NCD4 (cancers, diabetes, cardiovascular diseases, and chronic respiratory diseases) between 30 years and 70 years of age.

# Years in which non-communicable disease (NCD) reduction target is expected to be achieved

Men



Target met by 2030
Target met 2031–35
Target met 2036–40
Target met 2041–45
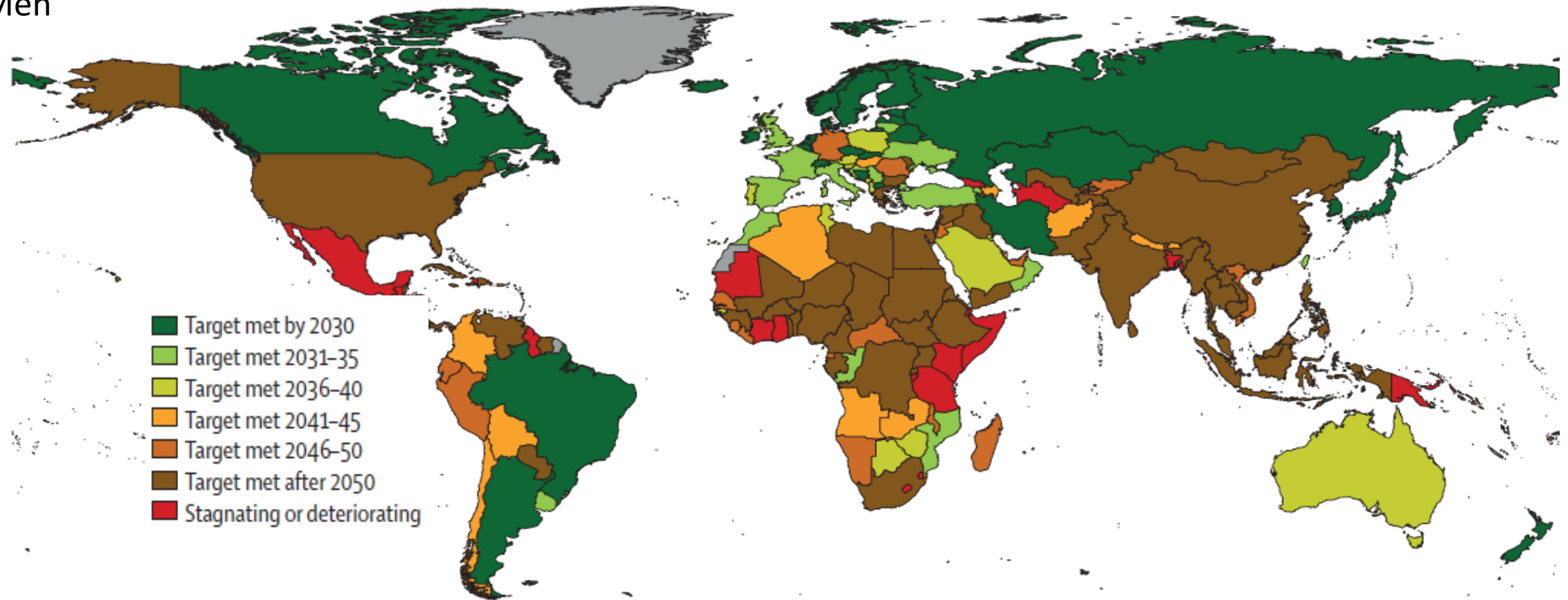Target met 2046–50
Target met after 2050
Stagnating or deteriorating

The color scale indicates the years in which countries are expected to achieve a one-third reduction (relative to 2015 levels, if trends from 2010 to 2016 continue) in the probability of death from NCD4 (cancers, diabetes, cardiovascular diseases, and chronic respiratory diseases) between 30 years and 70 years of age.

# The world is off-track to deliver its commitments on NCDs
# (and not only to NCDs)

Have countries strengthened their capacities to address NCDs since 2011?

**Maybe**

Have there been improvements in NCD health outcomes since 2011?

**Yes, but...**

Are we on track to meet the commitments made at the UN General Assembly?

**No**

Are we on track to meet SDG Target 3.4 (NCDs) by 2030?

**No**

**2018:** "The world has yet to fulfil its promise of implementing measures to reduce the risk of dying prematurely from NCDs through prevention and treatment"

**2018:** "It's crucial to reach agreements on a new strategic course and approach to support countries in implementing the best buys for NCDs"

**SUSTAINABLE DEVELOPMENT GOALS**

Are we on track for meeting the global target for harmful use of alcohol in the NCD Global Monitoring Framework and advancing SDG health target 3.5?

Global alcohol exposure between 1990 and 2017 and forecasts until 2030: a modelling study

Jakob Manthey, Kevin D Shield, Margaret Rylett, Omer S M Hasan, Charlotte Probst, Jürgen Rehm

**Summary**

**Background** Alcohol use is a leading risk factor for global disease burden, and data on alcohol exposure are crucial to evaluate progress in achieving global non-communicable disease goals. We present estimates on the main indicators of alcohol exposure for 189 countries from 1990–2017, with forecasts up to 2030.

NO!

**Interpretation** Based on these data, global goals for reducing the harmful use of alcohol are unlikely to be achieved, and known effective and cost-effective policy measures should be implemented to reduce alcohol exposure.

# Adult alcohol *per capita* consumption in litres ethanol

1990
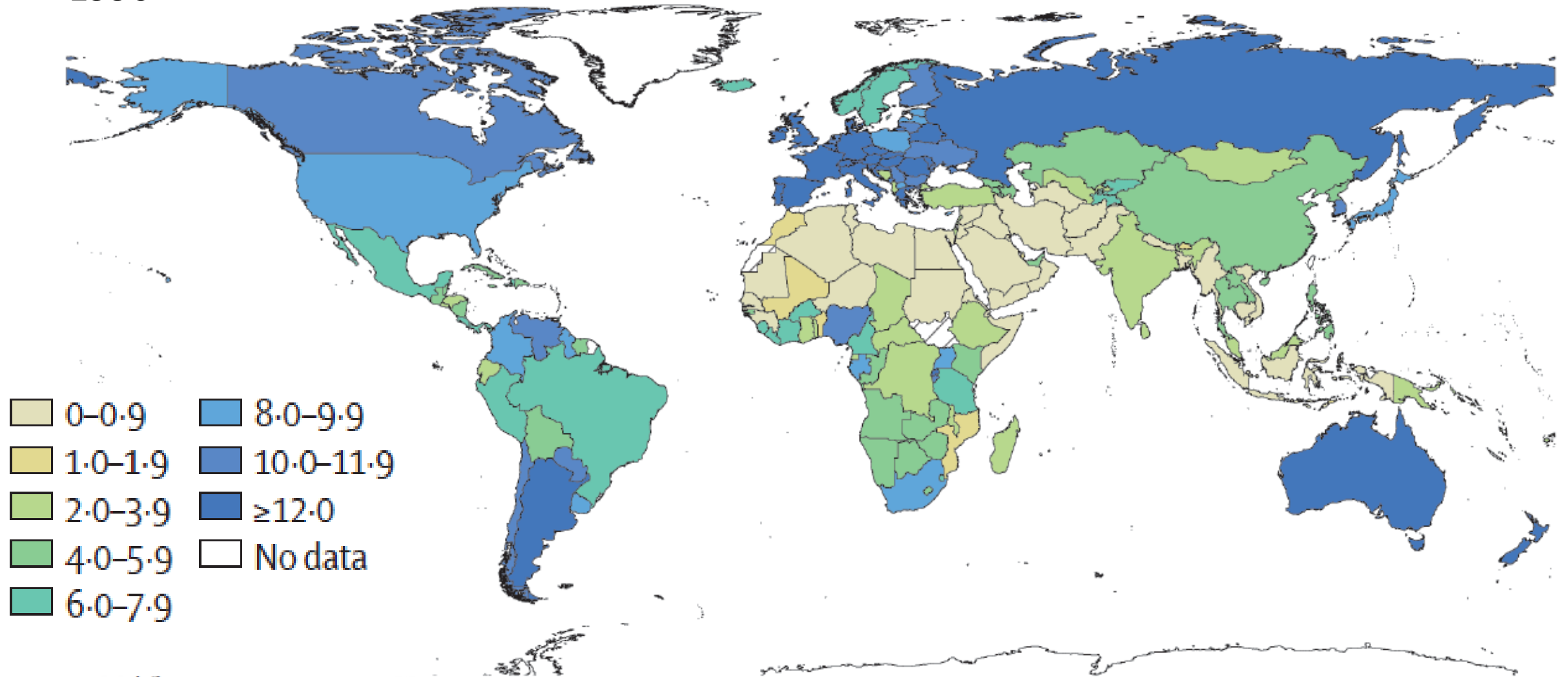


Legend:
- 0–0·9
- 1·0–1·9
- 2·0–3·9
- 4·0–5·9
- 6·0–7·9
- 8·0–9·9
- 10·0–11·9
- ≥12·0
- No data

# Adult alcohol *per capita* consumption in litres ethanol

2017
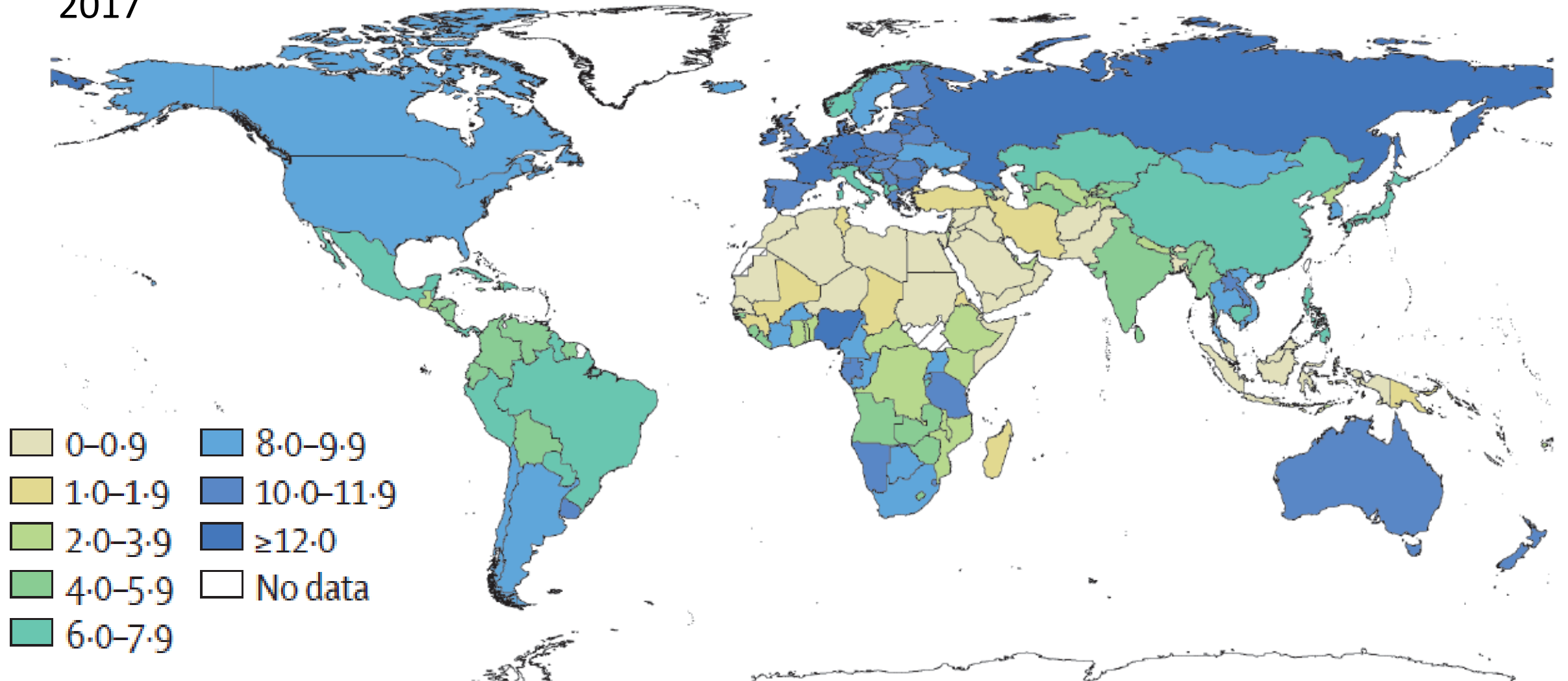


Legend:
- 0–0·9
- 1·0–1·9
- 2·0–3·9
- 4·0–5·9
- 6·0–7·9
- 8·0–9·9
- 10·0–11·9
- ≥12·0
- No data

# Adult alcohol *per capita* consumption in litres ethanol

2030



**Legend:**
- 0–0.9
- 1.0–1.9
- 2.0–3.9
- 4.0–5.9
- 6.0–7.9
- 8.0–9.9
- 10.0–11.9
- ≥12.0
- No data

# PAHO 1990-2017

1990

2017



- 0·0-0·9
- 1·0-1·9
- 2·0-3·9
- 4·0-5·9
- 6·0-7·9
- 8·0-9·9
- 10·0-11·9
- ≥12·0
- No data

# PAHO 1990-2030

1990

2030



Legend:
- 0–0·9
- 1·0–1·9
- 2·0–3·9
- 4·0–5·9
- 6·0–7·9
- 8·0–9·9
- 10·0–11·9
- ≥12·0
- No data
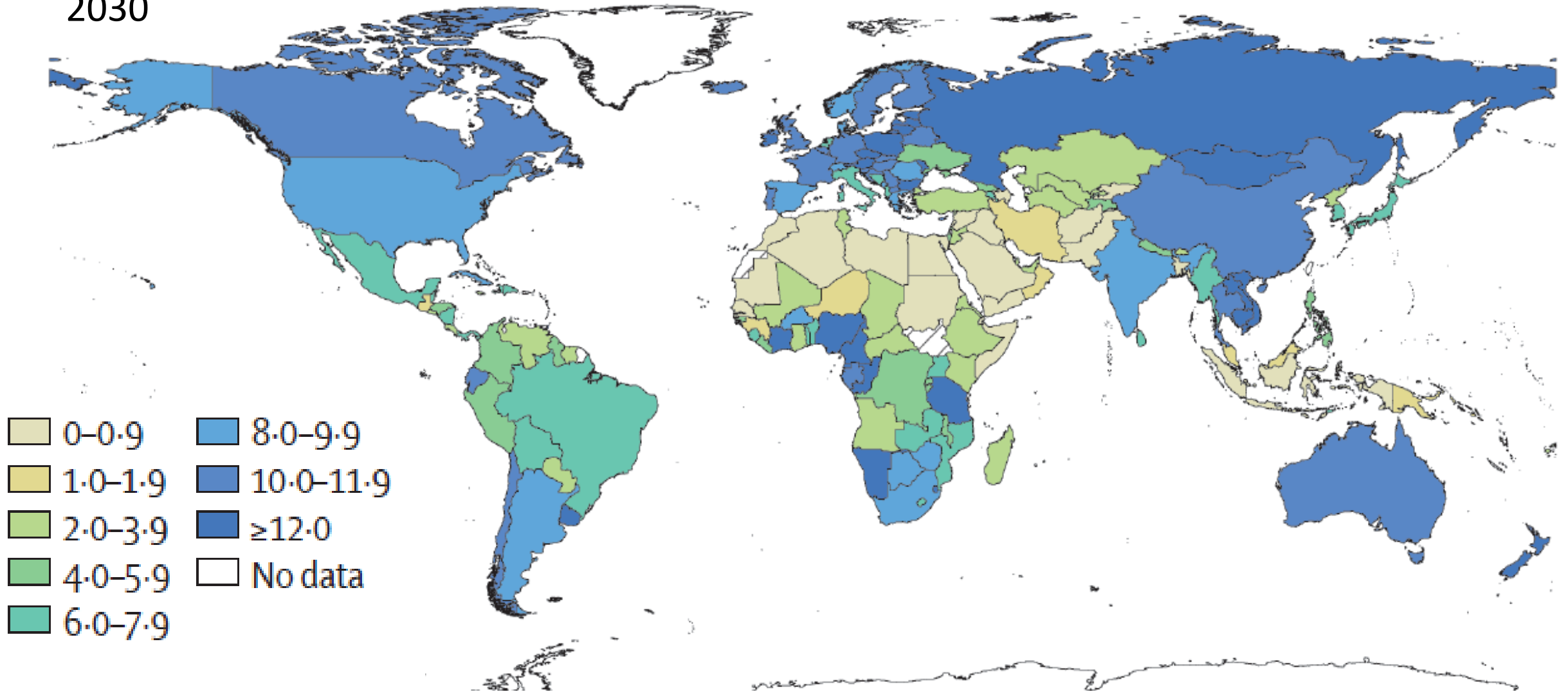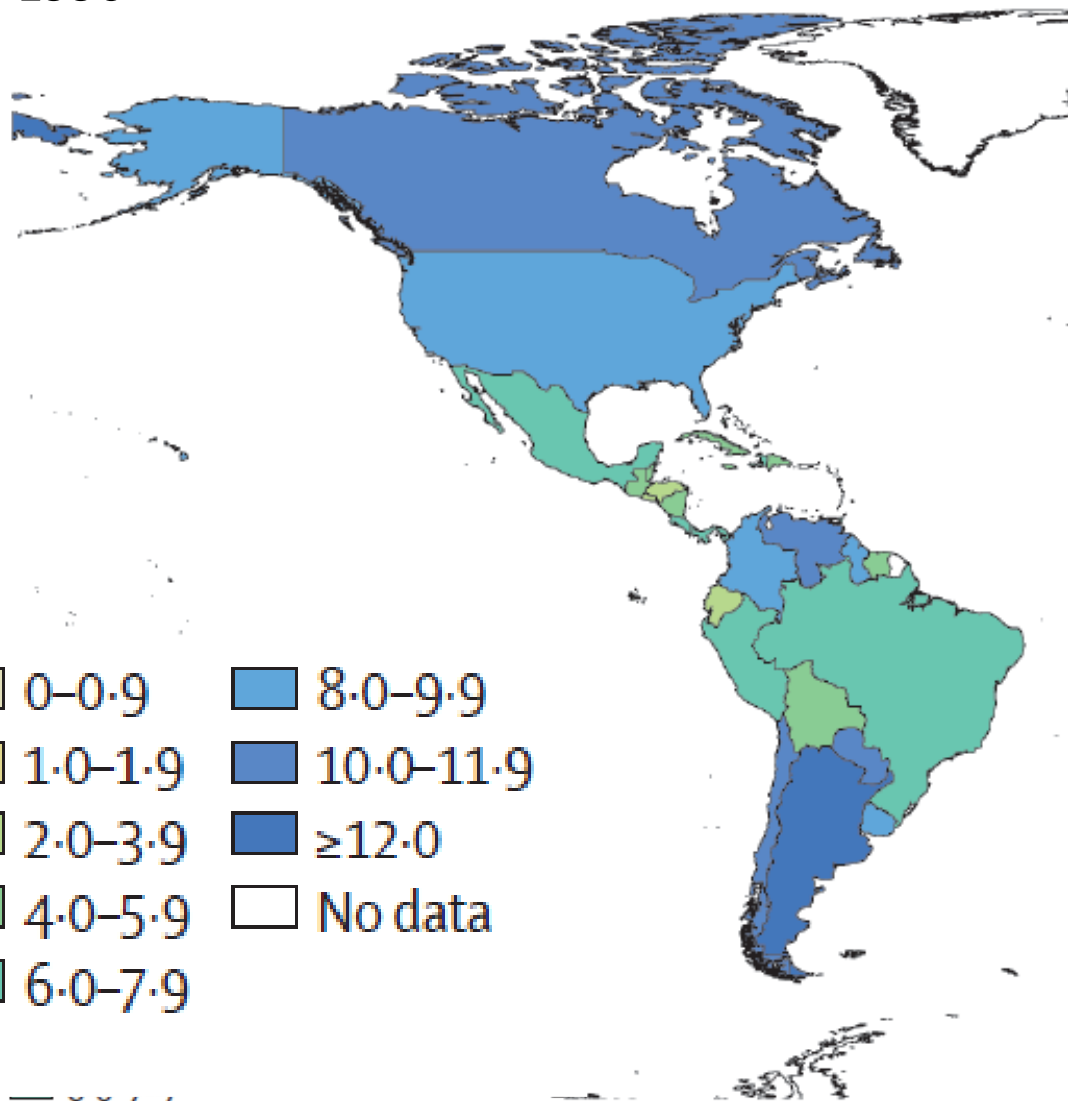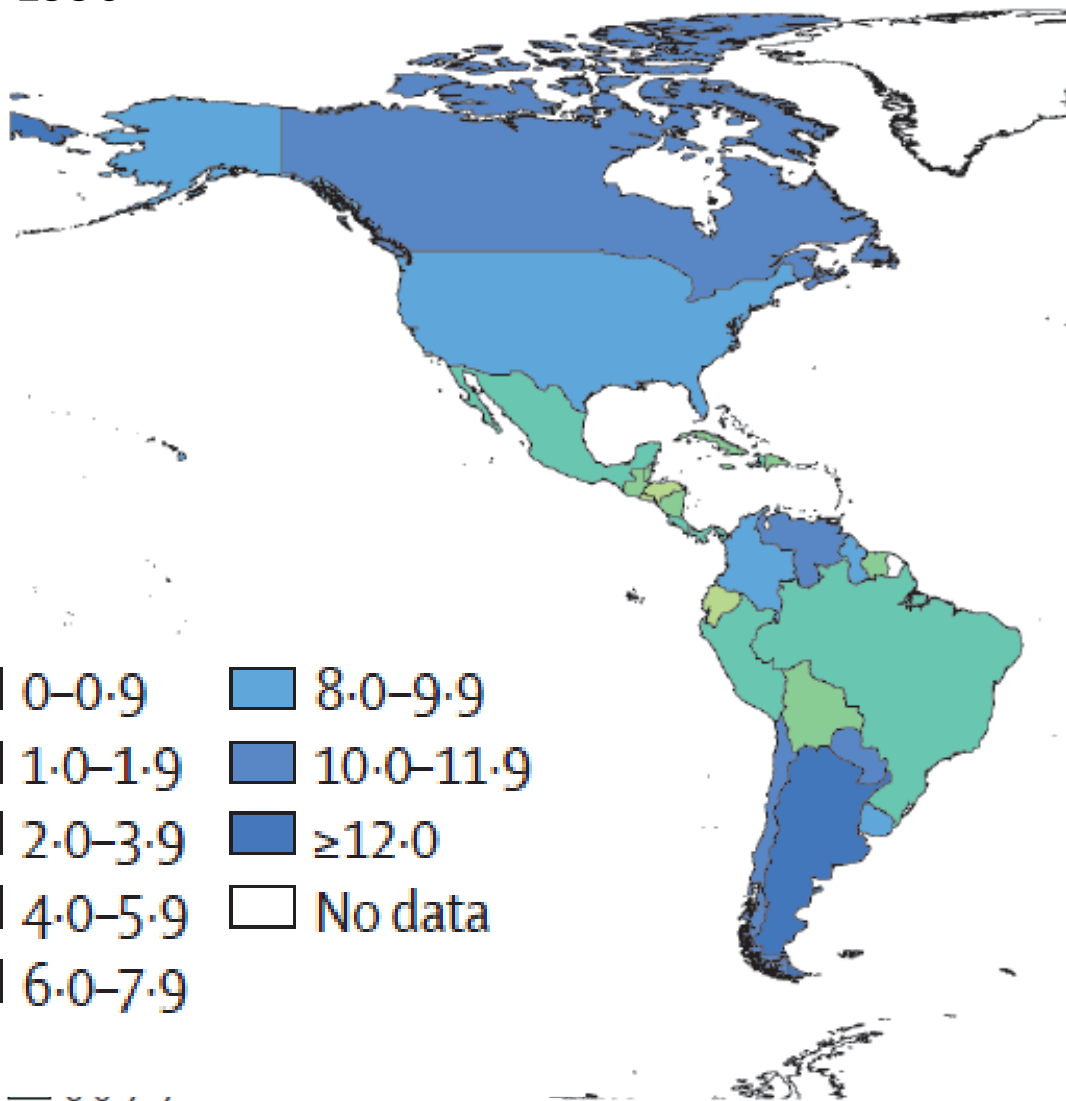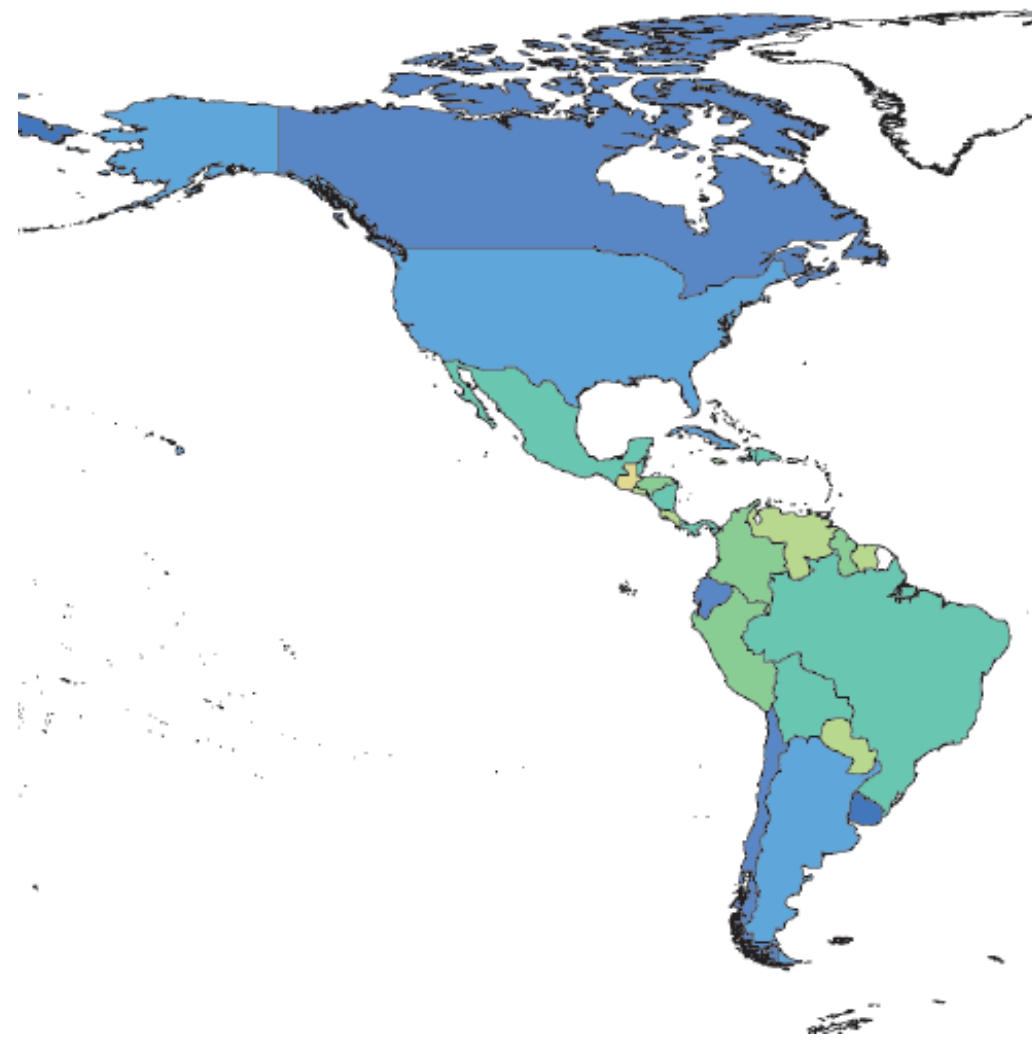
# Biggest relative changes in APC in the American region

Decreases

Venezuela (-38%)

Guatemala (-27%)

Peru (-24%)

Increases

Trinidad and Tobago (+31%)

Dominica (+25%)

Saint Vincent and the Grenadines (+23%)

Between 2010 and 2017, out of the three most populous countries, two decreased their alcohol intake (Brazil: -16%; Mexico: -2%) while one increased their alcohol intake (United States of America: +5%).
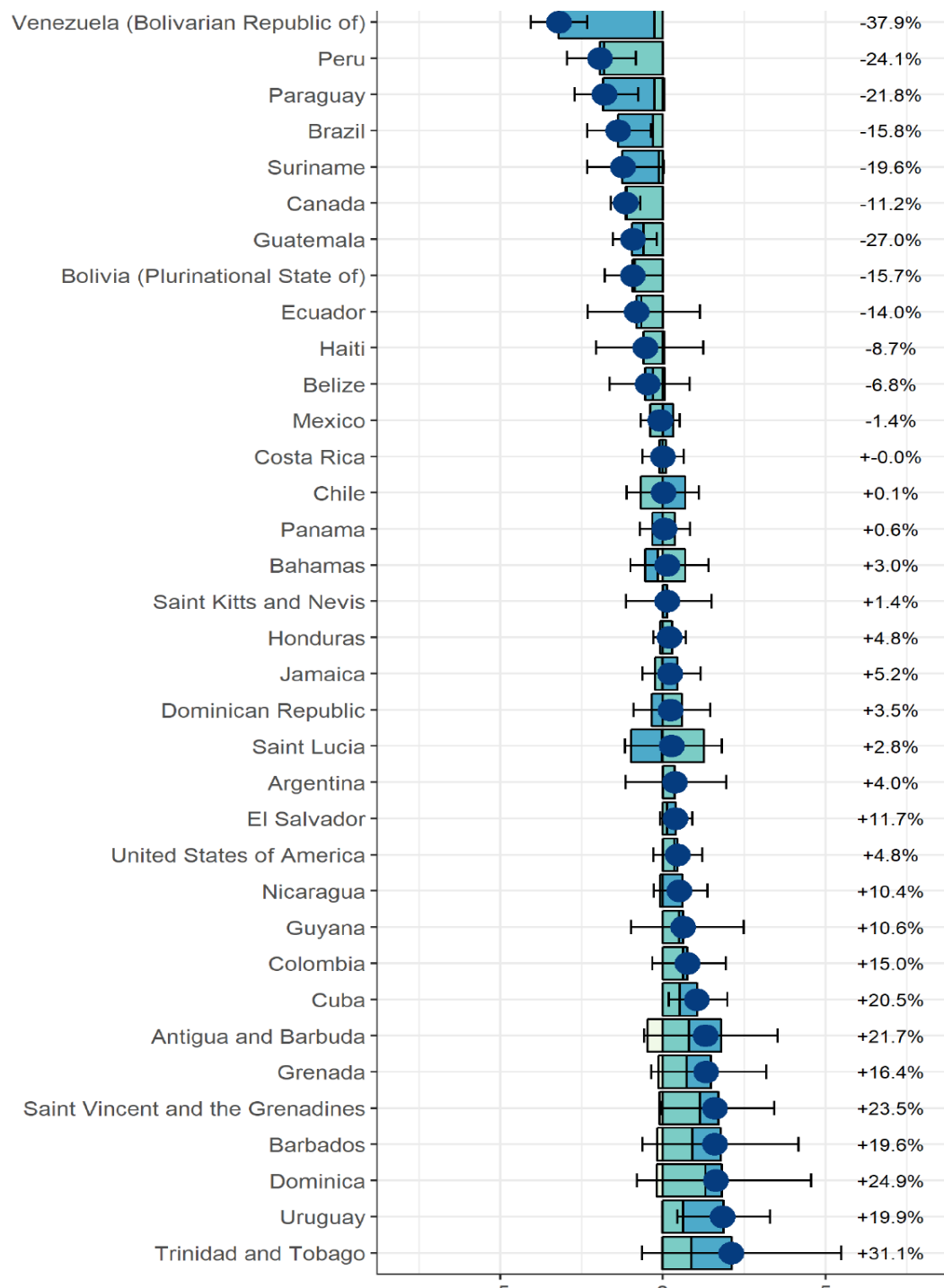
Changes in APC 2010 – 2017 in detail

APC change between 2010 and 2017
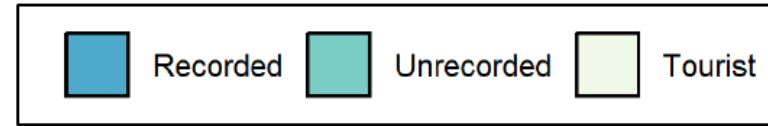
Recorded | Unrecorded | Tourist

- Almost half of the countries increased, and half decreased the level of consumption
- The overall effect was a decrease from 8.2 litres to 7.9 litres

| Country | Change |
|---|---|
| Venezuela (Bolivarian Republic of) | -37.9% |
| Peru | -24.1% |
| Paraguay | -21.8% |
| Brazil | -15.8% |
| Suriname | -19.6% |
| Canada | -11.2% |
| Guatemala | -27.0% |
| Bolivia (Plurinational State of) | -15.7% |
| Ecuador | -14.0% |
| Haiti | -8.7% |
| Belize | -6.8% |
| Mexico | -1.4% |
| Costa Rica | +-0.0% |
| Chile | +0.1% |
| Panama | +0.6% |
| Bahamas | +3.0% |
| Saint Kitts and Nevis | +1.4% |
| Honduras | +4.8% |
| Jamaica | +5.2% |
| Dominican Republic | +3.5% |
| Saint Lucia | +2.8% |
| Argentina | +4.0% |
| El Salvador | +11.7% |
| United States of America | +4.8% |
| Nicaragua | +10.4% |
| Guyana | +10.6% |
| Colombia | +15.0% |
| Cuba | +20.5% |
| Antigua and Barbuda | +21.7% |
| Grenada | +16.4% |
| Saint Vincent and the Grenadines | +23.5% |
| Barbados | +19.6% |
| Dominica | +24.9% |
| Uruguay | +19.9% |
| Trinidad and Tobago | +31.1% |

## Changes in APC 1990 – 2017 in detail

APC change between 1990 and 2017

Legend: Recorded, Unrecorded, Tourist
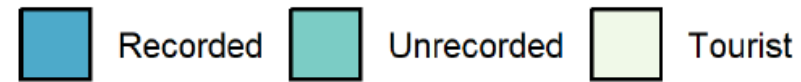
- Again, almost half of the countries increased, and half decreased the level of consumption
- The overall effect was a decrease from 8.5 litres to 7.9 litres

# Adult per capita alcohol consumption 1990 – 2030 (Manthey et al., Lancet 2019)

Relative stability in PAHO compared to global increases!
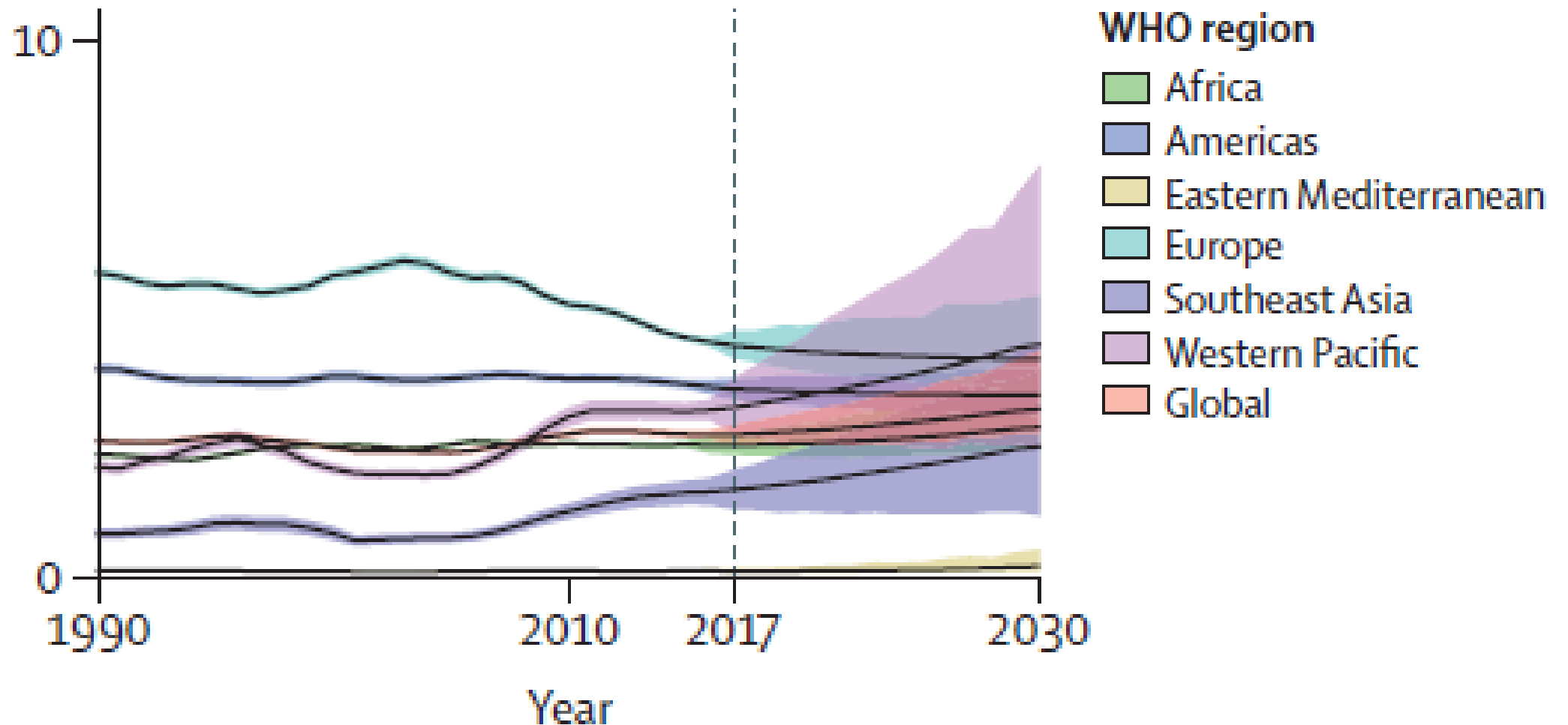
# Overall effect: small reductions, but 10% not reached
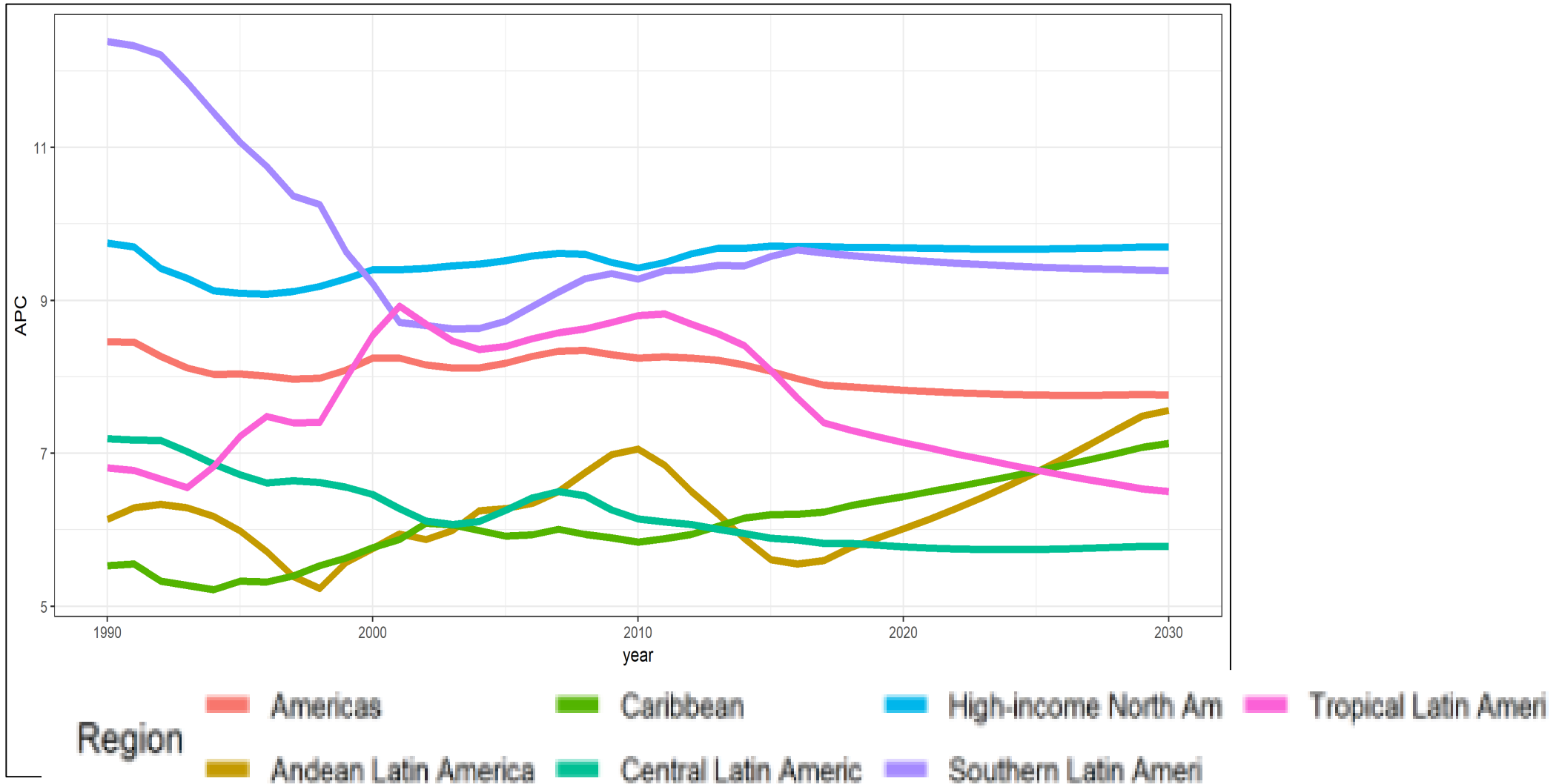
# Other indicators

# Development of drinking status and heavy drinkers in the Americas and globally 1990-2030

| Country | HED change |
|---|---|
| Venezuela (Bolivarian Republic of) | -7.8% |
| United States of America | -5.0% |
| Canada | -3.8% |
| Bahamas | -0.6% |
| Brazil | -0.4% |
| Saint Lucia | -0.1% |
| Paraguay | -0.1% |
| Belize | +0.1% |
| Haiti | +0.6% |
| Guatemala | +2.0% |
| Saint Kitts and Nevis | +1.0% |
| Honduras | +2.9% |
| Jamaica | +2.4% |
| El Salvador | +3.2% |
| Barbados | +2.5% |
| Nicaragua | +5.0% |
| Ecuador | +2.4% |
| Bolivia (Plurinational State of) | +3.6% |
| Guyana | +9.6% |
| Mexico | +5.5% |
| Saint Vincent and the Grenadines | +7.5% |
| Peru | +4.3% |
| Dominica | +7.0% |
| Grenada | +6.3% |
| Costa Rica | +8.1% |
| Colombia | +9.0% |
| Trinidad and Tobago | +5.9% |
| Suriname | +12.4% |
| Dominican Republic | +8.8% |
| Cuba | +8.3% |
| Antigua and Barbuda | +8.4% |
| Chile | +10.8% |
| Argentina | +14.9% |
| Uruguay | +20.7% |
| Panama | +22.6% |

HED change between 2010 and 2017

# Details of heavy episodic drinking 2010-2017

- Decreases in the large countries and increases in smaller countries almost cancelled out with HED overall stable at 25%

# Warning signs

Alcohol has been increasing in impact as a risk factor!

# Resulting trends (GBD 2017)



## C) Both sexes

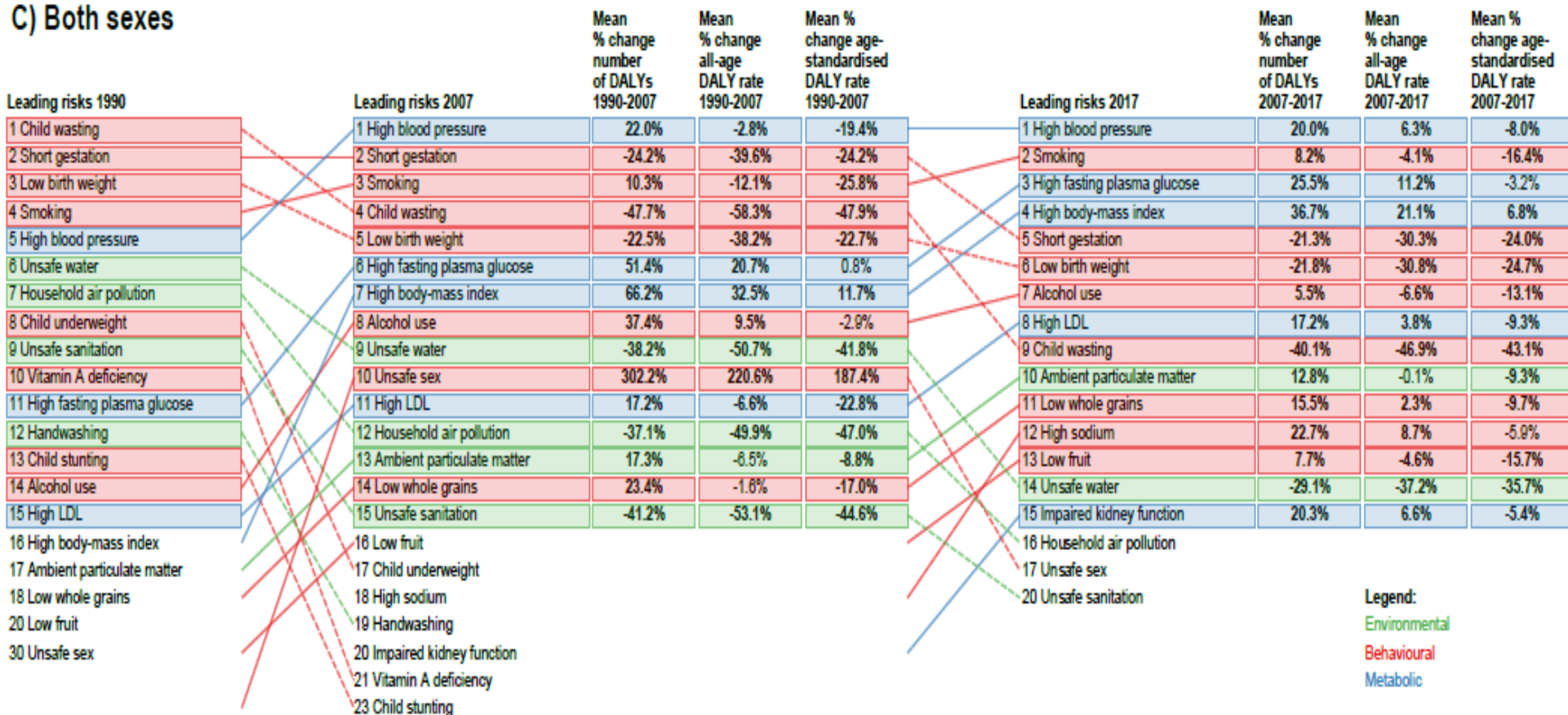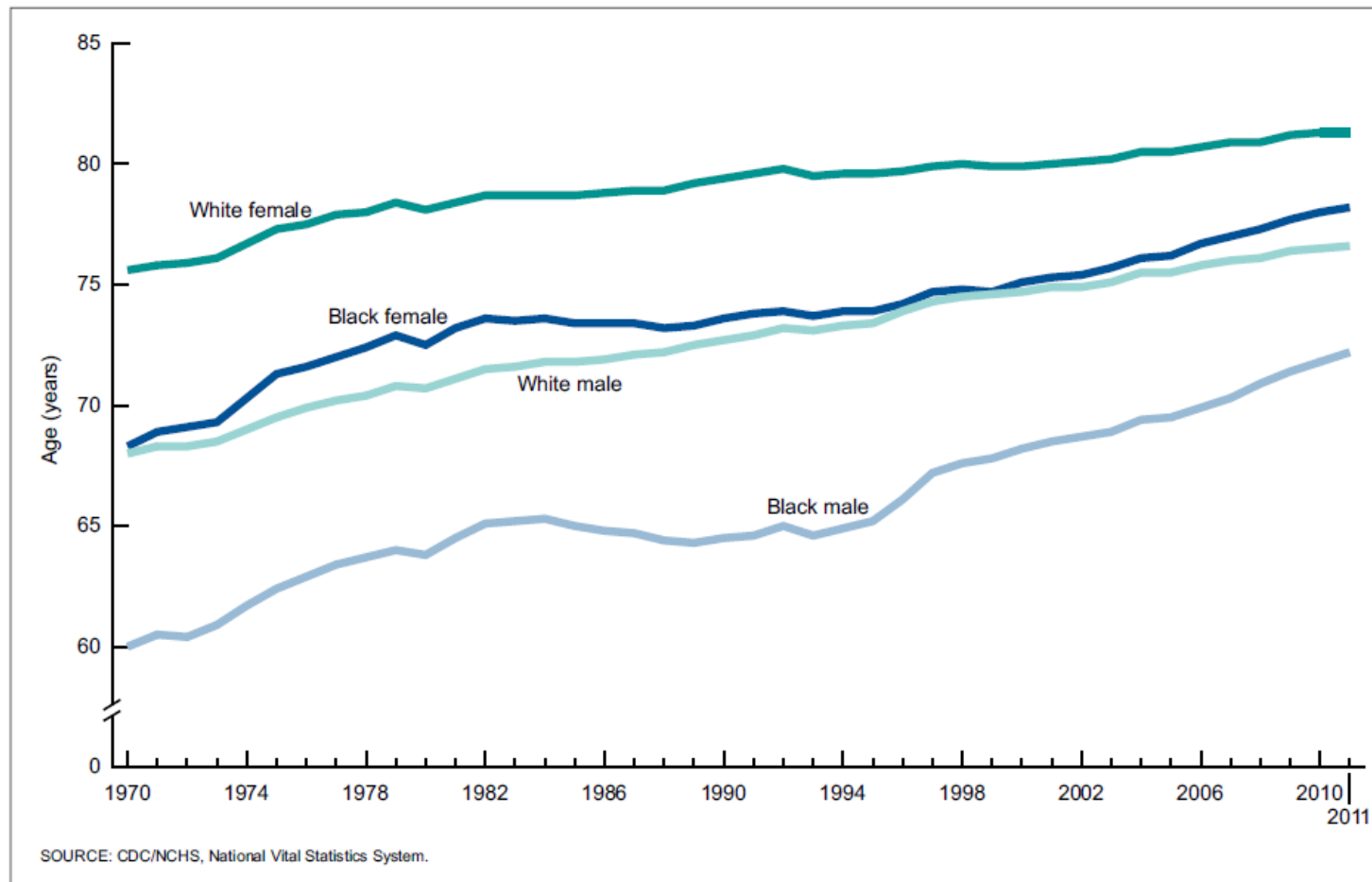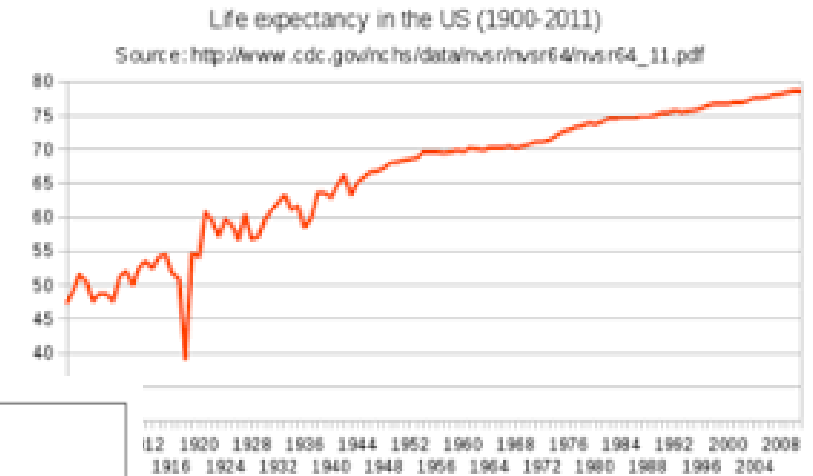| Leading risks 1990 | Leading risks 2007 | Mean % change number of DALYs 1990-2007 | Mean % change all-age DALY rate 1990-2007 | Mean % change age-standardised DALY rate 1990-2007 | Leading risks 2017 | Mean % change number of DALYs 2007-2017 | Mean % change all-age DALY rate 2007-2017 | Mean % change age-standardised DALY rate 2007-2017 |
|---|---|---|---|---|---|---|---|---|
| 1 Child wasting | 1 High blood pressure | 22.0% | -2.8% | -19.4% | 1 High blood pressure | 20.0% | 6.3% | -8.0% |
| 2 Short gestation | 2 Short gestation | -24.2% | -39.6% | -24.2% | 2 Smoking | 8.2% | -4.1% | -16.4% |
| 3 Low birth weight | 3 Smoking | 10.3% | -12.1% | -25.8% | 3 High fasting plasma glucose | 25.5% | 11.2% | -3.2% |
| 4 Smoking | 4 Child wasting | -47.7% | -58.3% | -47.9% | 4 High body-mass index | 36.7% | 21.1% | 6.8% |
| 5 High blood pressure | 5 Low birth weight | -22.5% | -38.2% | -22.7% | 5 Short gestation | -21.3% | -30.3% | -24.0% |
| 6 Unsafe water | 6 High fasting plasma glucose | 51.4% | 20.7% | 0.8% | 6 Low birth weight | -21.8% | -30.8% | -24.7% |
| 7 Household air pollution | 7 High body-mass index | 66.2% | 32.5% | 11.7% | 7 Alcohol use | 5.5% | -6.6% | -13.1% |
| 8 Child underweight | 8 Alcohol use | 37.4% | 9.5% | -2.9% | 8 High LDL | 17.2% | 3.8% | -9.3% |
| 9 Unsafe sanitation | 9 Unsafe water | -38.2% | -50.7% | -41.8% | 9 Child wasting | -40.1% | -46.9% | -43.1% |
| 10 Vitamin A deficiency | 10 Unsafe sex | 302.2% | 220.6% | 187.4% | 10 Ambient particulate matter | 12.8% | -0.1% | -9.3% |
| 11 High fasting plasma glucose | 11 High LDL | 17.2% | -6.6% | -22.8% | 11 Low whole grains | 15.5% | 2.3% | -9.7% |
| 12 Handwashing | 12 Household air pollution | -37.1% | -49.9% | -47.0% | 12 High sodium | 22.7% | 8.7% | -5.9% |
| 13 Child stunting | 13 Ambient particulate matter | 17.3% | -6.5% | -8.8% | 13 Low fruit | 7.7% | -4.6% | -15.7% |
| 14 Alcohol use | 14 Low whole grains | 23.4% | -1.6% | -17.0% | 14 Unsafe water | -29.1% | -37.2% | -35.7% |
| 15 High LDL | 15 Unsafe sanitation | -41.2% | -53.1% | -44.6% | 15 Impaired kidney function | 20.3% | 6.6% | -5.4% |
| 16 High body-mass index | 16 Low fruit | | | | 16 Household air pollution | | | |
| 17 Ambient particulate matter | 17 Child underweight | | | | 17 Unsafe sex | | | |
| 18 Low whole grains | 18 High sodium | | | | 20 Unsafe sanitation | | | |
| 20 Low fruit | 19 Handwashing | | | | | | | |
| 30 Unsafe sex | 20 Impaired kidney function | | | | | | | |
| | 21 Vitamin A deficiency | | | | | | | |
| | 23 Child stunting | | | | | | | |

Legend:
Environmental
Behavioural
Metabolic

# Trends in life expectancy in the US – going up forever?



Life expectancy in the US (1900-2011)
Source: http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_11.pdf



SOURCE: CDC/NCHS, National Vital Statistics System.

Above since 1900; left from 1970 to 1990

# Causes of death responsible (Case & Deaton, 2015,2017; Rehm & Probst, 2018)

**Poisoning/overdose**

- Opioids (prescription opioids, heroin)
- Alcohol
- Other pharmaceutical

**Suicide**

- Alcohol
- Illegal drugs

**Liver cirrhosis**

- In the Americas >60% alcohol-attributable
- Illegal drugs → HCV

The overall losses in life expectancy in the last year are mainly due to the same reasons!

| Changes 2010 -2014 US | Rate 2010 | 2014 | % change | Rank in 2014 |
|---|---|---|---|---|
| All causes | 799.5 | 823.7 | 3.0 | |
| Diseases of heart | 193.6 | 192.7 | -0.5 | 1 |
| Malignant neoplasms | 186.2 | 185.6 | -0.3 | 2 |
| Chronic lower respiratory diseases | 44.7 | 46.1 | 3.1 | 3 |
| Unintentional injury | 39.1 | 42.6 | 9.0 | 4 |
| Cerebrovascular diseases | 41.9 | 41.7 | -0.5 | 5 |
| Alzheimer's disease | 27.0 | 29.3 | 8.5 | 6 |
| Diabetes mellitus | 22.4 | 24 | 7.1 | 7 |
| Influenza and pneumonia | 16.2 | 17.3 | 6.8 | 8 |
| Nephritis, nephrosis | 16.3 | 15.1 | -7.4 | 9 |
| Intentional self-harm (suicide) | 12.4 | 13.4 | 8.1 | 10 |
| Septicemia | 11.3 | 12.2 | 8.0 | 11 |
| Chronic liver disease and cirrhosis | 10.3 | 12.0 | 16.5 | 12 |
| Essential hypertension | 8.6 | 9.5 | 10.5 | 13 |
| Parkinson's disease | 7.1 | 8.2 | 15.5 | 14 |
| Pneumonitis due to solids and liquids | 5.5 | 5.9 | 7.3 | 15 |
| 100% drug-induced causes | 13.1 | 15.6 | 19.1 | |
| 100% alcohol-induced causes | 8.3 | 9.6 | 15.7 | |

# And the same statistics for 2010 and 2015

**Table 1.** *Age-standardized years of potential life lost (YLL) and proportional change for selected causes of death in the United States 2010 and 2015. Adapted from (10).*

| Cause of death | YLL 2010 | YLL 2015 | Proportional change |
|---|---|---|---|
| All causes | 6,643 | 6,758 | 1.7% |
| **Causes with decreased YLL** | | | |
| Malignant neoplasms | 1,396 | 1,283 | -8.1% |
| Diseases of the heart | 972 | 957 | -1.6% |
| Cerebrovascular diseases | 169 | 161 | -4.9% |
| **Causes with increased YLL** | | | |
| Poisoning and other unintentional injuries | 1,025 | 1,172 | 14.3% |
| Suicide | 385 | 429 | 11.3% |
| Homicide | 239 | 252 | 5.4% |
| Liver disease and cirrhosis | 164 | 190 | 16.1% |
| Diabetes mellitus | 158 | 176 | 11.4% |

How alcohol use impacts on all kinds of dementia -> consequences for life expectancy

Men

Women

60

50

40

57% of all early onset dementia either had an alcohol-related brain damage or were diagnosed with alcohol use disorders (Schwarzinger et al., in preparation; based on French hospital data bank!

■ Alcohol-related brain damage

■ Other alcohol use disorders

■ Not recorded

3000  2500  2000  1500  1000  500  0  500  1000  1500  2000  2500
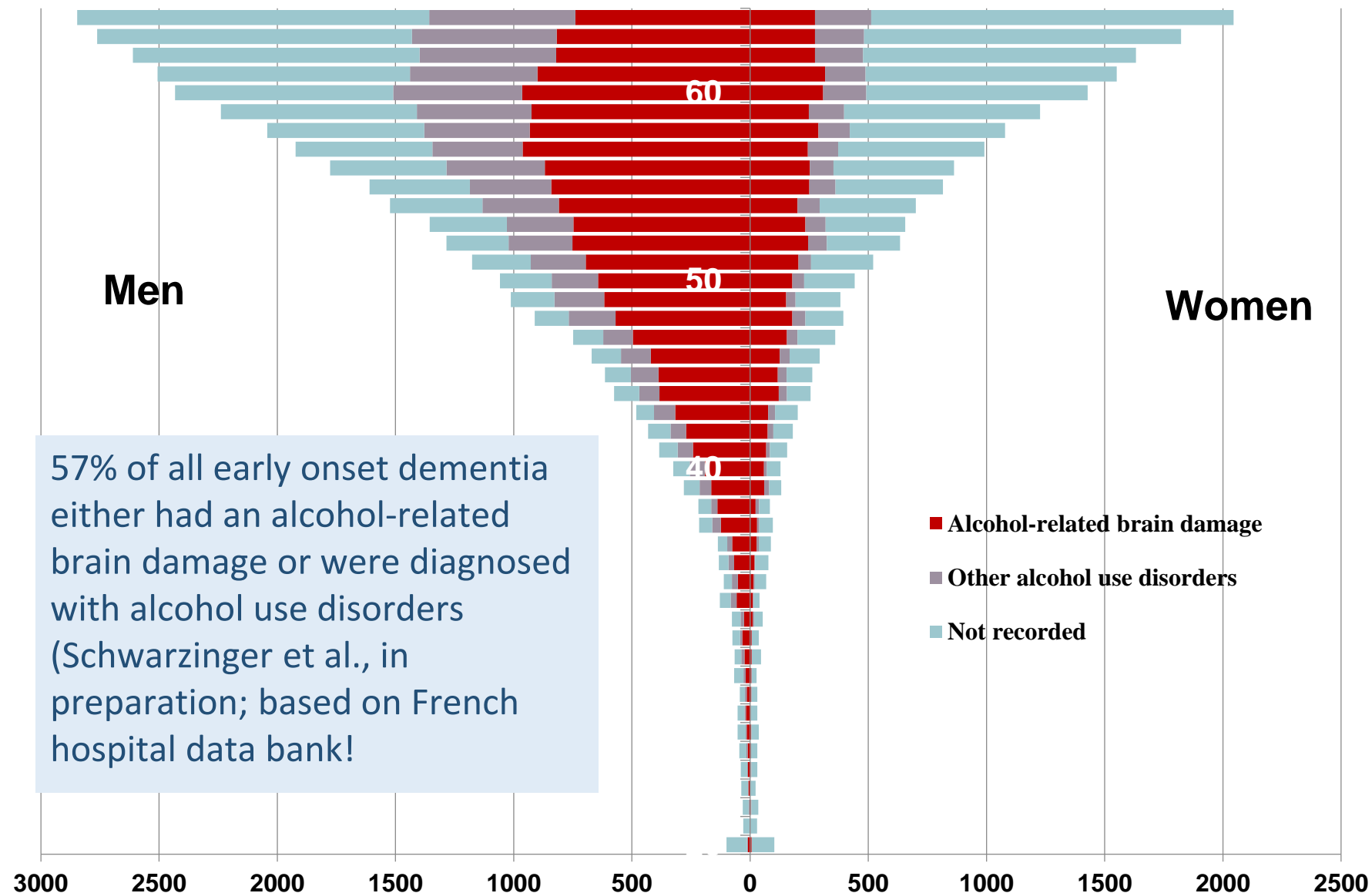
# Conclusion

- Alcohol use continues to cause a high burden of mortality and disease in the Americas (about 375 thousand deaths per year!).

- The Americas are the region of the world with the second-highest consumption and the second-highest alcohol-attributable fractions (5.5%).

- However, alcohol-attributable burden of disease indicators went down over the past 5 years, but not as spectacular as in some parts of Europe (there due to alcohol policy).

- There are signs that these developments will come to a halt, and burden will increase if there are no alcohol policy actions!