SHARING THE RESULTS

LOOKING HOW TO REDUCE ALCOHOL RELATED HARM

RARHA - FINAL CONFERENCE

Co-funded by the Health Programme of the European Union

RARHA
REDUCING ALCOHOL RELATED HARM

Towards a common metric for assessing low risk from alcohol

PIA MÄKELÄ

The starting point for RARHA's Work Package "Guidelines"

Variation in national guidelines on low risk alcohol consumption
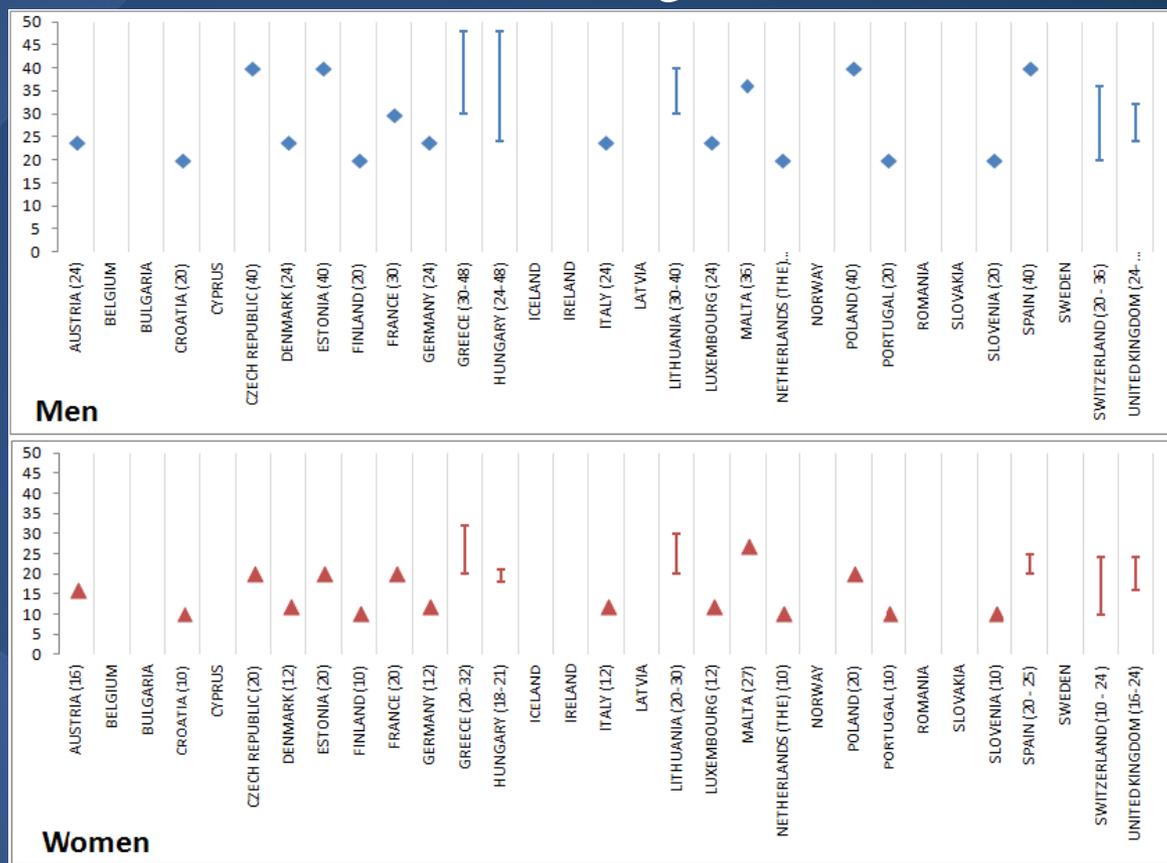
Average consumption in grams of pure alcohol per day defined as "low risk" women and men in RARHA partner countries in 2014 (ISS 2014)

Discrepancies in guidelines may lead to confusing messages and miscommunication of research findings and health advice.

Guidelines on low risk drinking evolve with evidence
- Alcohol as a risk factor for cancer
- Reassessment of cardioprotective effects

- Since 2010 revised in at least 10 European countries

- Netherlands 2015
  Men and women: no more than one glass/day
  One glass = 10 g pure alcohol
- United Kingdom 2016
  Men and women: no more than 14 units/week
 One unit = 8g pure alcohol

Epidemiological evidence and expert judgment

Setting up guidelines always includes some type of review of the science

Epidemiological literature gives quantitative estimates of risk in various levels of alcohol intake (risk curves – example in figure)

There is no straightforward method for deriving low risk: expert judgment is always required
-> variation in guidelines
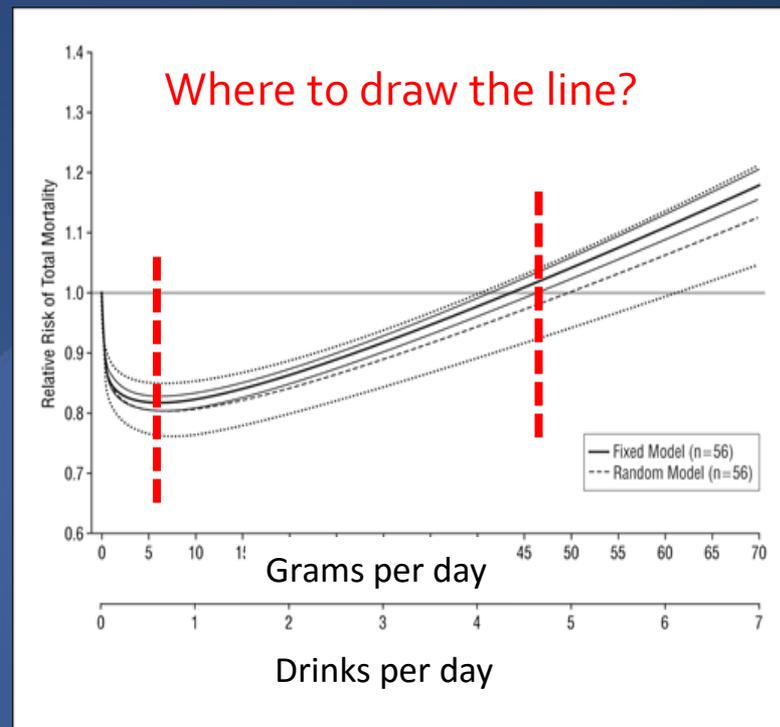
Di Castelnuovo et al. (2006) *Arch Intern Med.*

How to take into account different diseases?
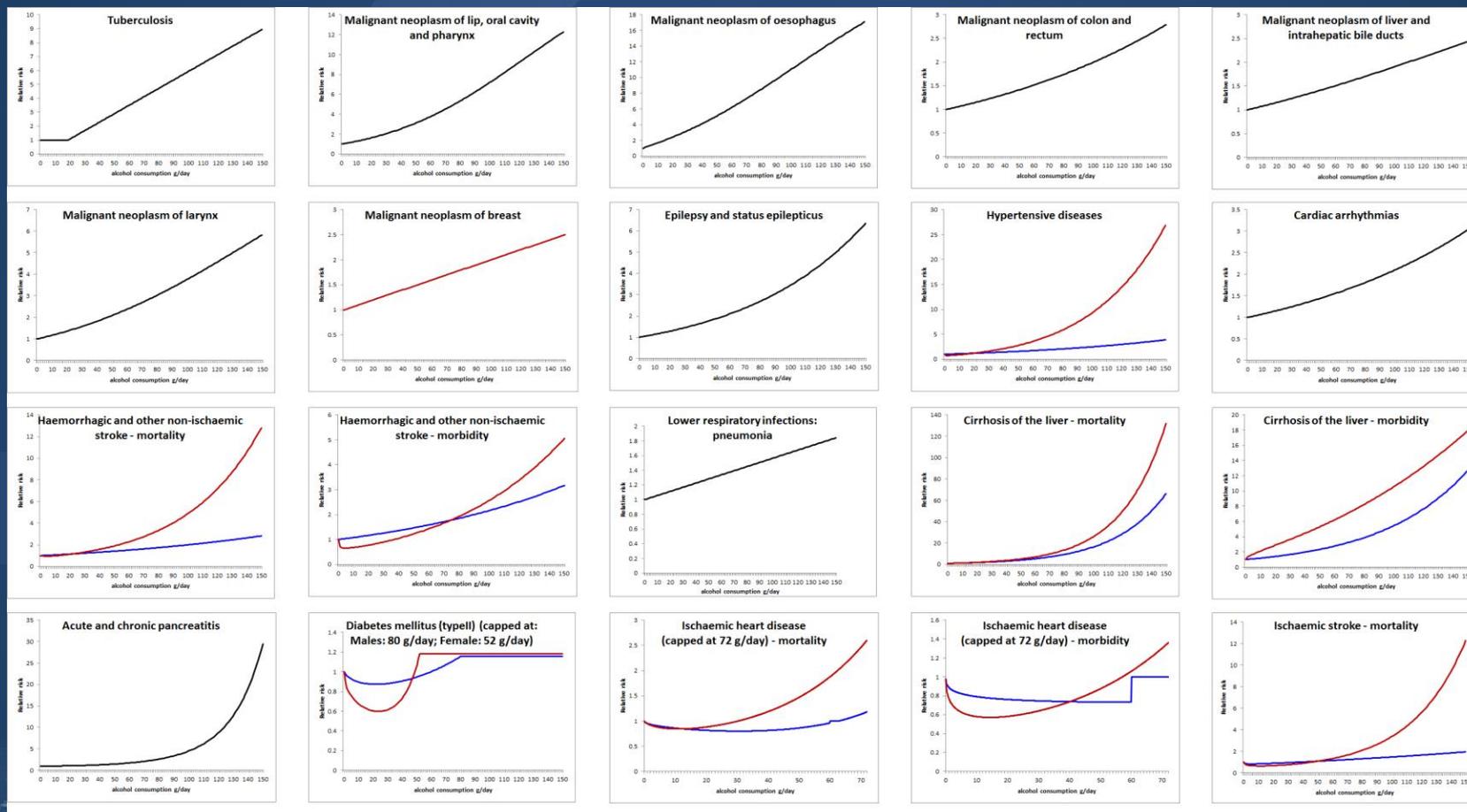
Source: Holmes et al. 2016

How to summarize across diseases?
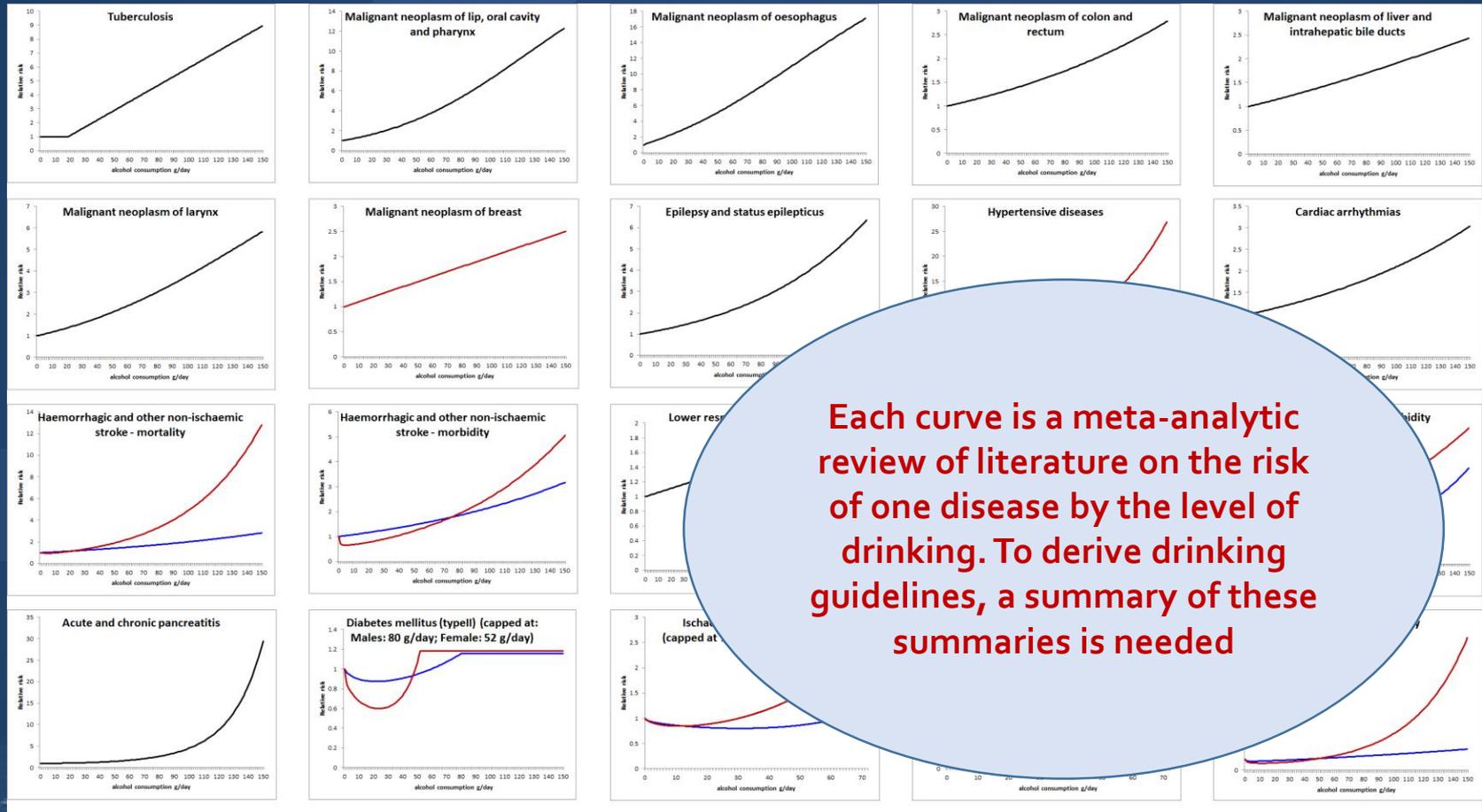
Each curve is a meta-analytic review of literature on the risk of one disease by the level of drinking. To derive drinking guidelines, a summary of these summaries is needed

Source: Holmes et al. 2016

How to deal with differences between countries?

We cannot rely on estimates of all-cause mortality or do one calculation for all countries combined.

Different cause-of-death distributions in different populations need to be taken into account.

Country 1: 20%
Country 2: 5%

Country 1: 10%
Country 2: 30%
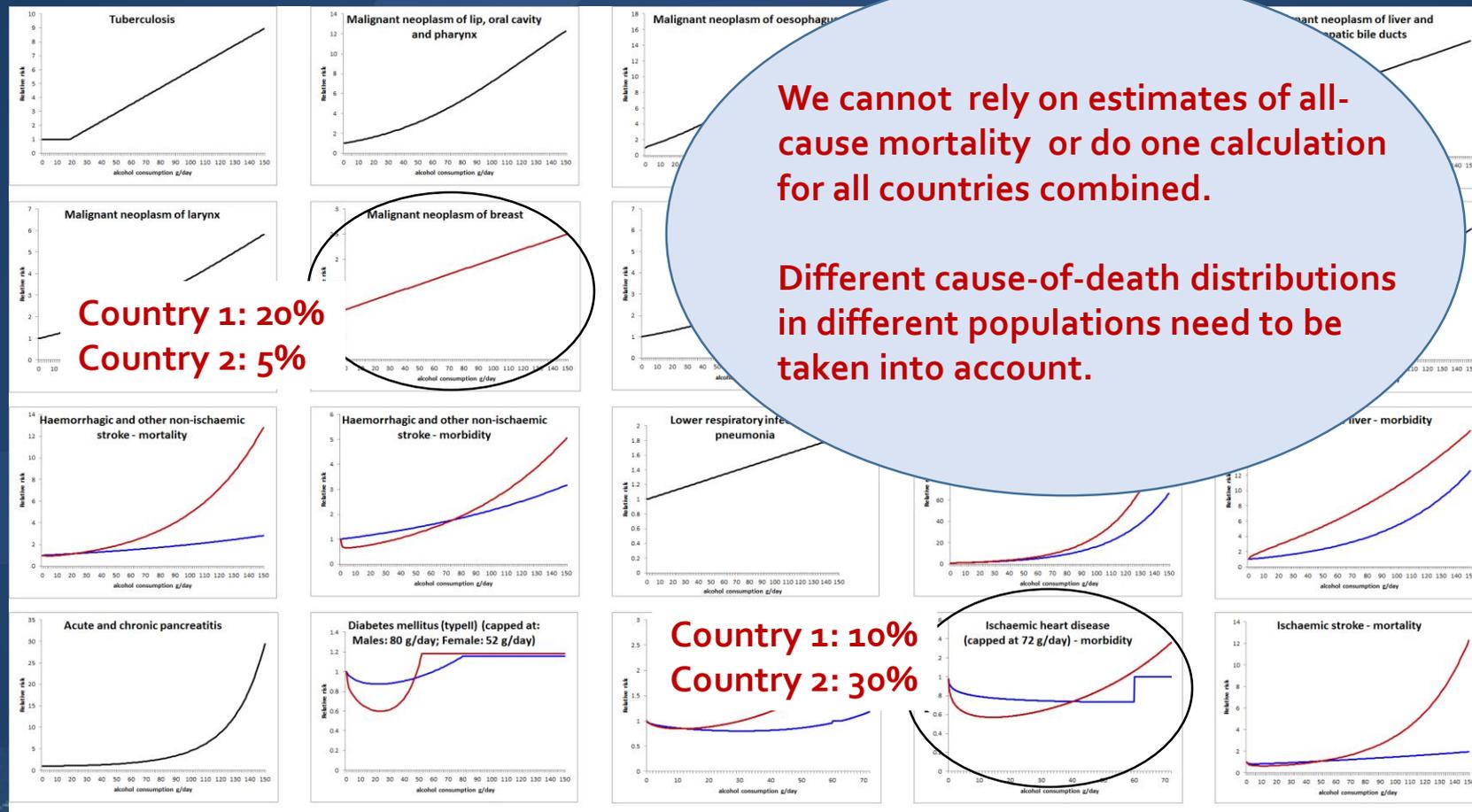
Source: Holmes et al. 2016

The absolute risk approach

Approach adopted in Australia to inform revision of low risk guidelines in 2009.

- Absolute risk of alcohol attributable mortality if you drink at a given level your whole life
- Expressed as a number of deaths per a number of exposed people, e.g. 1/100, 1/1000, 1/1000 000 etc.
- Standard approach for assessing risk from factors such as chemicals in the environment.
- Enables to
  - express the magnitude or risk and put **different types of risks into perspective** alongside one another.
  - **transparency** in determining what is considered low risk.
  - countries to adopt **a common criterion for low risk**

Calculation in RARHA of lifetime risk of alcohol attributable mortality

- Seven EU countries separately
- Pooling of disease-specific mortality risks at various levels of alcohol consumption, as obtained from meta-analyses
- Causes of death causally impacted by alcohol similar as in the Global Burden of Disease Study 2010

Lifetime-risk of alcohol-attributable mortality based on different

levels of alcohol consumption in seven European countries.

Implications for low-risk drinking guidelines

Jürgen Rehm [1,5], Gerrit Gmel [1,6,7], Charlotte Probst [1,5], and Kevin D. Shield [1,4]

Example of results: Combined risk curves for two countries
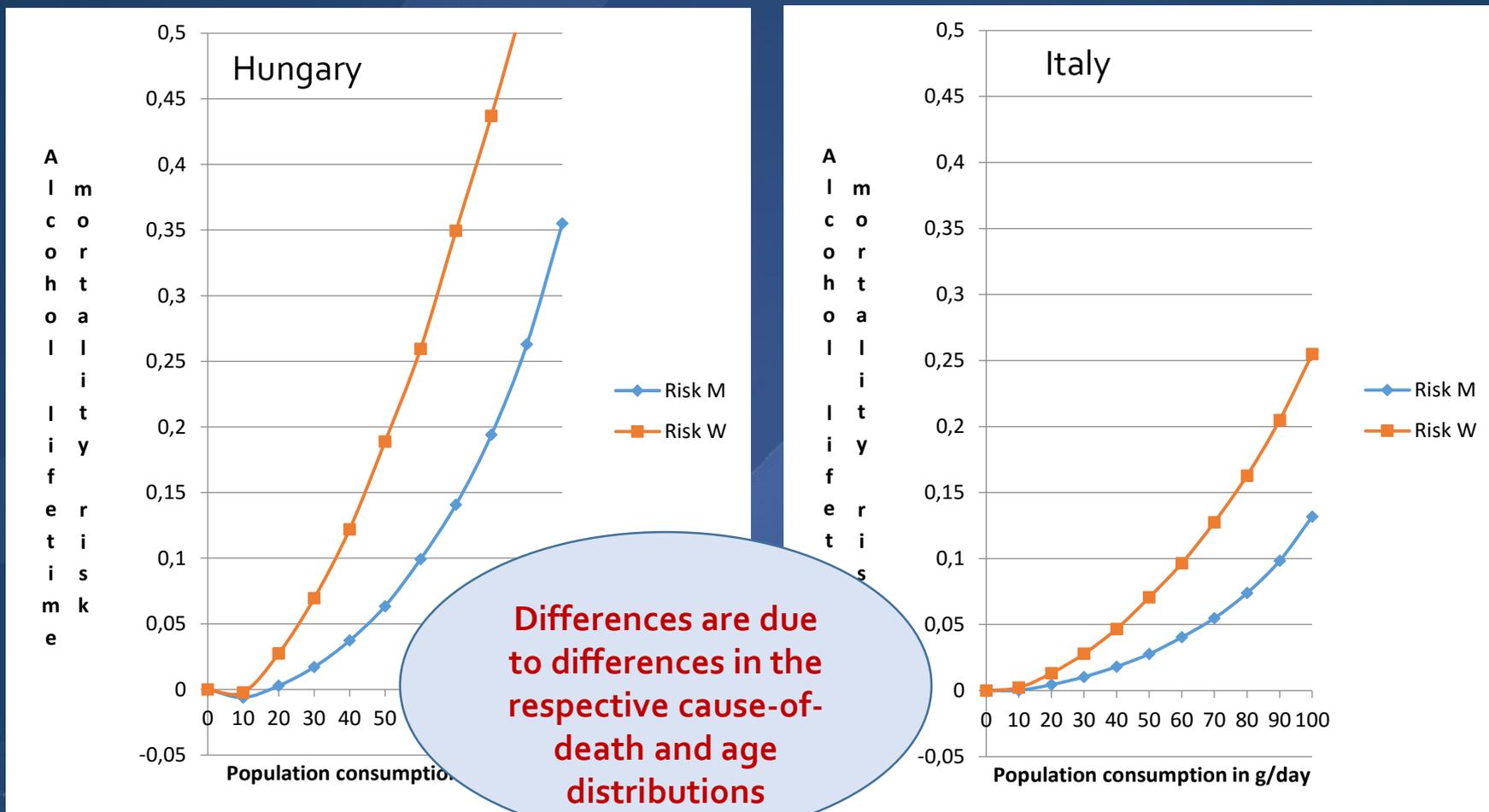
Hungary — Alcohol lifetime mortality risk vs Population consumption
- Risk M
- Risk W

Italy — Alcohol lifetime mortality risk vs Population consumption in g/day
- Risk M
- Risk W

Differences are due to differences in the respective cause-of-death and age distributions

Results for seven countries

Average drinking	Estonia		Finland		Germany		Hungary		Ireland		Italy		Poland	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W
10g	0.0027	0.0051	-0.0015	0.0037	-0.0004	0.0024	-0.0061	-0.0022	-0.0014	0.0014	0.0002	0.0022	-0.0068	-0.0062
20g	0.0138	0.0380	0.0030	0.0185	0.0041	0.0148	0.0028	0.0274	0.0025	0.0126	0.0045	0.0131	-0.0004	0.0148
30g	0.0296	0.0842	0.0102	0.0402	0.0110	0.0327	0.0171	0.0695	0.0084	0.0287	0.0104	0.0279	0.0102	0.0466
40g	0.0504	0.1371	0.0197	0.0655	0.0197	0.0543	0.0373	0.1221	0.0169	0.0492	0.0182	0.0467	0.0259	0.0877
50g	0.0792	0.2175	0.0344	0.1054	0.0322	0.0866	0.0635	0.1888	0.0277	0.0762	0.0278	0.0706	0.0458	0.1418
60g	0.1097	0.2868	0.0522	0.1429	0.0477	0.1179	0.0993	0.2594	0.0425	0.1055	0.0404	0.0964	0.0730	0.1990

Green: overall protective effect

Lightest blue: overall lifetime risk smaller than 1 in 1,000

Light blue: overall lifetime risk smaller than 1 in 100, but larger than 1 in 1,000

Dark blue: overall lifetime risk equal to or larger than 1 in 100

The risk level of alcohol attributable deaths of 1/100 could be considered a maximum for "low risk" (dark blue = above this level).

Despite differences across countries and for genders:

- Lifetime risk of alcohol attributable death <1/100 in all countries at 10 g of pure alcohol per day.
- At 30 g/day, lifetime risk >1/100 for women in all countries and for men in all but one.

Implications for low risk guidelines

Average drinking	Estonia		Finland		Germany		Hungary		Ireland		Italy		Poland	
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- Current guidelines in some countries are consistent with or below that level. In others, following the guidelines would lead to higher risks.

- A stricter criterion of risk, such as maximum 1 death per 1000, would contribute towards a healthier population, but would require a downward revision to the current low risk drinking guidelines in most European countries.

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Conclusions

The work done in RARHA for the 7 countries suggests that

- cumulative lifetime risk of death from alcohol-related disease or injury could be adopted as a **common metric for assessing the risks from alcohol**

- this approach enables low-risk drinking guidelines to be developed in light of a **clear criterion of low risk**.

- the results can **inform discussion** about drinking guidelines.

- this process could lead to **convergence in guidelines**. At a minimum, adopting a common metric would contribute to a **more transparent process** for specifying guidelines for low risk alcohol consumption.