

How alcohol causes inequality and what to do to improve the public health?

J. Rehm¹⁻⁶ & C. Probst^{1,2,4}

1 Institute for Mental Health Policy Research, Centre for Addiction and Mental Health (CAMH), Canada

2 WHO Collaborating Centre, CAMH, Canada

3 Institute of Medical Science, University of Toronto (UoT), Canada

4 Institute for Clinical Psychology and Psychotherapy, Technische Universität Dresden, Germany

5 Department of Psychiatry, UoT, Canada

6 Dalla Lana School of Public Health, UoT, Canada



SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD

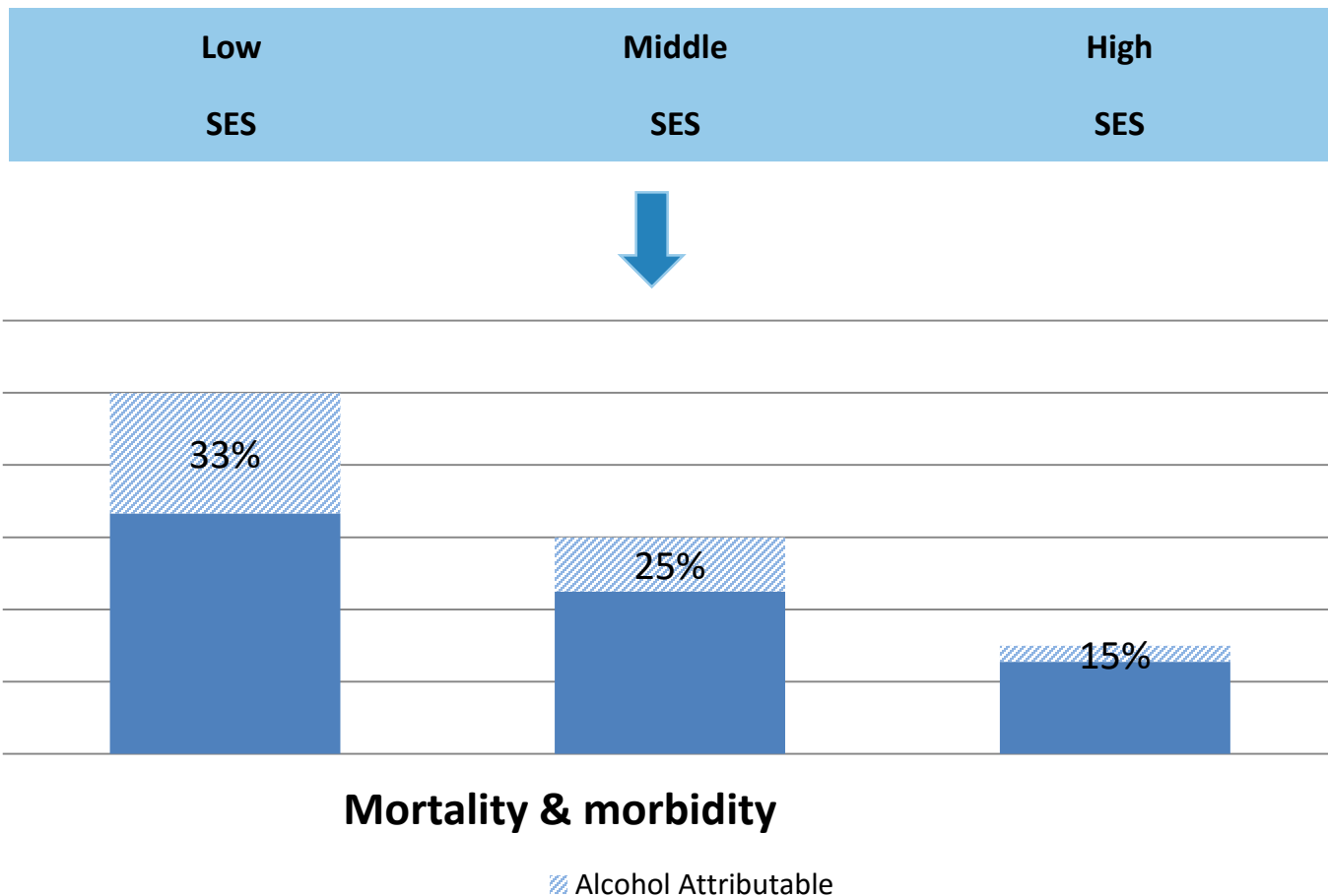


Lots of potential links between alcohol consumption, attributable harm and sustainable development goals, but inequality is a major one

Alcohol is one key determinant for health and social inequalities

- Health: morbidity, mortality, life expectancy
 - Alcohol-attributable health burden is proportionally higher in lower SES,
 - due to exposure,
 - due to different causes of deaths, and
 - due to differential risk relations including but not limited interactions.
- Social: stigmatization, downward social mobility

This contribution gives some examples on the role of alcohol in mortality and then discusses larger questions about interventions.



Effects:

- Binge drinking
- Association with other risk factors → interaction
- Association with other determinants (e.g. health utilization) -> interaction

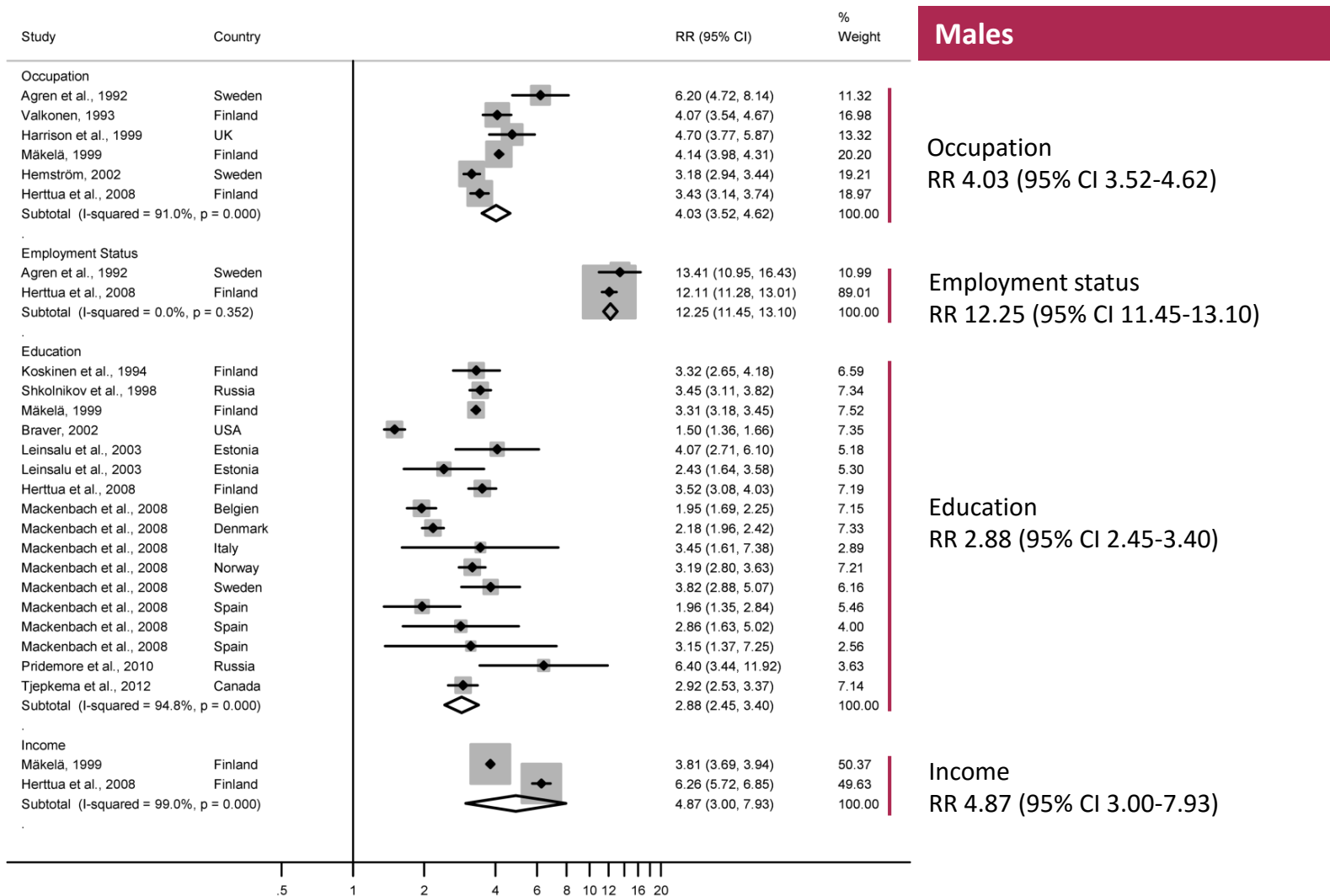
The impact of alcohol on unequal mortality

Lower socioeconomic status leads to 1.5–2-fold higher mortality for alcohol-attributable causes compared with all causes => a meta-analysis (Probst et al., 2014, IJE)

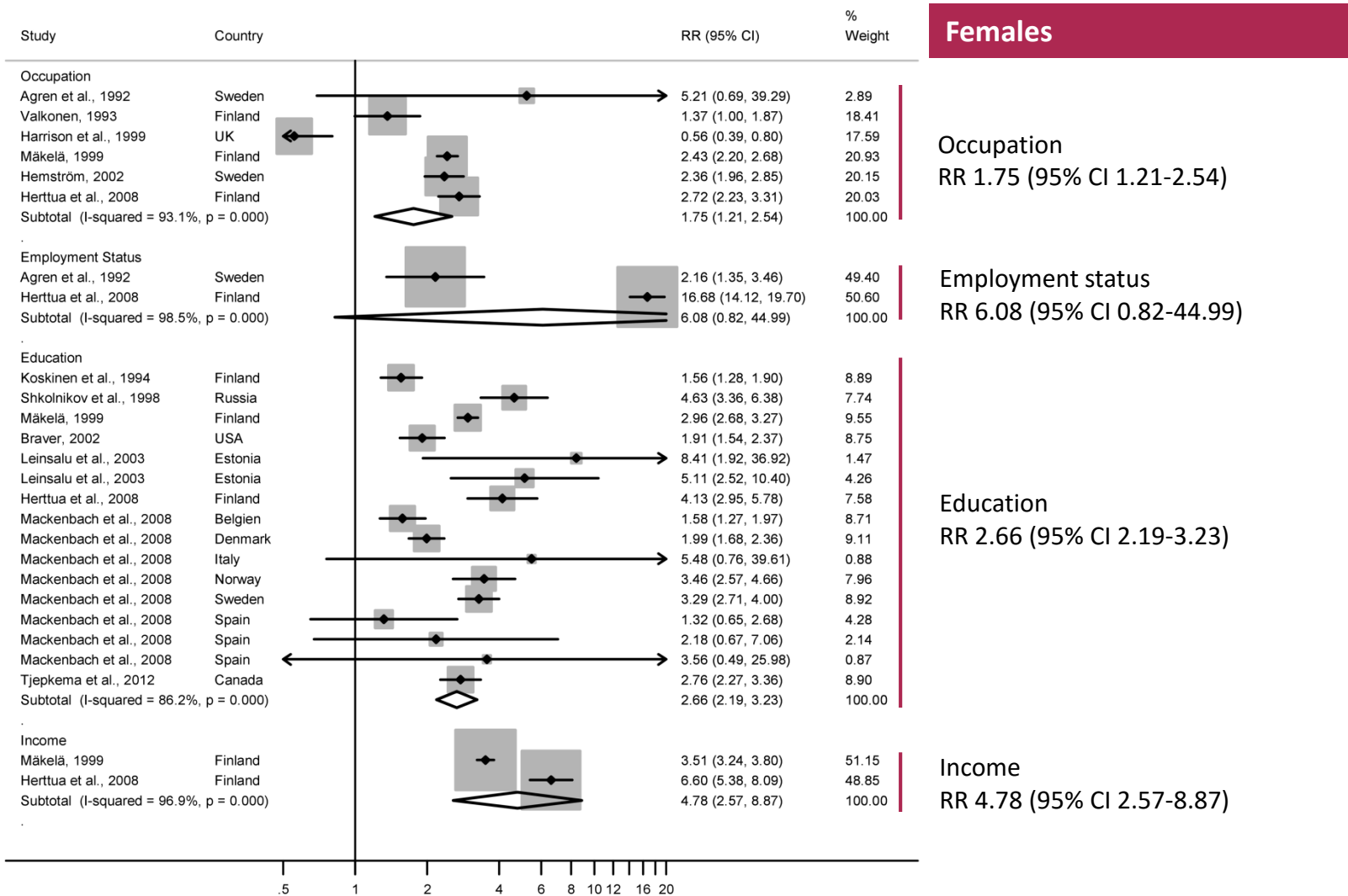
Socioeconomic inequality in alcohol-attributable mortality

- A systematic literature search identified 19 studies from 14 countries (mainly high income)
- The relative risk (RR) of dying from alcohol-attributable causes of death comparing low to high socioeconomic status was summarized in random effects meta-analyses by sex
- A relative risk ratio (RRR) was calculated comparing the RR of alcohol-attributable to the RR of all-cause mortality (15 studies with available data)

Persons of low socioeconomic status (SES) have an increased risk of dying from alcohol-attributable causes of death



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Females

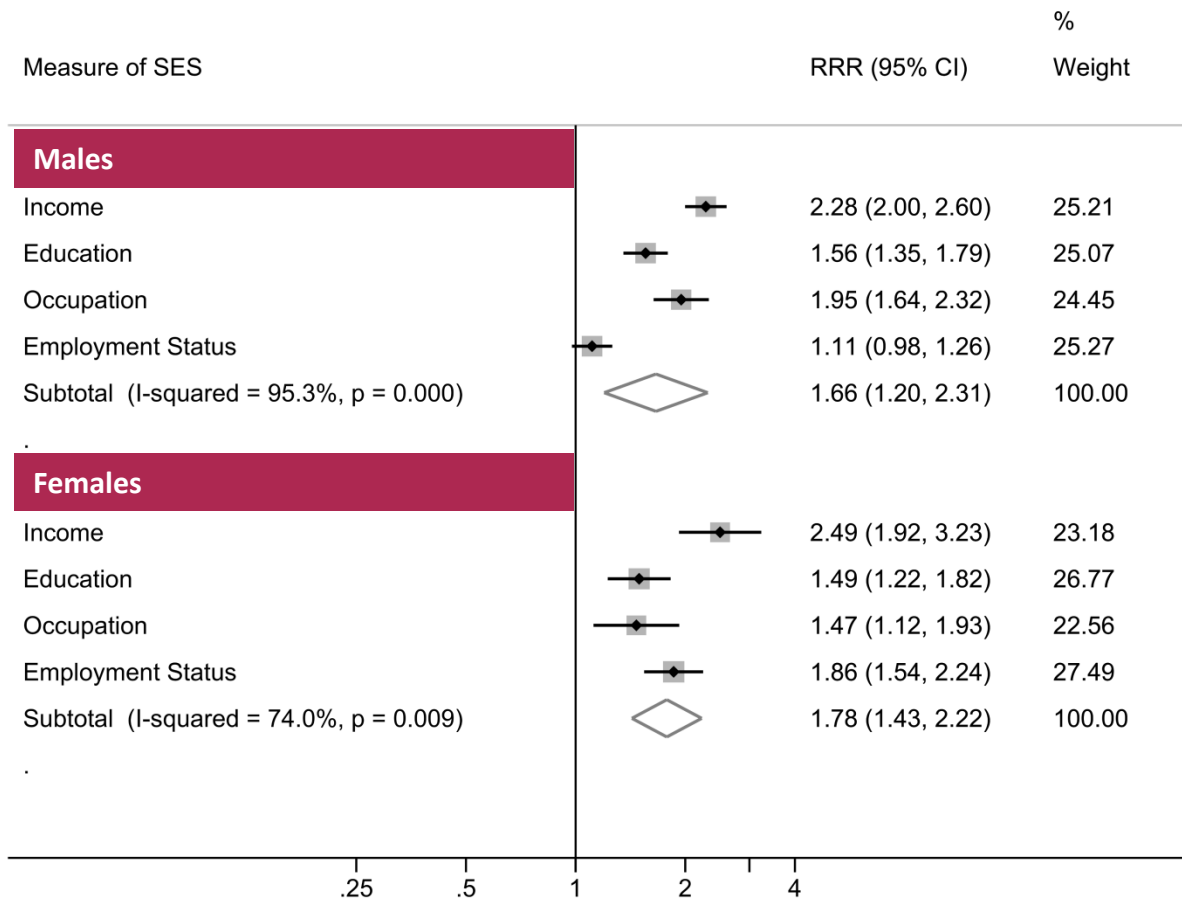
Occupation
RR 1.75 (95% CI 1.21-2.54)

Employment status
RR 6.08 (95% CI 0.82-44.99)

Education
RR 2.66 (95% CI 2.19-3.23)

Income
RR 4.78 (95% CI 2.57-8.87)

The socioeconomic gap in mortality is 1.5 to 2-fold in alcohol-attributable as compared to all-cause mortality

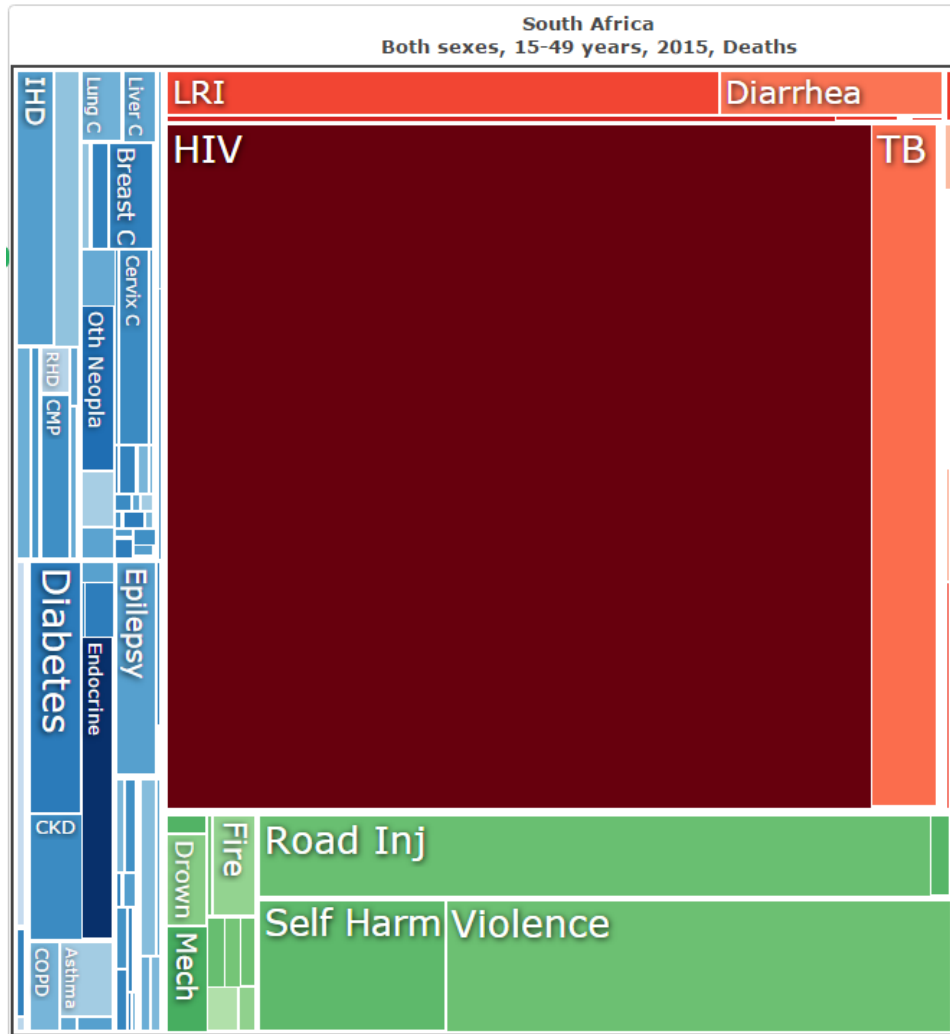


Random effects meta-analysis of pooled ratios of relative risk across measures of SES.

The impact on inequalities in South Africa

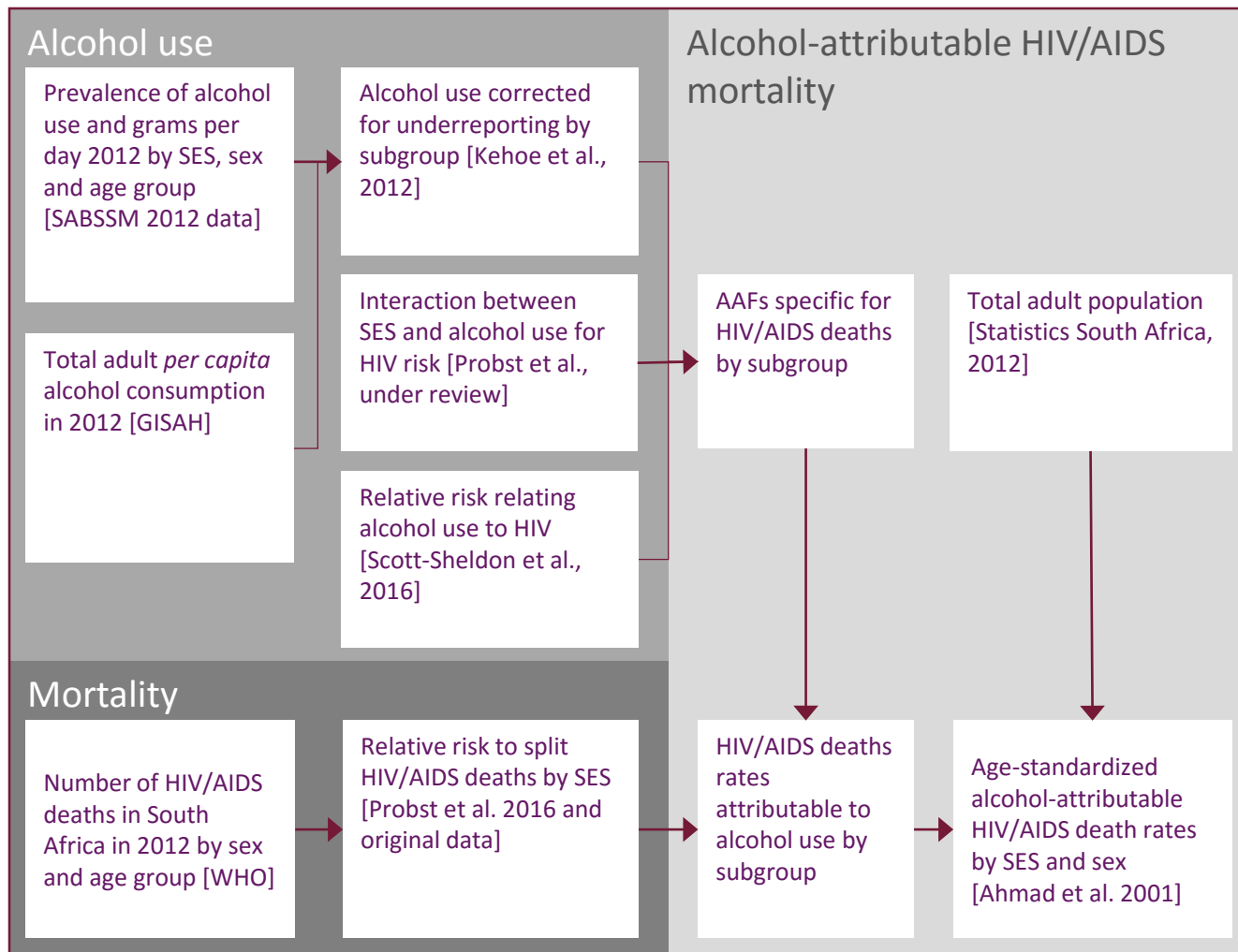
An example and some more general data

Quantifying socioeconomic differences in alcohol-attributable burden: the example of HIV/AIDS mortality in South Africa



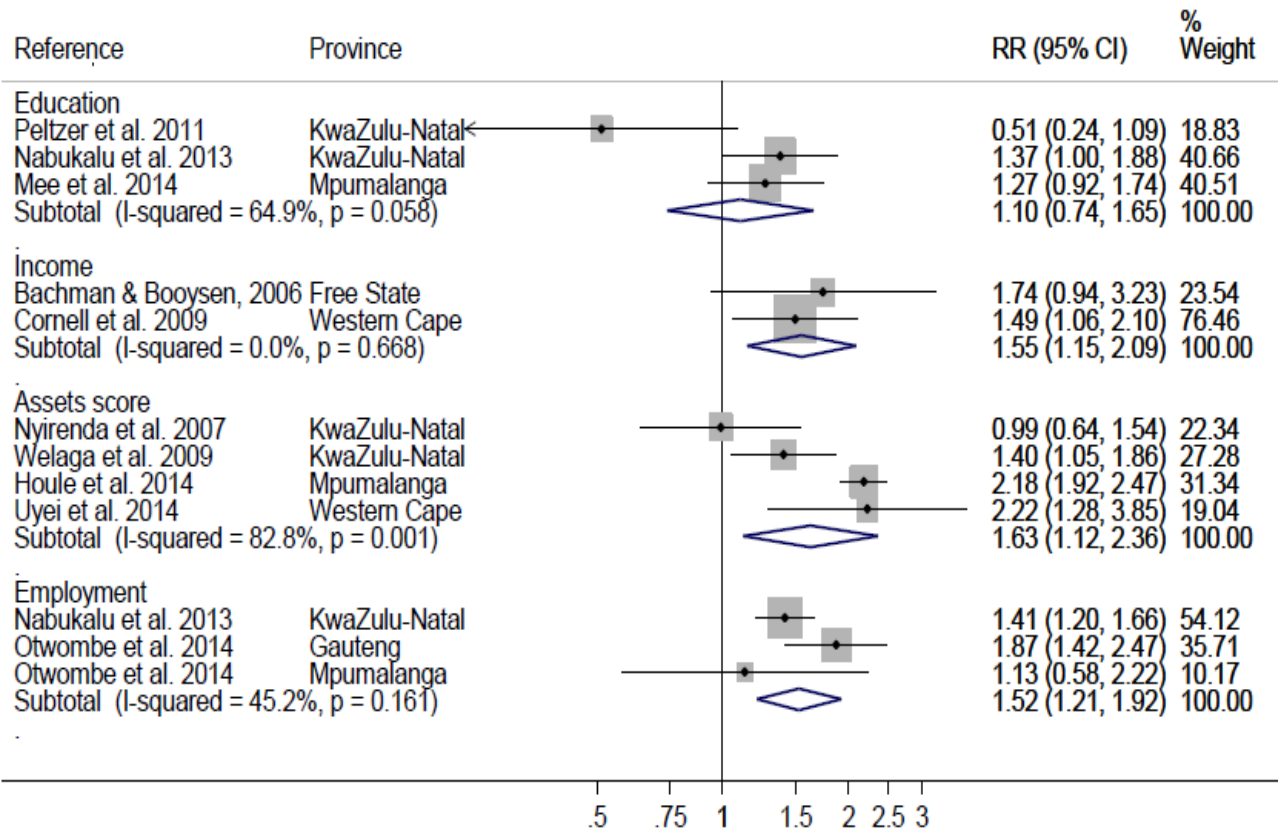
- HIV/AIDS is the most important cause of death (50% of all deaths in adults 15 to 49)
- Among adults (15 to 49) alcohol use is second most important risk factor for burden of disease
- *Per capita* consumption among drinkers is high
- Socioeconomic differences are vast with a Gini coefficient above 60

Quantifying socioeconomic differences in alcohol-attributable HIV/AIDS mortality in South Africa in 2012: Methods



- Consistent measurement of SES throughout all steps of data integrations
- SES-specific information on alcohol use, death counts, and the relative risk relating alcohol use to HIV

Quantifying to overall relative risk of dying from HIV/AIDS in low compared to high SES in South Africa



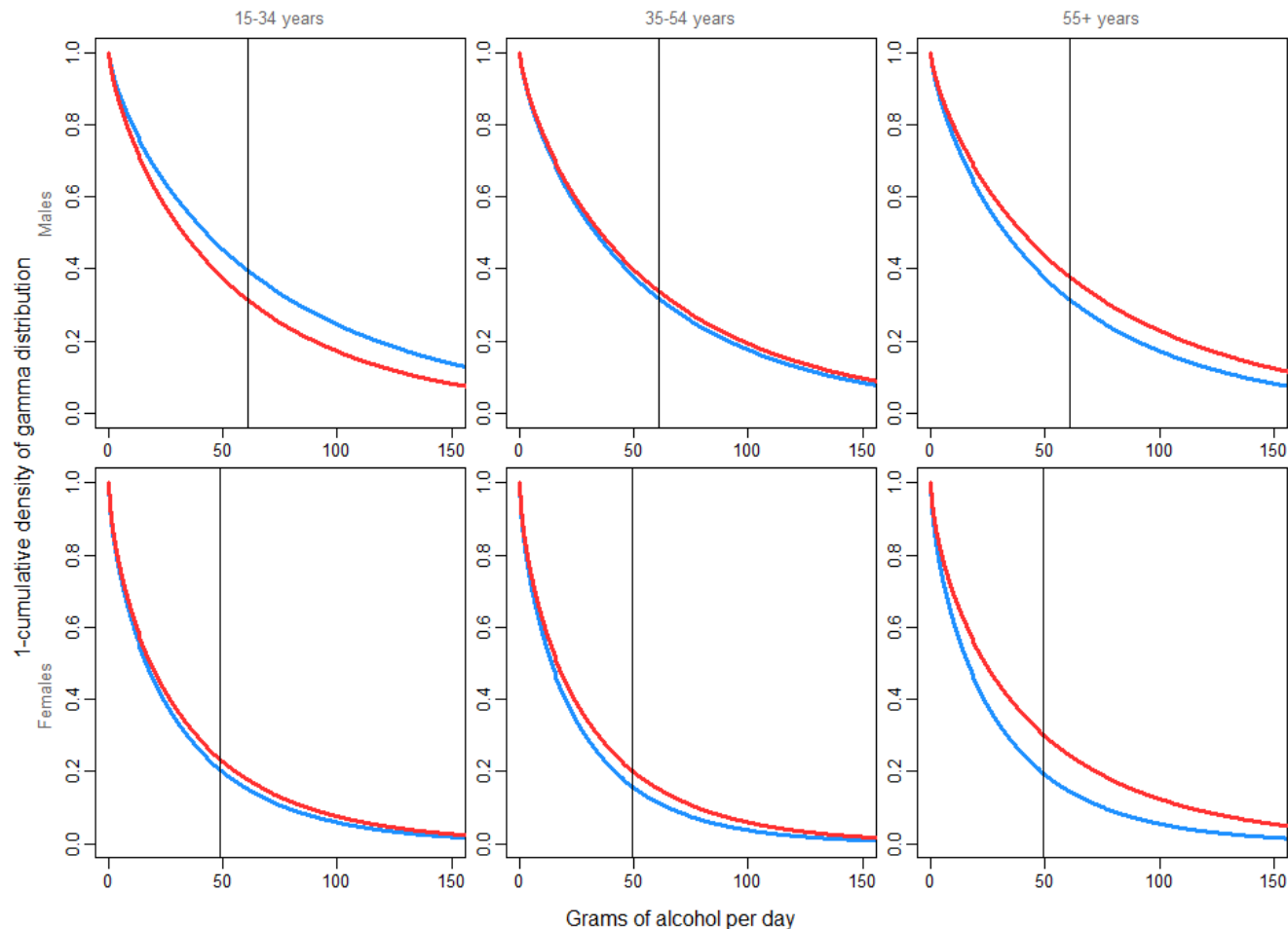
Depending on the measure of SES, persons of low SES have a 1.1 to 1.6 fold HIV/AIDS mortality risk

Measuring socioeconomic status: a multidimensional concept



- Traditional measures of SES such as education, income and or occupation have strong pitfalls as they depend on age, sex, or disclosure
- To date the most adequate measure for South Africa - and probably many other LMIC - is an asset score

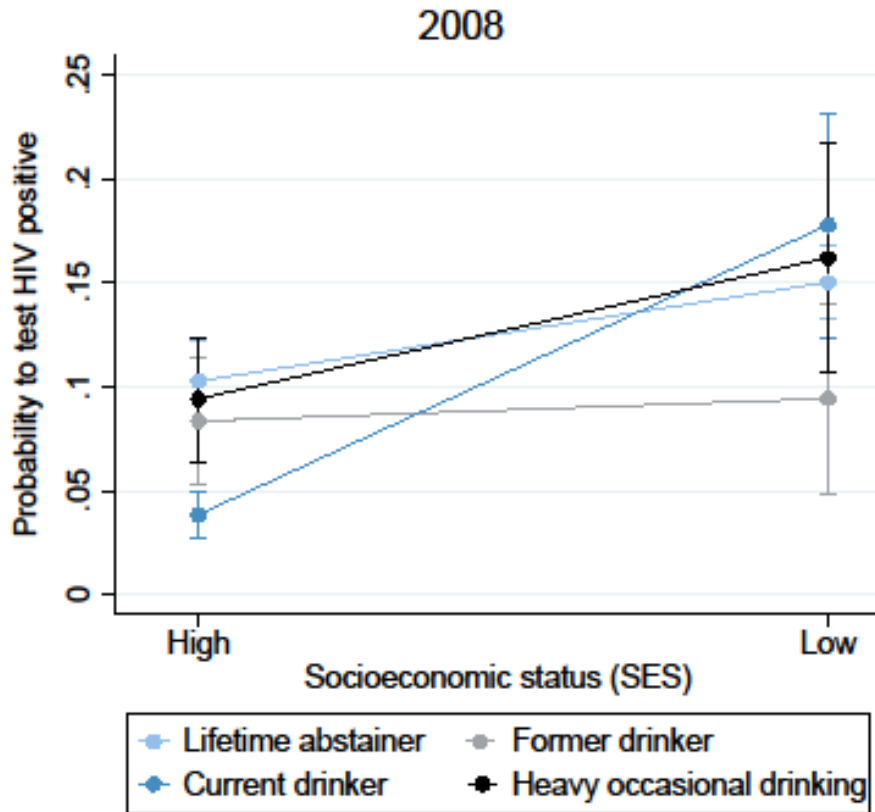
Quantifying alcohol use in different SES, age, and sex groups



- Prevalence of abstinence is higher in low SES
- Quantity of alcohol consumed among drinkers is higher in low SES

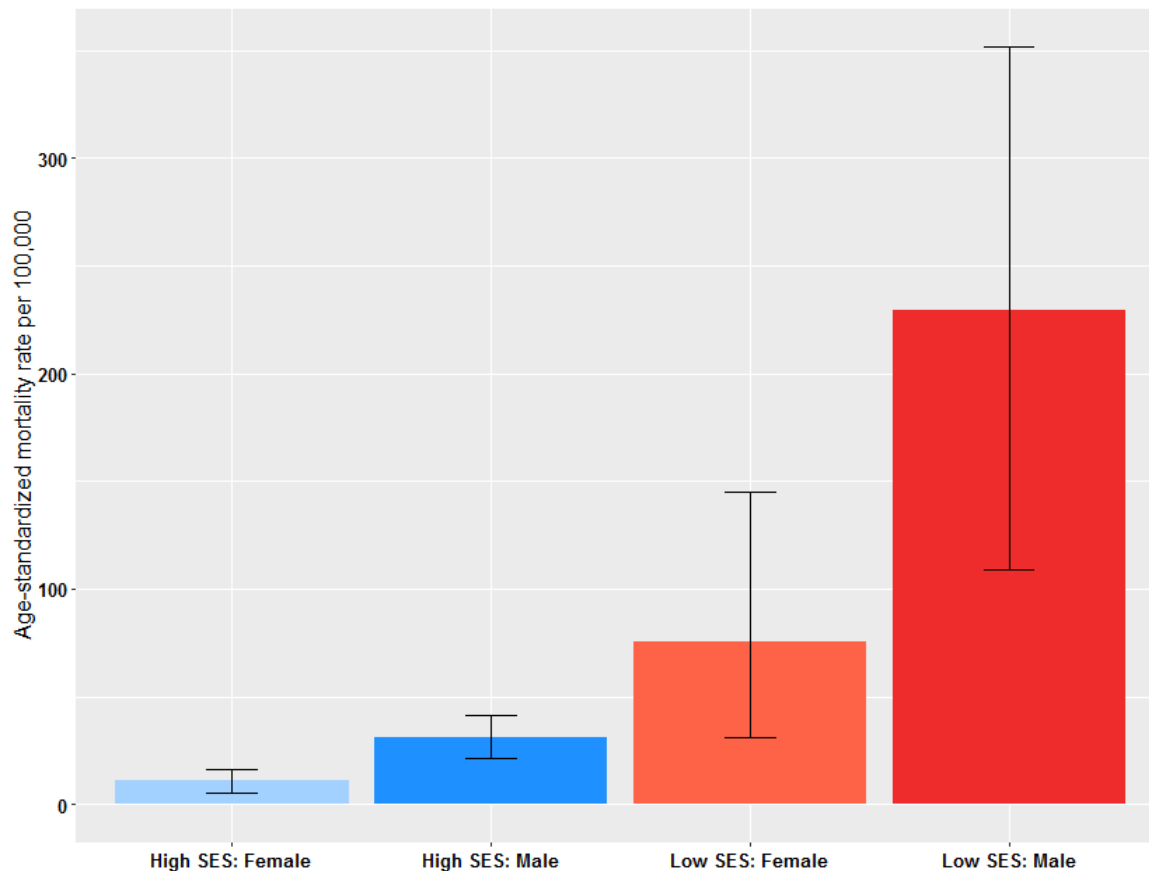
High SES
Low SES

Interactions between socioeconomic status and alcohol use have to be taken into account



- Alcohol use and a low SES interact to increase the risk of testing HIV positive
- Possible explanations are malnutrition as well as characteristics of the drinking environment

Age-standardized HIV/AIDS mortality rates attributable to alcohol use by SES and sex in South Africa in 2012



- For both sexes the mortality rate ratio is about 7
- This is considerably higher than the 1.5 fold risk for overall HIV-mortality in low vs. high SES

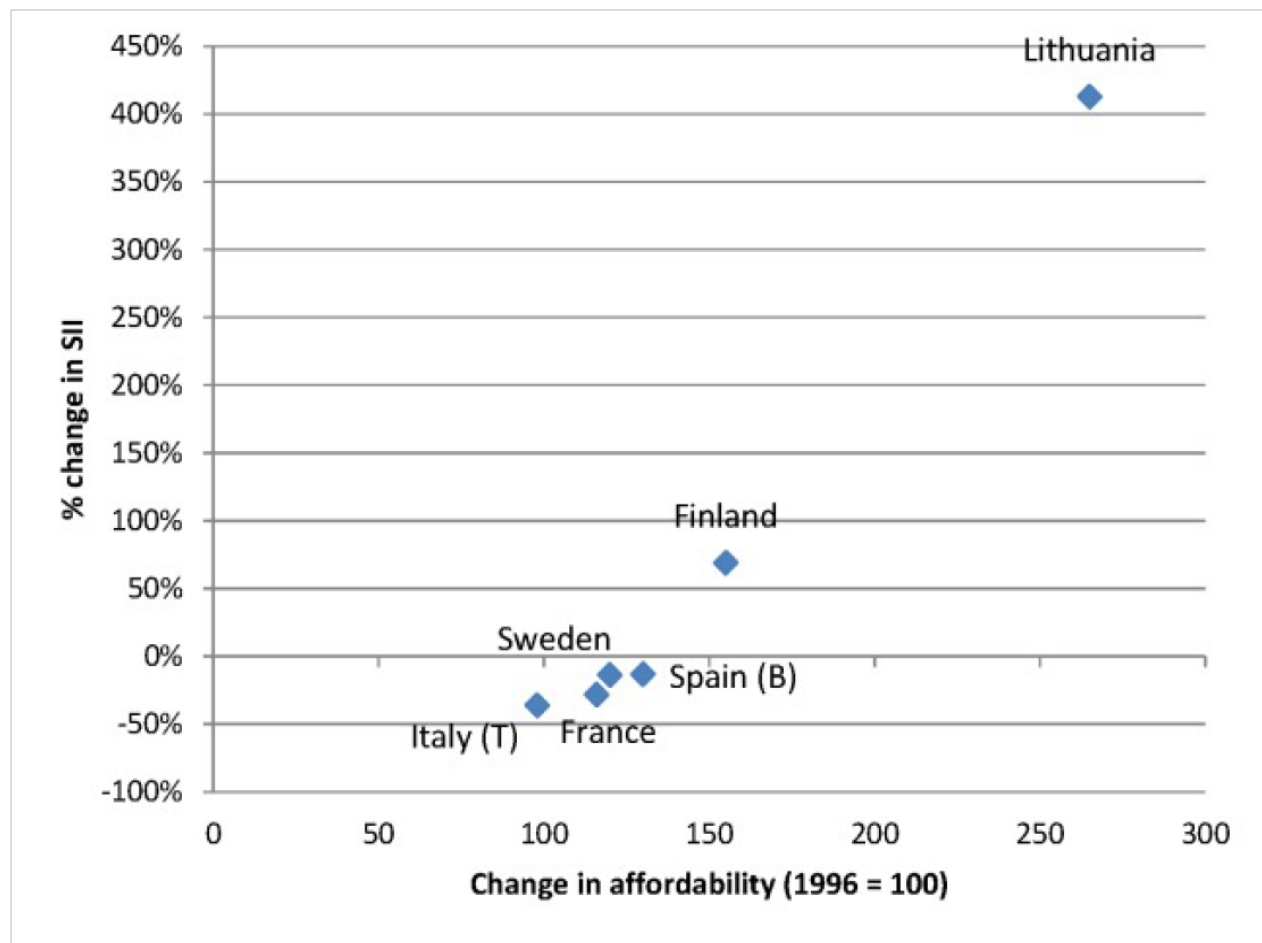
And for Europe

“... Over time, the relative inequality in alcohol-related mortality has increased in many countries, but the main change is a strong rise of absolute inequality in several countries in Eastern Europe (Hungary, Lithuania, Estonia) and Northern Europe (Finland, Denmark) because of a rapid rise in alcohol-related mortality in lower socioeconomic groups. In some of these countries, alcohol-related causes now account for 10% or more of the socioeconomic inequality in total mortality. Because our study relies on routinely collected underlying causes of death, it is likely that our results underestimate the true extent of the problem.

CONCLUSIONS:

Alcohol-related conditions play an important role in generating inequalities in total mortality in many European countries. Countering increases in alcohol-related mortality in lower socioeconomic groups is essential for reducing inequalities in mortality. Studies of why such increases have not occurred in countries like France, Switzerland, Spain, and Italy can help in developing evidence-based policies in other European countries.”

Affordability and inequality



The more affordability increased, the higher the change in absolute inequality (Mackenbach et al., 2015) → consequence: reduce affordability!

Change in alcohol affordability between 1996 and 2004 versus change in absolute inequality in alcohol-related mortality among men between ca. 1990–1994 and ca. 2005–2009.

The situation of the US now

- Stagnation in overall life expectancy, decrease in life expectancy for key groups like middle-aged white Non-Hispanics
- Decrease for main causes of death (CVD, cancer), increases for alcohol and drug-attributable mortality!
- Increase for mortality inequalities for substance-related causes of death (e.g., between 2000 and 2013 for poisoning from 4 to 7.2; for liver cirrhosis from 3.4 to 5.6, for suicide from 1.7 to 2.4! Cf. Case & Deaton, 2015)
- Overall, for the first time since WW II, life expectancy for the whole population does not increase, mainly because the poor die more and earlier, caused by substance use

Example of causes of death in white non-Hispanics in the US

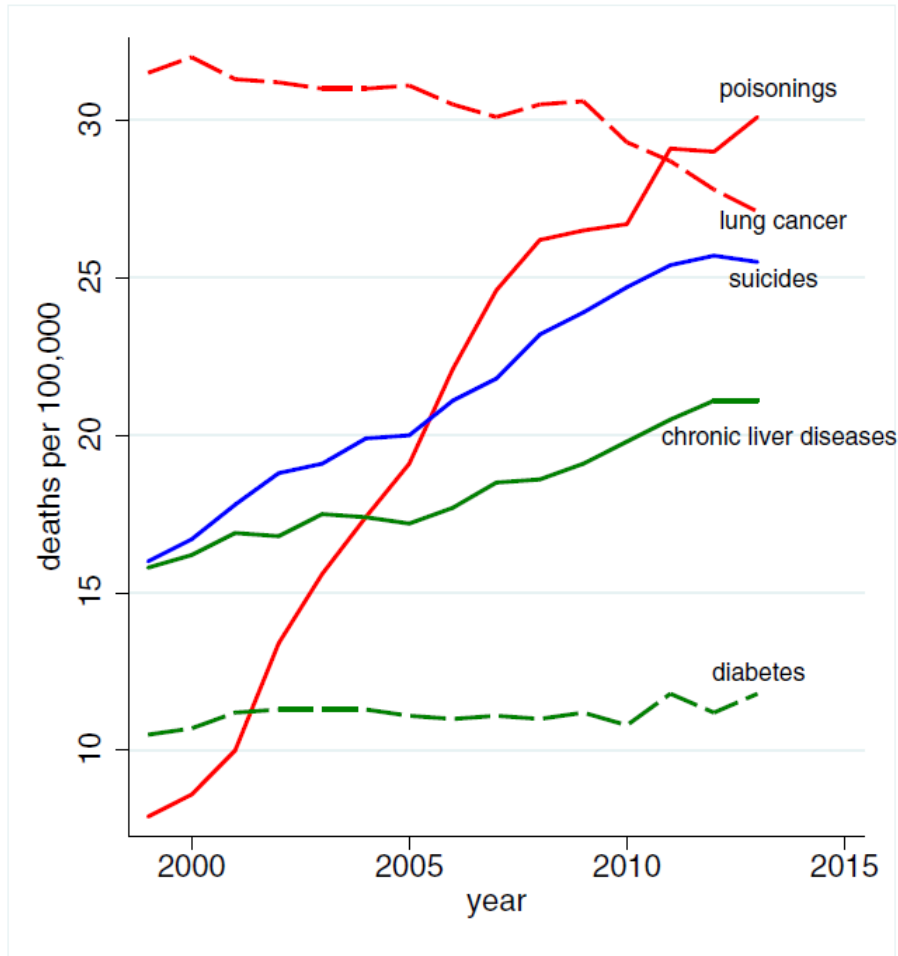


Fig. 2. Mortality by cause, white non-Hispanics ages 45–54.

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Two ways to deal with inequalities

- Big ideas, such as eradication of poverty; seems to be unrealistic in the current world with inequality increasing every year
 - Current forces point to **more** inequality in immediate future (Milanović, 2016)
 - History has shown, that inequality only improved with drastic changes like wars or epidemics.
 - Current systems seem to be at a loss in responding to both to global inequalities (e.g., refugee crisis) and to national inequalities and the rise of populist parties
- Nibble away at smaller factors such as alcohol, tobacco, hypertension

Conclusions

- Alcohol consumption is one key impact factor on sustainable development
- It affects population health negatively, it increases inequalities, and is also linked negatively to reaching other SDGs!
- The attributable harm from alcohol consumption could be reduced, if effective interventions (prevention and treatment) are initiated.
- However, we need to rethink some approaches and stop repeating dogmas which have proven to be not effective or not enforceable in current political environments.