

Estimating alcohol-attributable mortality and burden of disease for Italy – what is avoidable?

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Based on data on prevalence provided by

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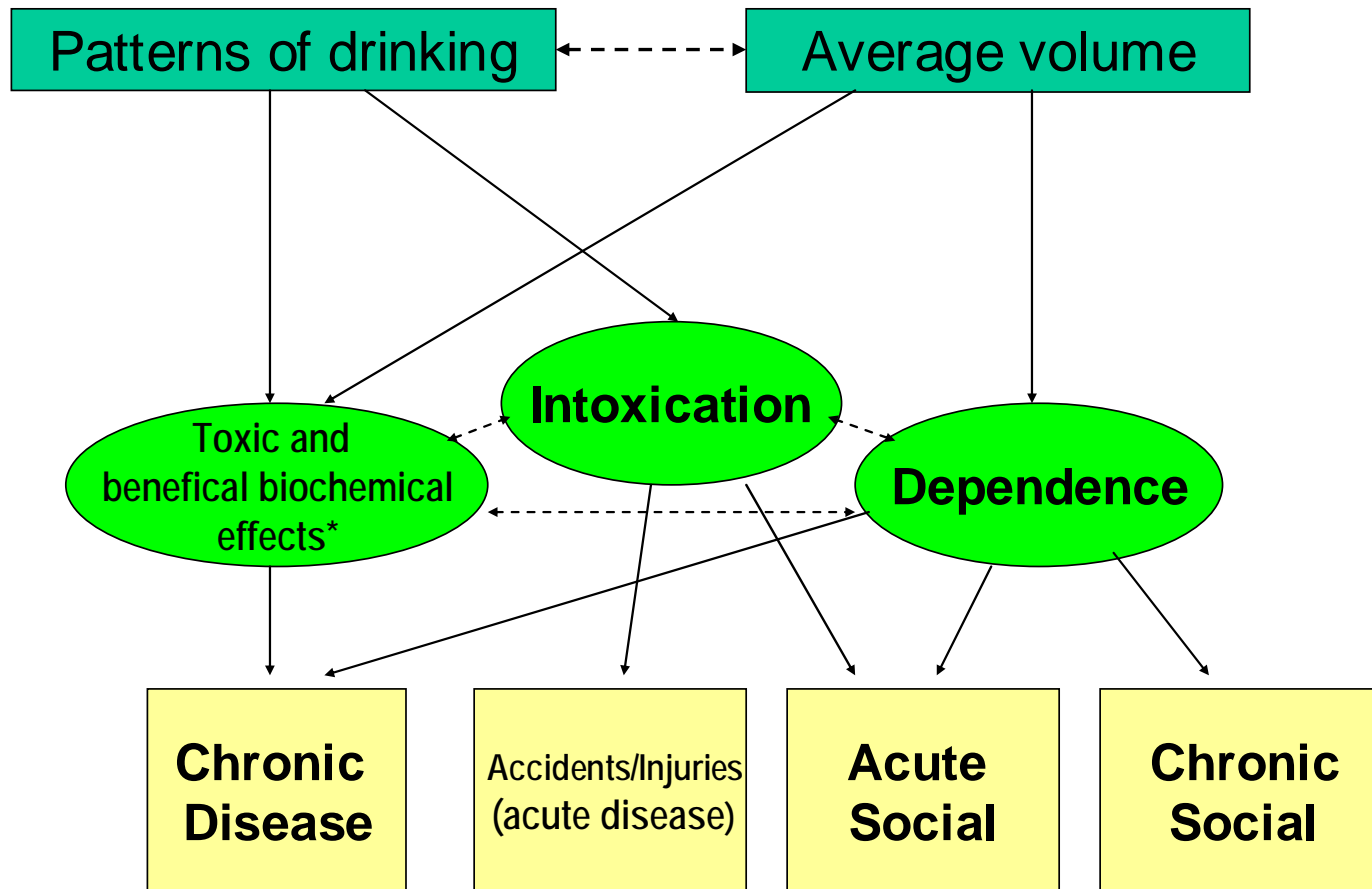
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Thanks!

- To E. Scafato and the ISS for providing the exposure data
- To WHO for initiating the Comparative Risk Assessment (CRA) where the methods described here were introduced.
- To more than 300 scientists and collaborators in the CRA for alcohol.
- To the *HEM – Closing the gap. Reducing premature mortality* team in Warsaw for undertaking the calculations (W. Zatonski, U. Sulkowska)
- To EU, ISGF and the Swiss Federal Ministry for financially supporting the calculations underlying this presentation.

Basic causal model of alcohol consumption, intermediate mechanisms, and long-term consequences (from Rehm et al., 2003; Babor et al., 2003)



* Independent of intoxication or dependence

Alcohol related disease and injury

Chronic disease:

Cancer: Mouth & oropharyngeal cancer, esophageal cancer, liver cancer, female breast cancer (not included in CRA: colorectal cancer)

Neuropsychiatric diseases: Alcohol use disorders, unipolar major depression, epilepsy

Diabetes

Cardiovascular diseases: Hypertensive diseases, coronary heart disease, stroke

Gastrointestinal diseases: Liver cirrhosis

Conditions arising during perinatal period: Low birth weight

Injury:

Unintentional injury: Motor vehicle accidents, drownings, falls, poisonings, other unintentional injuries

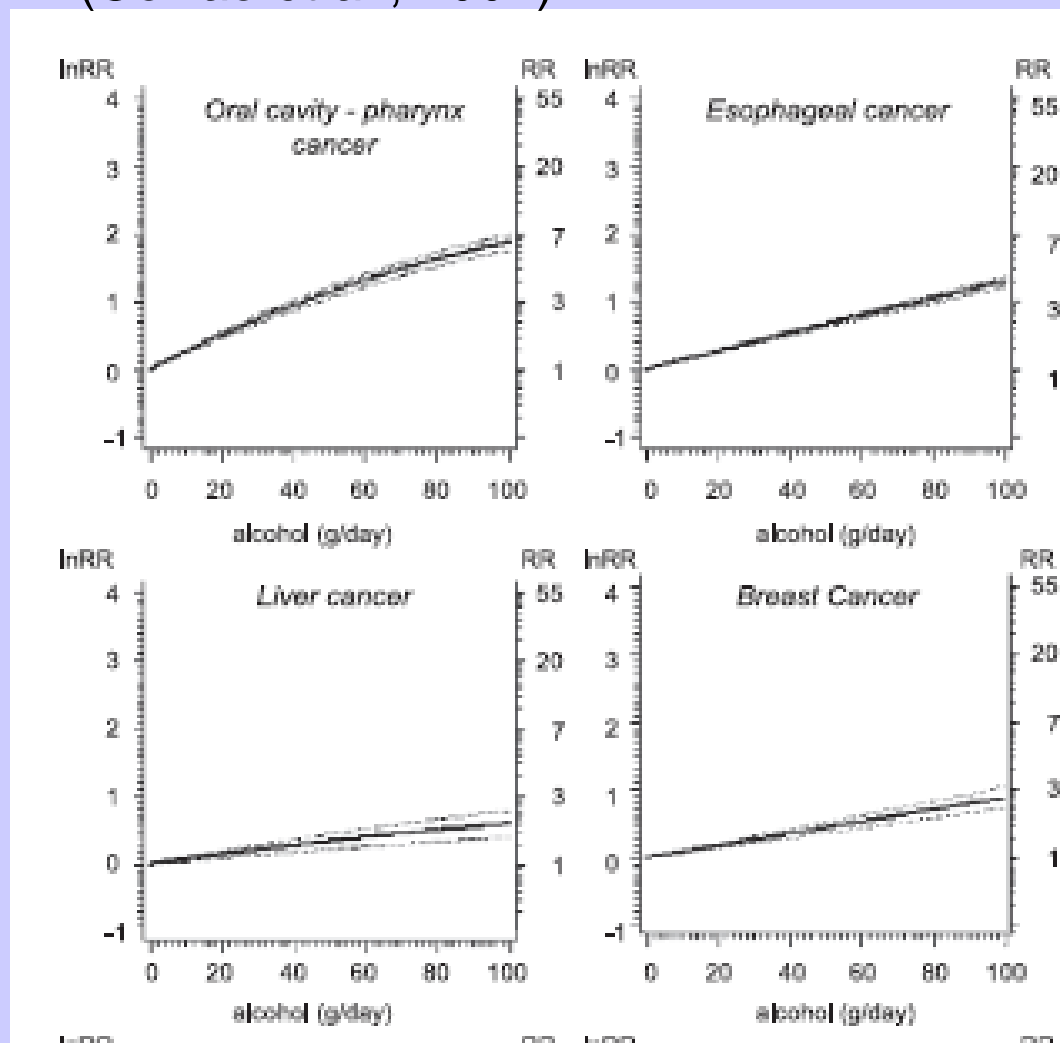
Intentional injury: Self-inflicted injuries, homicide, other intentional injuries

Example for risk curves: cancer

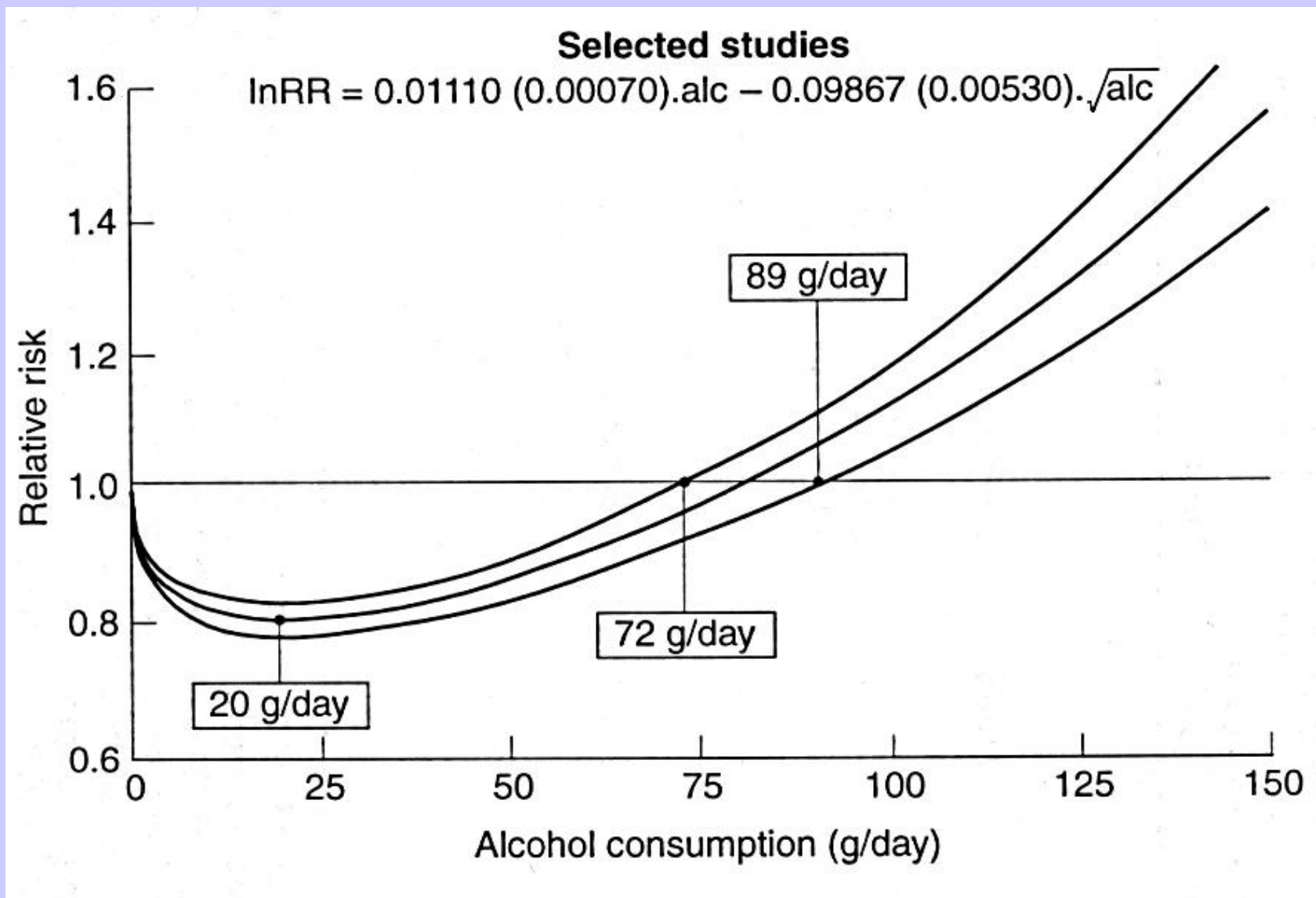
Cancer:

- Lip & oropharyngeal cancer, Esophageal cancer, Liver cancer, Laryngeal cancer, Colorectal cancer
Female breast cancer
(IARC new March 2007)
- Usual linear risk relationship between average volume of alcohol consumption and risk
- Other cancers show consistent risk relationships, but do not qualify for other

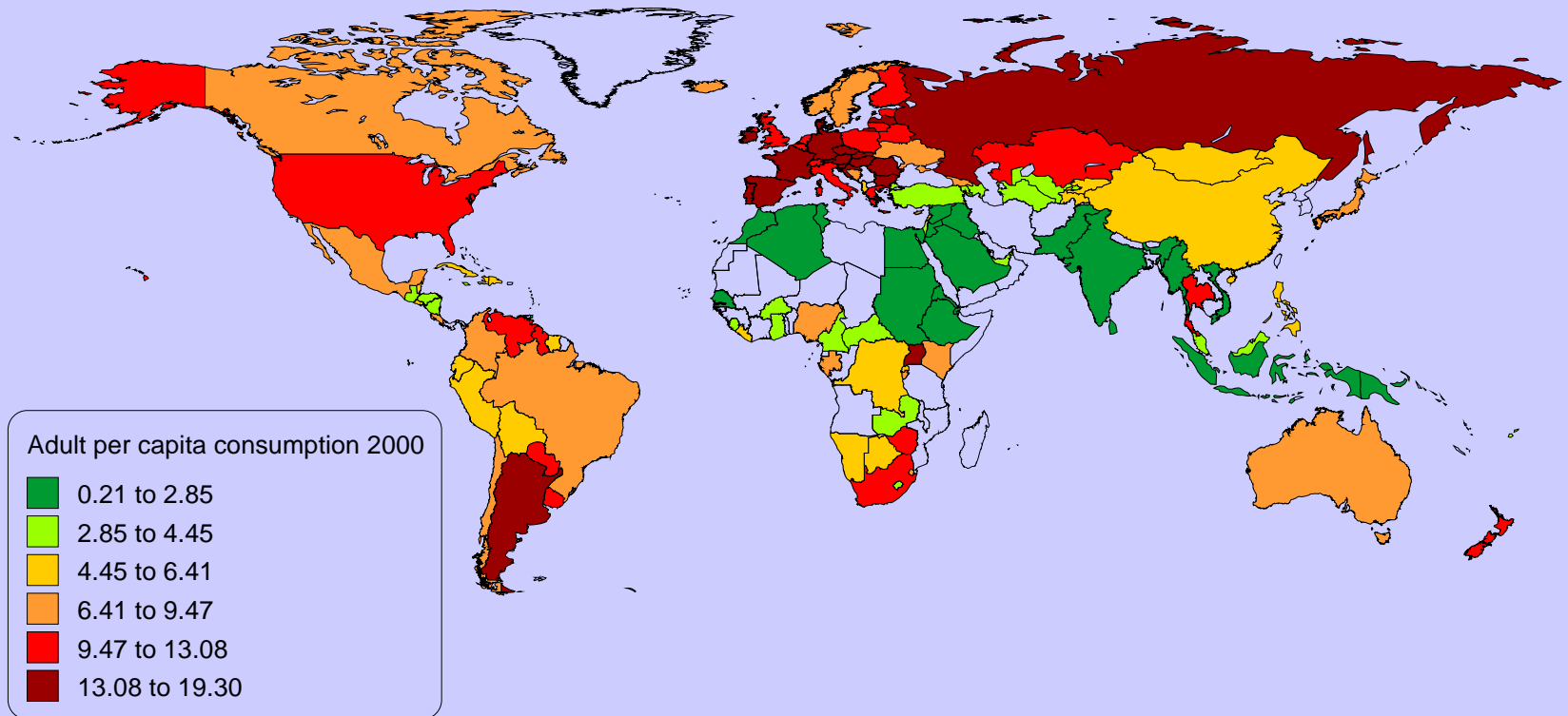
Typical risk curves for cancer
(Corrao et al., 2004)

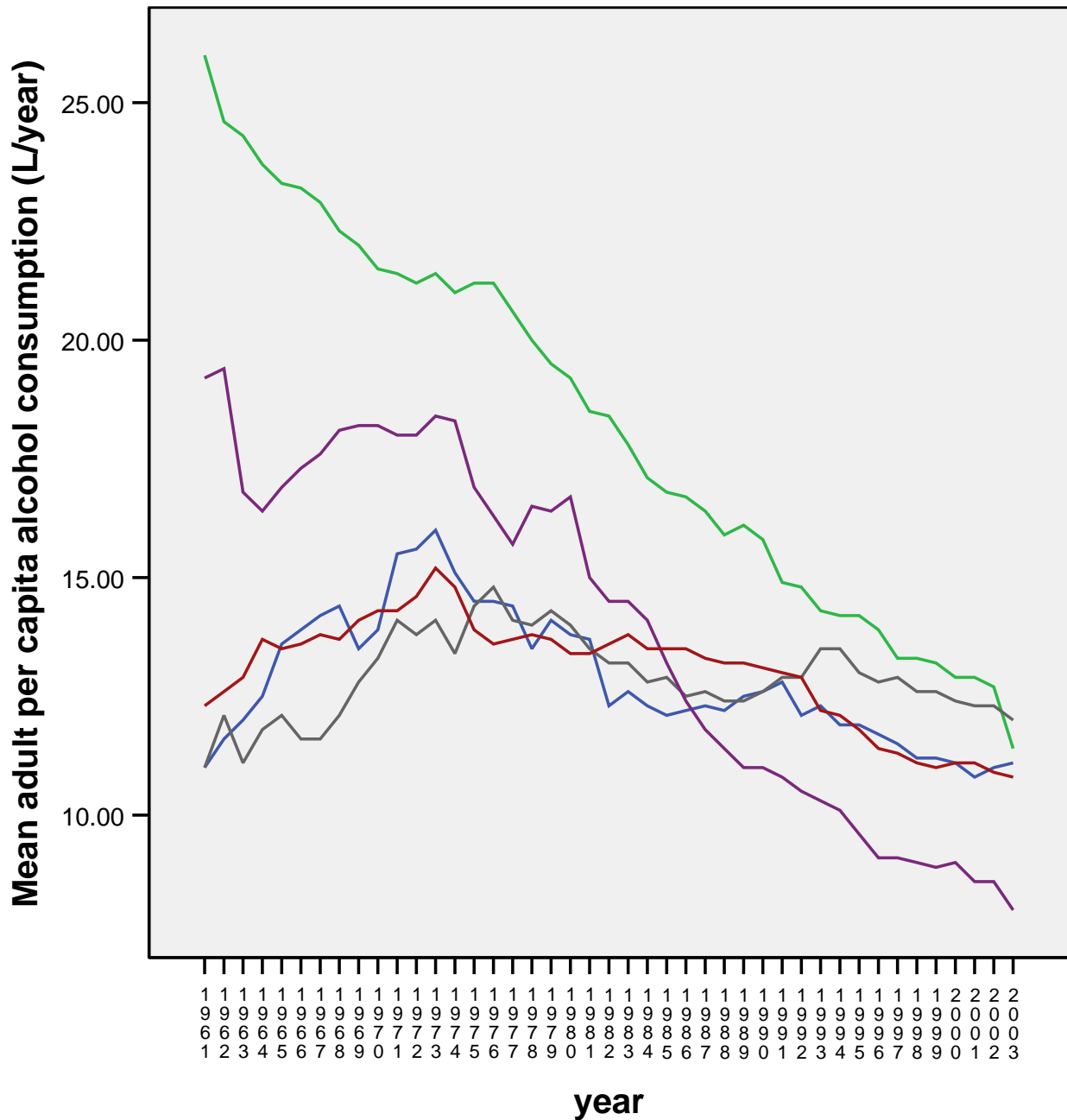


Average volume alcohol and CHD in high quality large cohorts, but binge drinking has to be taken into account



Adult per capita consumption in litre pure alcohol 2000 (based on CRA)



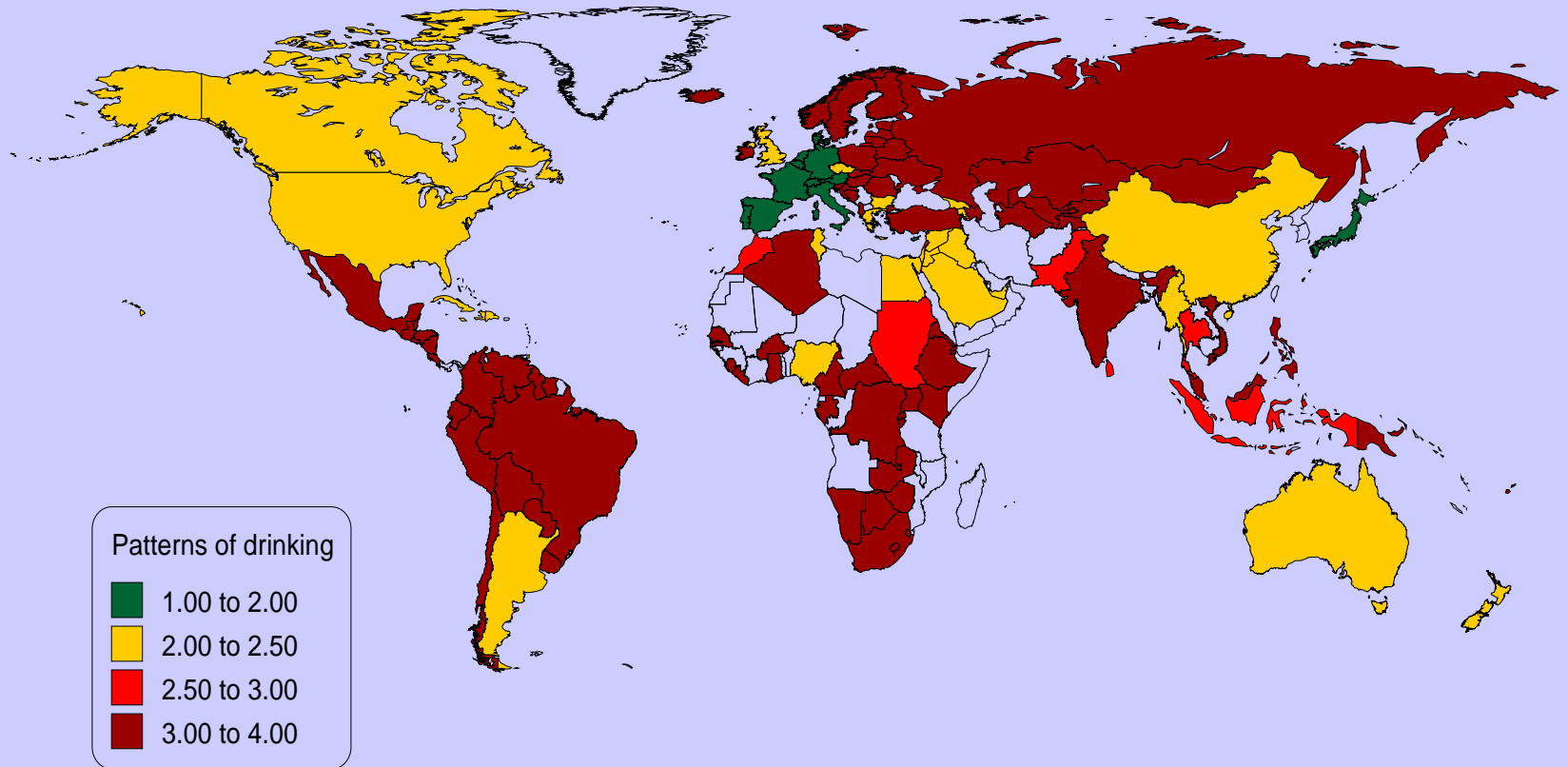


- Country name
- Austria
 - France
 - Germany
 - Italy
 - Switzerland

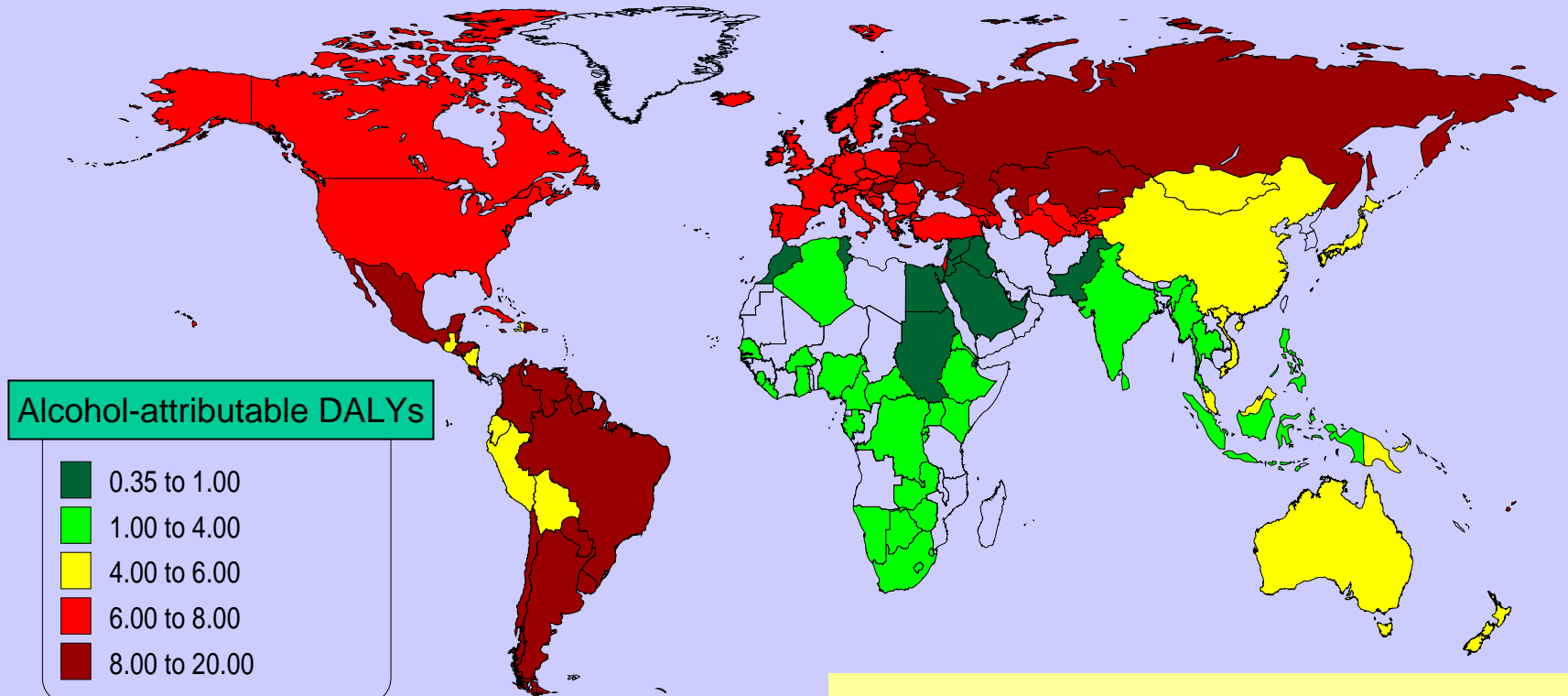
Strong success for prevention in Italy –

Recorded consumption in selected EU countries

Pattern of drinking 2000 (based on CRA)



Alcohol-attributable global burden of disease – and Italy?



All numbers are based on net burden! And regional estimates!

Alcohol-attributable deaths by main categories for Italy 2002 - cancer

Males	20-44	45-64	20-64	65+	Total 20+
(a) Alcohol-related deaths from malignant neoplasms	76	1414	1490	3281	4771
(b) All deaths from malignant neoplasms	1844	19757	21601	68181	89782
Percentage (a)/(b)	4.12%	7.16%	6.90%	4.81%	5.31%
(c) All deaths from all causes	11970	43044	55014	221376	276390
Percentage (a)/(c)	0.63%	3.29%	2.71%	1.48%	1.73%
Females	20-44	45-64	20-64	65+	Total 20+
(a) Alcohol-related deaths from malignant neoplasms	50	530	580	1428	2007
(b) All deaths from malignant neoplasms	2151	13254	15405	51262	66667
Percentage (a)/(b)	2.30%	4.00%	3.76%	2.79%	3.01%
(c) All deaths from all causes	5196	23291	28487	250824	279311
Percentage (a)/(c)	0.95%	2.28%	2.03%	0.57%	0.72%

Alcohol-attributable deaths by main categories for Italy 2002 – CVD net

Males	20-44	45-64	20-64	65+	Total 20+
(a) Alcohol-related deaths from cardiovascular diseases	128	609	737	5319	6057
(b) All deaths from cardiovascular diseases	1726	11821	13547	92052	105599
Percentage of all CVD	7.44%	5.15%	5.44%	5.78%	5.74%
(c) All deaths from all causes	11970	43044	55014	221376	276390
Percentage of all deaths	1.07%	1.42%	1.34%	2.40%	2.19%
Females	20-44	45-64	20-64	65+	Total 20+
(a) Alcohol-related deaths from cardiovascular diseases	27	111	138	2705	2843
(b) All deaths from cardiovascular diseases	659	4429	5088	126305	131393
Percentage of all CVD	4.13%	2.50%	2.71%	2.14%	2.16%
(c) All deaths from all causes	5196	23291	28487	250824	279311
Percentage of all deaths	0.52%	0.48%	0.48%	1.08%	1.02%

Alcohol-attributable deaths by main categories for Italy 2002 – CVD differentiated by disease

	AAF		Number of alc. Deaths	
	M	F	M	F
Hypertensive disease	42.7%	20.8%	2952	2676
Ischaemic heart disease	-8.5%	-8.0%	-4235	-3223
Cardiac arrhythmias	45.2%	32.3%	3674	3204
Haemorrhagic stroke	15.2%	0.9%	684	-115
Ischaemic stroke	1.0%	-8.2%	-14	-209
Stroke NOS (not specified)	11.5%	-2.6%	960	-1178

Alcohol-attributable deaths by main categories for Italy 2002 – liver cirrhosis

					Total
Males	20-44	45-64	20-64	65+	20+
(a) Alcohol-related deaths from liver cirrhosis	171	1006	1176	1791	2967
(b) All deaths from liver cirrhosis	431	2045	2476	3737	6213
Percentage of all liver cirrhosis	39.59%	49.18%	47.51%	47.92%	47.75%
(c) All deaths from all causes	11970	43044	55014	221376	276390
Percentage of all deaths	1.43%	2.34%	2.14%	0.81%	1.07%
					Total
Females	20-44	45-64	20-64	65+	20+
(a) Alcohol-related deaths from liver cirrhosis	44	349	393	1375	1768
(b) All deaths from liver cirrhosis	138	821	959	3459	4418
Percentage of all liver cirrhosis	31.70%	42.56%	40.99%	39.76%	40.03%
(c) All deaths from all causes	5196	23291	28487	250824	279311
Percentage of all deaths	0.84%	1.50%	1.38%	0.55%	0.63%

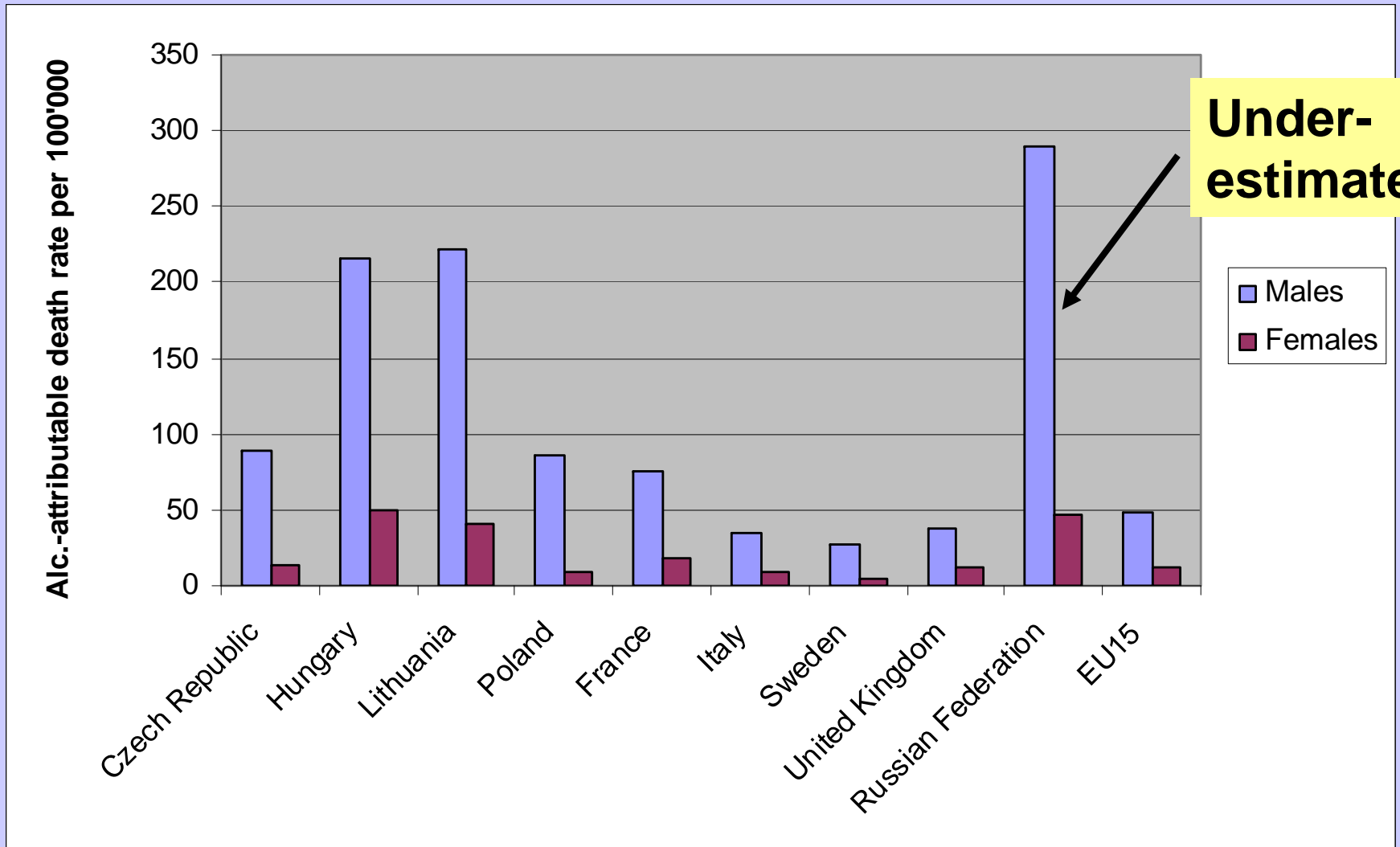
Alcohol-attributable deaths by main categories for Italy 2002 – injuries

Males	20-44	45-64	20-64	65+	Total 20+
(a) Alcohol-related deaths from injuries	1997	736	2733	1251	3984
(b) All deaths from injuries	5228	3134	8362	6818	15180
Percentage of all injuries	38.19%	23.49%	32.68%	18.35%	26.25%
(c) All deaths from all causes	11970	43044	55014	221376	276390
Percentage of all deaths	16.68%	1.71%	4.97%	0.57%	1.44%
Females	20-44	45-64	20-64	65+	Total 20+
(a) Alcohol-related deaths from injuries	228	171	399	783	1182
(b) All deaths from injuries	1068	994	2062	8330	10392
Percentage of all injuries	21.32%	17.19%	19.33%	9.40%	11.37%
(c) All deaths from all causes	5196	23291	28487	250824	279311
Percentage of all deaths	4.38%	0.73%	1.40%	0.31%	0.42%

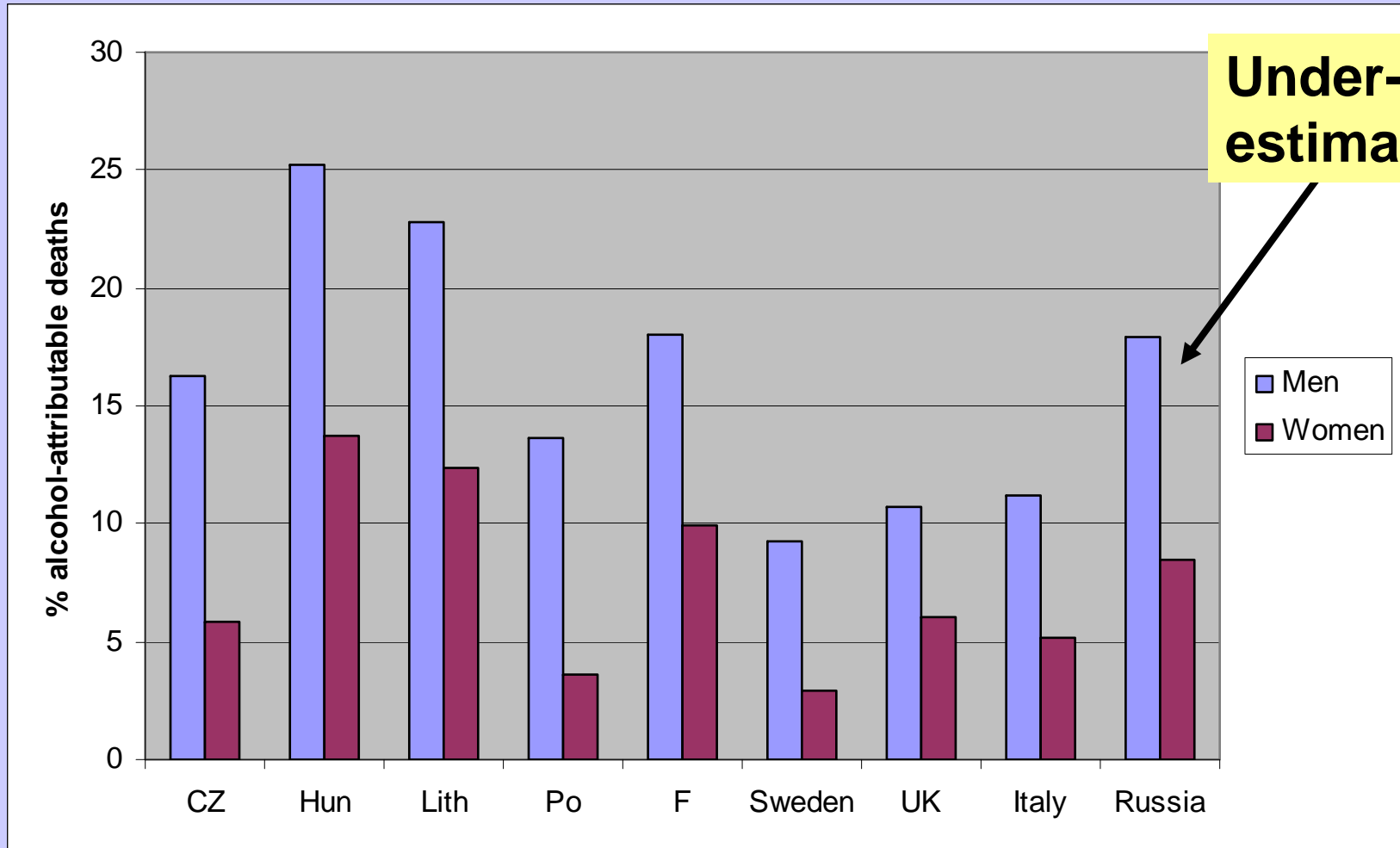
Alcohol-attributable deaths by main categories for Italy 2002 – all deaths

Males	20-44	45-64	20-64	65+	Total 20+
Alcohol-related deaths	2408	3746	6154	11060	17215
All deaths from all causes	11970	43044	55014	221376	276390
Percentage	20.12%	8.70%	11.19%	5.00%	6.23%
Females	20-44	45-64	20-64	65+	Total 20+
Alcohol-related deaths	364	1125	1489	5357	6846
All deaths from all causes	5196	23291	28487	25082 4	279311
Percentage	7.00%	4.83%	5.23%	2.14%	2.45%

Italy in Europe: Rate per 100'000 of alcohol-attributable deaths in selected European countries for the year 2002



Italy in Europe: Premature alcohol-attributable deaths in nine European countries by sex and age as proportions (in %) of all deaths, for the year 2002



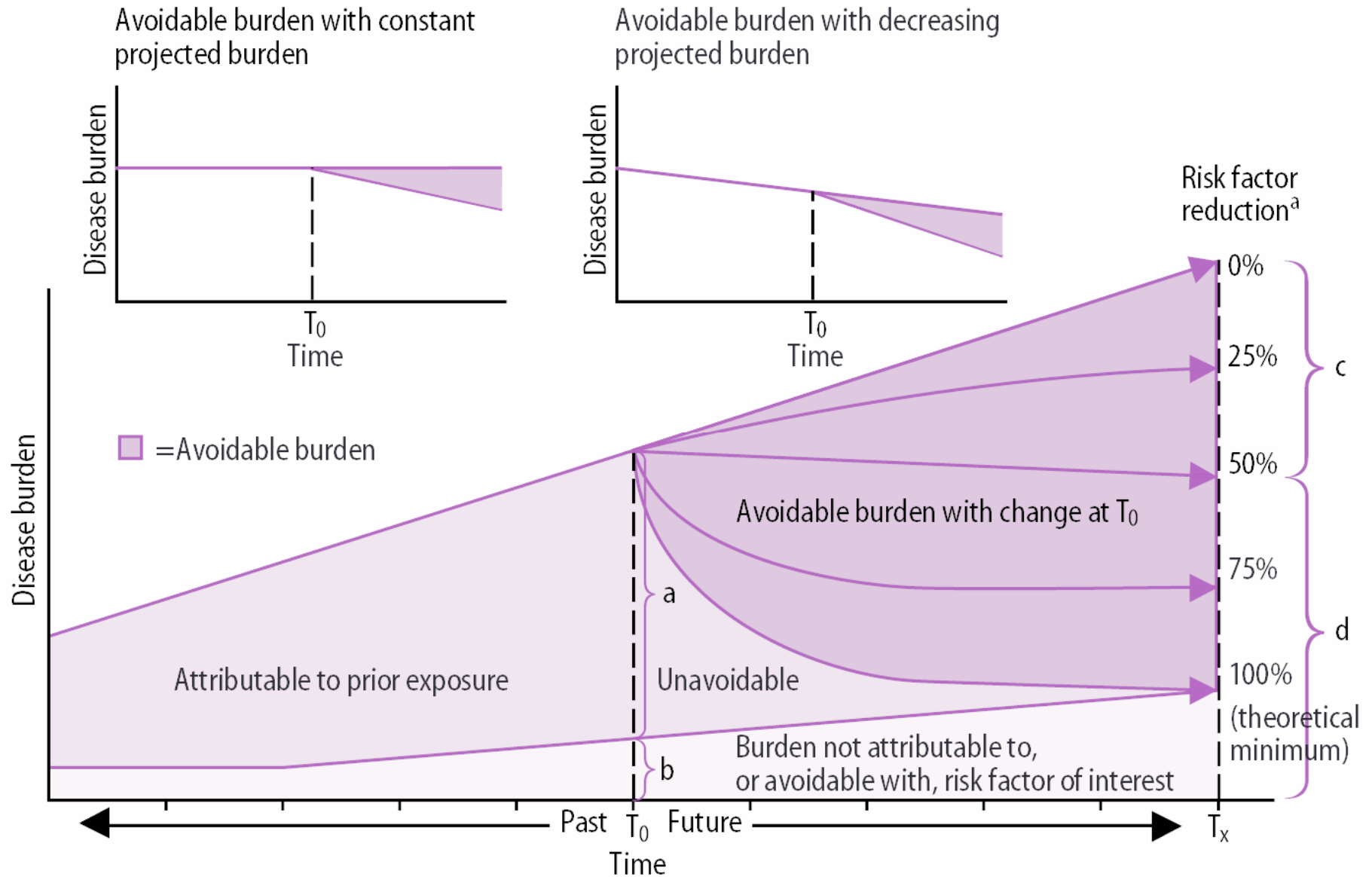
New developments

- Including binge drinking into the EU estimates
- > the cleavage between Italy and other relatively low burden countries and Central/Eastern countries widens

So all is well in Italy....?

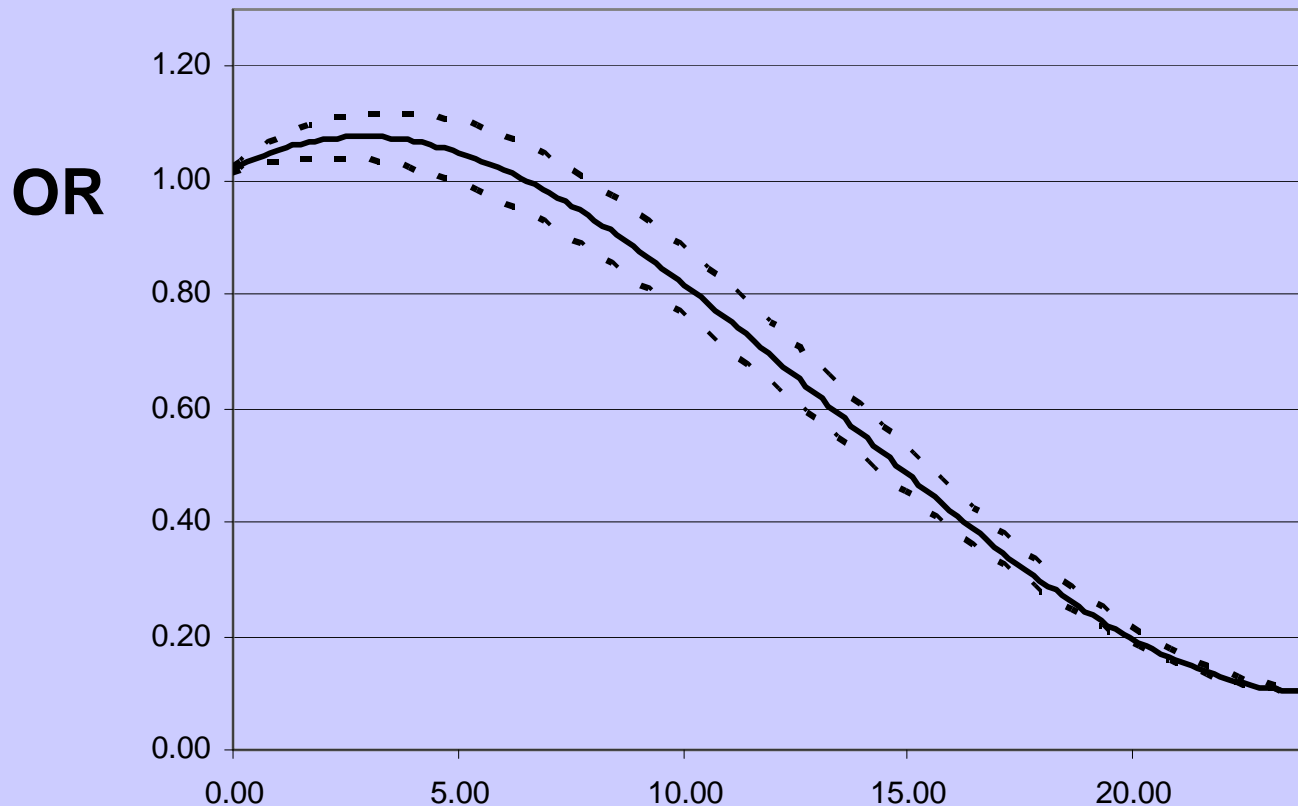
- It depends, where you compare Italy to
 - Compared to some Eastern European countries, Italy has less alcohol-attributable deaths -> but alcohol is the leading cause of premature deaths in many of these countries in Central and Eastern Europe
 - Compared to the world, Italy still has a long way to go to reduce alcohol-attributable burden!
- And there is still a lot of avoidable burden of disease in Italy!

Attributable and avoidable burden in different conditions of increasing, decreasing or stable burden



Avoidable is complicated and depends on the underlying disease!

Effect of drinking cessation on oesophageal cancer risk by duration (cubic regression)



It takes about 20 years before the risks of abstainers are reached (Rehm et al., in press, IJC)

But cancer is an exception!

Immediate effects of cessation can be seen on:

- Intentional injury
- Unintentional injury

Almost immediate effects on:

- Liver cirrhosis (e.g. Paris war time, Danish beer brewer strike, prohibition)
- Pancreatitis

Not clear CHD/CVD:

- Immediate effects on platelets
- Longer-term effects on atherosclerosis

Thus:

- Alcohol prevention and alcohol policy can have immediate effects
- Burden in Italy can be reduced further with proven effective and cost-effective measures
- Let us start today!