

Alcohol consumption and the attributable burden of disease in Australia



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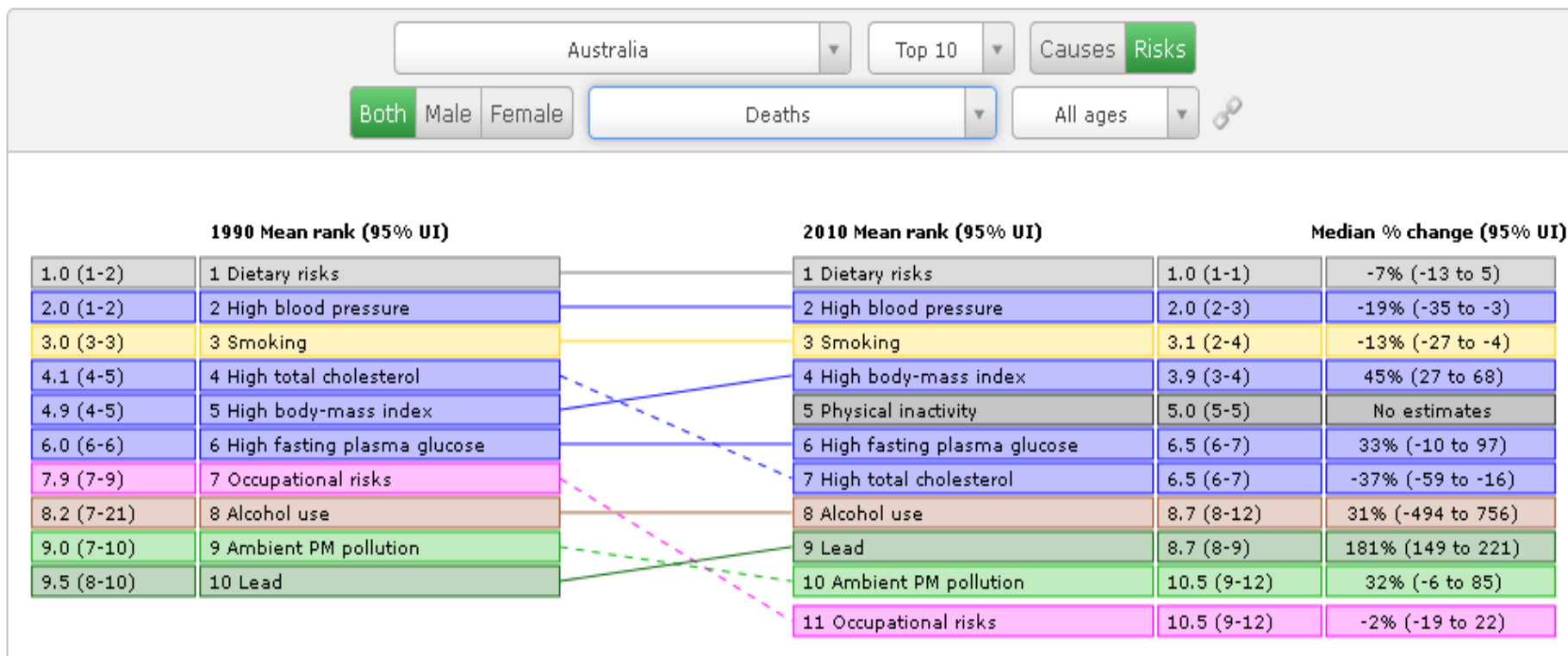
Alcohol in Australia

- Alcohol as part of Australian culture
 - Cultural 'norm'
 - Social occasions
 - Innovation



Alcohol as a risk factor

- Alcohol consumption is one of the major avoidable risk factors for disease, illness and injury in the Australian community
- Resulting harm can be *acute* or *chronic*
- Alcohol was ranked as the 8th highest risk factor for deaths and DALYs in Australia



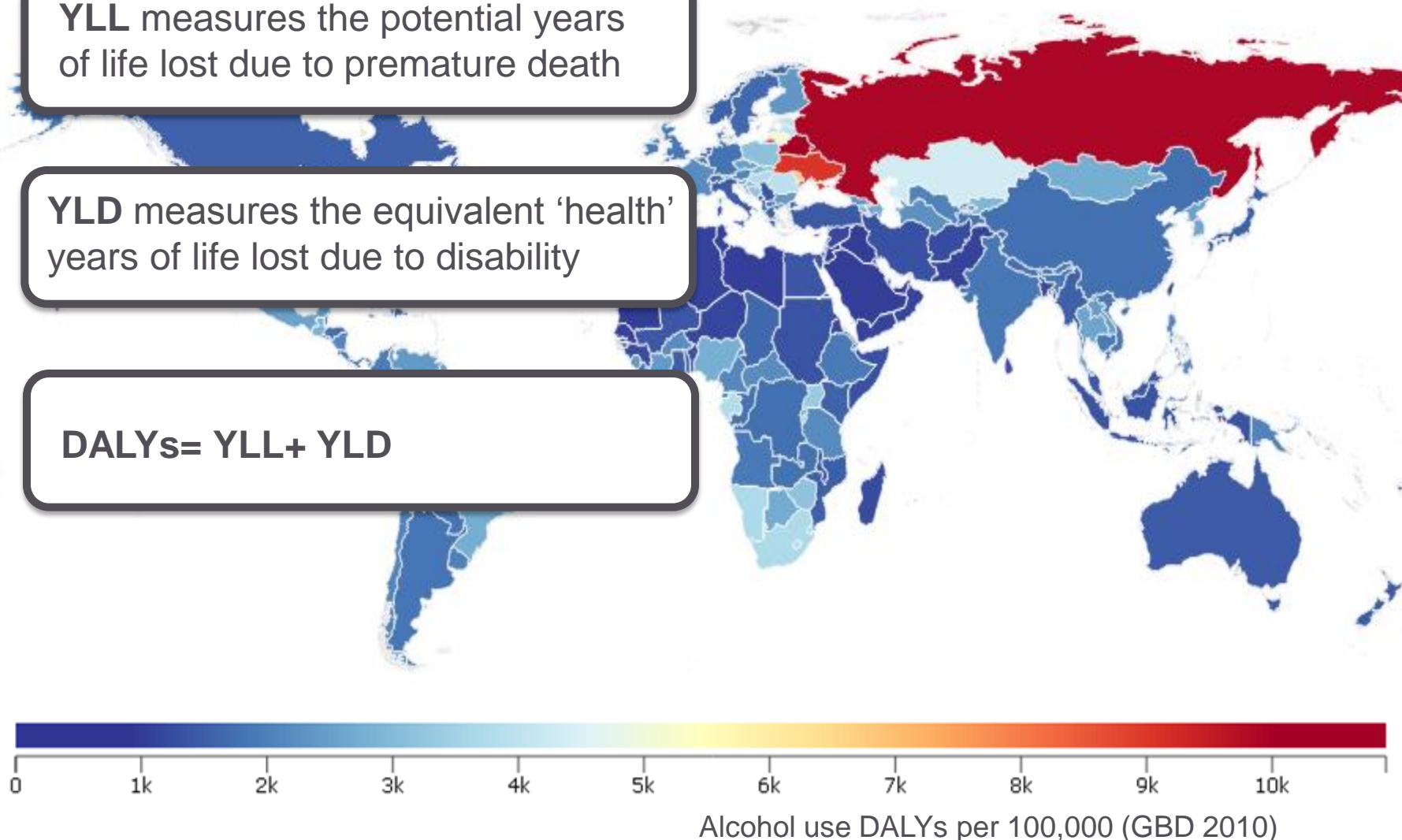
From the Institute for Health Metrics and Evaluation, University of Washington
<http://vizhub.healthdata.org/irank/arrow.php>

Assessing Burden of Disease

YLL measures the potential years of life lost due to premature death

YLD measures the equivalent 'health' years of life lost due to disability

DALYs = YLL + YLD



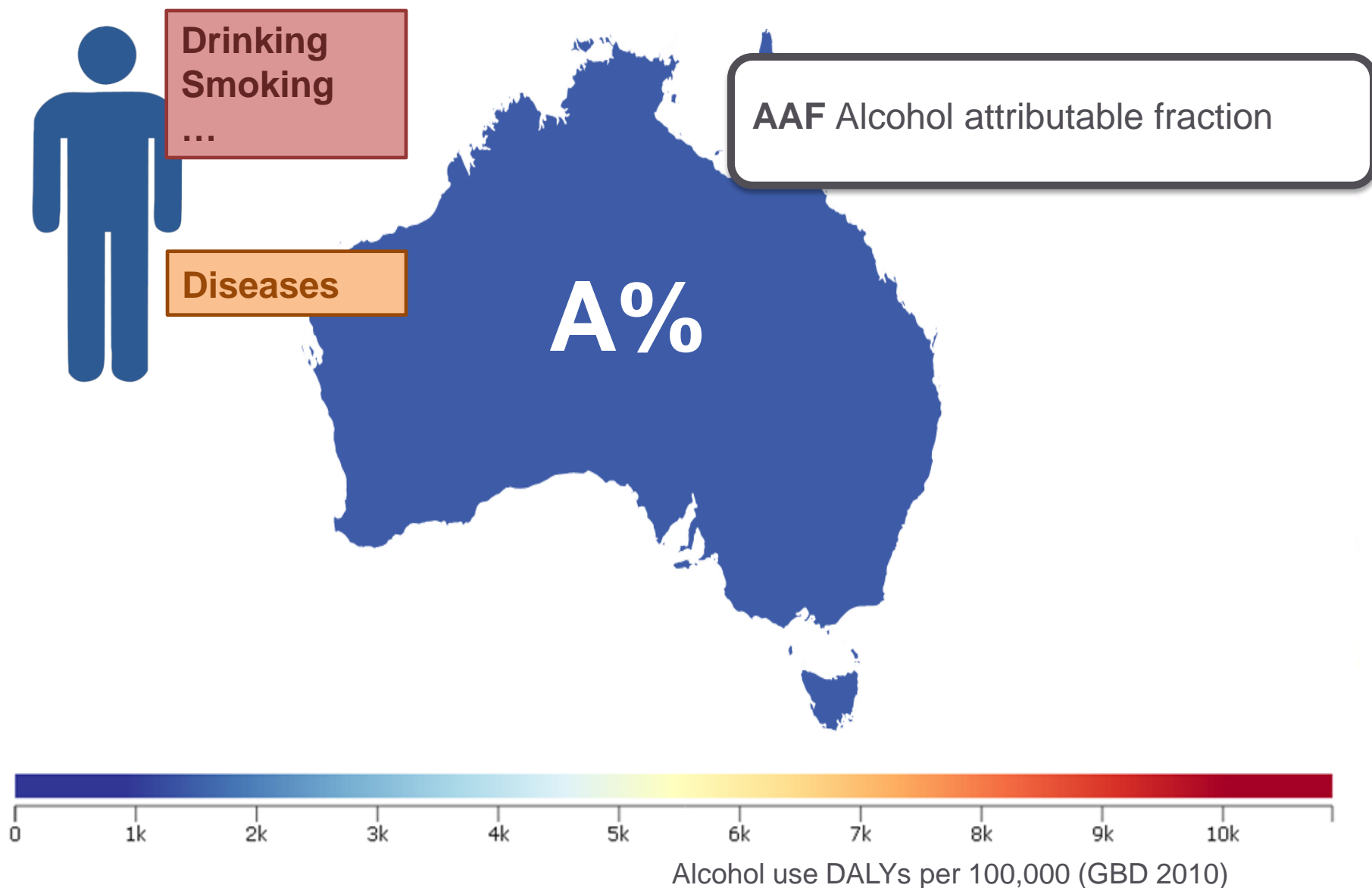
Assessing Burden of Disease

AAF Alcohol attributable fraction

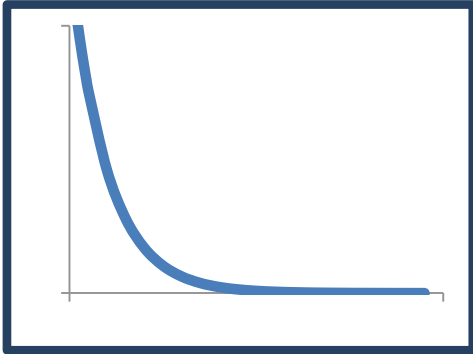


Alcohol use DALYs per 100,000 (GBD 2010)

Assessing Burden of Disease



Assessing Burden of Disease



AAF Alcohol attributable fraction

Modelled for each gender and age group (15-34, 35-64 and 65+) in all Australian jurisdictions

RR

RR

RR functions obtained from recent meta-analyses for 41 disease conditions and injuries

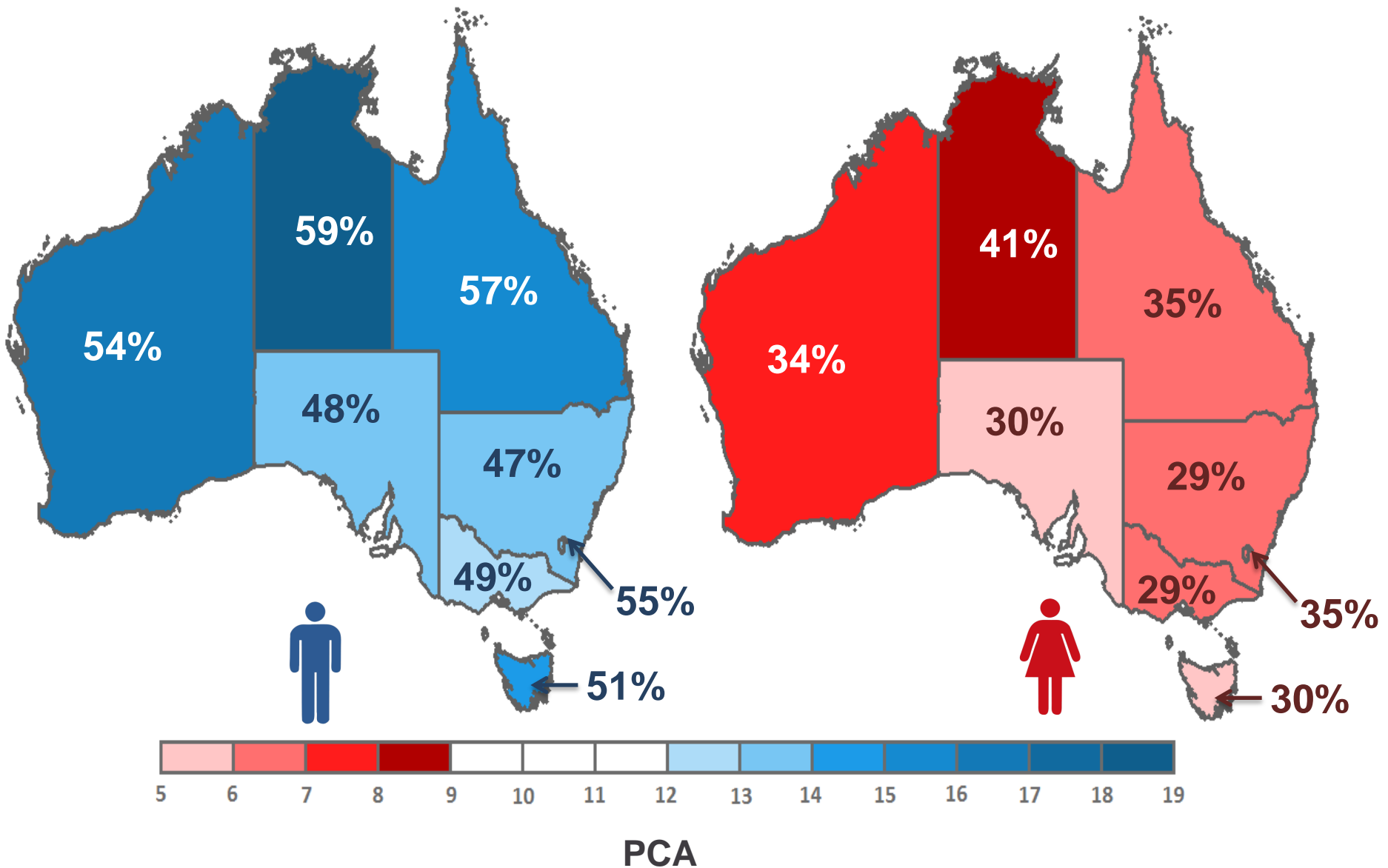
Per Capita Alcohol Consumption in Australia

- PCA based on state and territory alcohol sales data until 1996. Since then PCA has been estimated using national wholesale data
 - Except NT, WA and QLD
- Supplemented by survey data to construct consumption estimates by age and gender
- PCA upshifted to more accurately reflect consumption

Alcohol Consumption

State	Mean PCA (litres pure alcohol)*	Up-shifted PCA (litres pure alcohol)	Corrected PCA (litres pure alcohol) ‡
NSW	5.25	9.68	9.68
VIC	5.20	9.59	9.59
QLD	6.49	11.97	11.03
SA	5.22	9.62	9.62
WA	6.56	12.10	12.37
TAS	5.38	9.91	9.91
NT	8.31	15.32	13.73
ACT	5.51	10.16	10.16
Total (AUS)	5.65	10.42	10.42

PCA by Gender and Jurisdiction



Conditions

- **Cancers**

- Breast cancer
- Colon cancer
- Larynx cancer
- Liver cancer
- Oesophagus cancer
- Oral cavity and pharynx cancer
- Rectum cancer

- **Cardiovascular diseases**

- Alcohol cardiomyopathy
- Cardiac arrhythmias
- Haemorrhagic stroke†
- Hypertensive disease
- Ischaemic heart disease
- Ischaemic stroke

- **Conditions arising before birth**

- Fetal alcohol syndrome
- Fetus and newborn affected by maternal use of alcohol
- Maternal care for damage to foetus from alcohol
- Low birth weight

- **Digestive diseases**

- Alcoholic gastritis
- Liver Cirrhosis
- Pancreatitis
- Diabetes
- Diabetes mellitus (Type 2)

- **Infectious and parasitic diseases**

- HIV
- Lower respiratory infections
- Tuberculosis

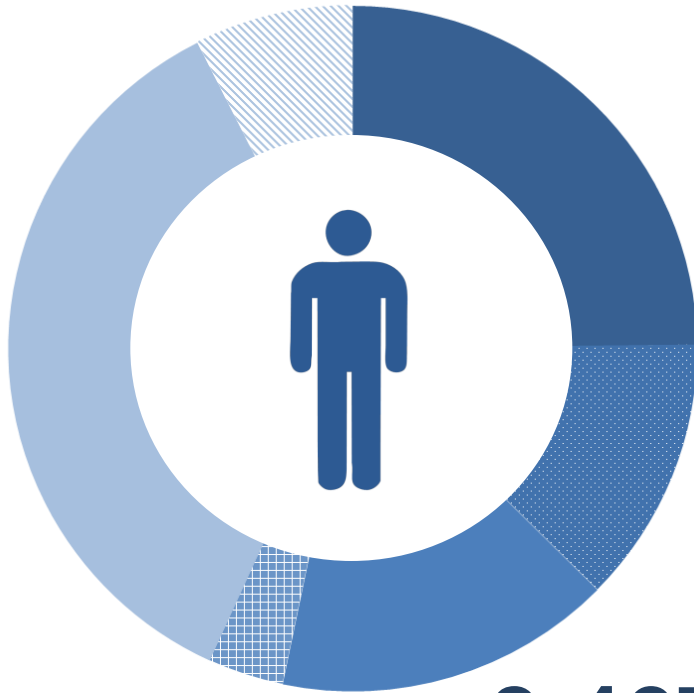
- **Injuries**

- MVA
- Non-MVA

- **Neuropsychiatric diseases**

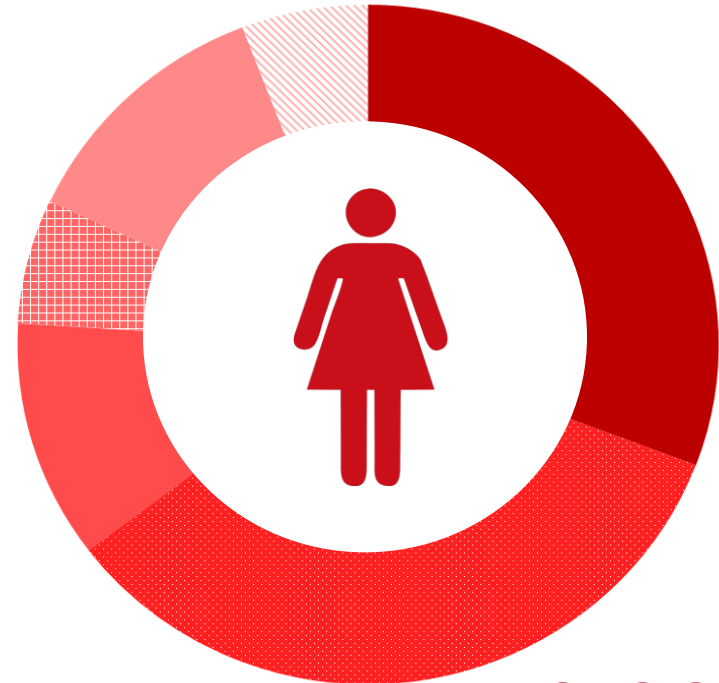
- Epilepsy
- Mental and behavioural disorders due to use of alcohol
- Other alcohol-induced neuropsychiatric conditions
-

Alcohol attributable Deaths



3,467 Per Year

- Cancers (25%)
- Cardiovascular diseases (13%)
- Digestive diseases (16%)
- Infectious and parasitic diseases (4%)
- Injuries (36%)
- Neuropsychiatric diseases (7%)



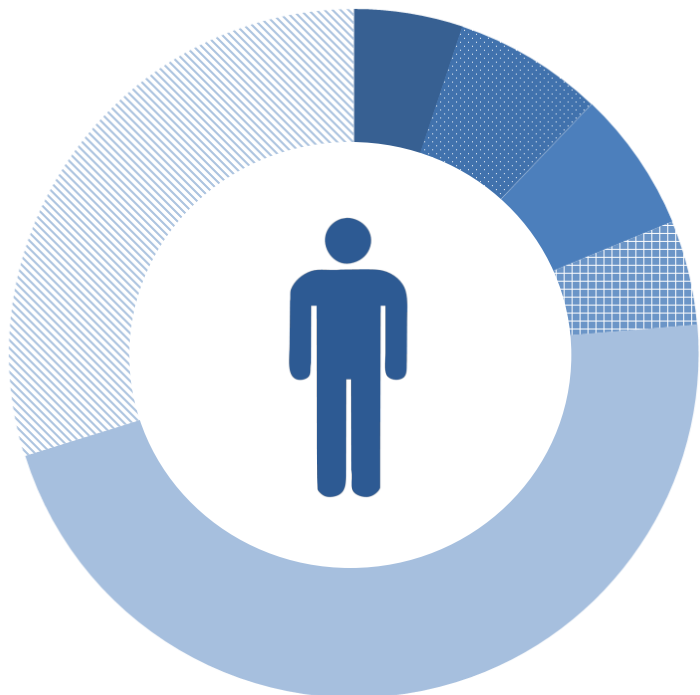
2,087 Per Year

- Cancers (31%)
- Cardiovascular diseases (34%)
- Digestive diseases (11%)
- Infectious and parasitic diseases (6%)
- Injuries (12%)
- Neuropsychiatric diseases (6%)

Alcohol attributable hospitalizations

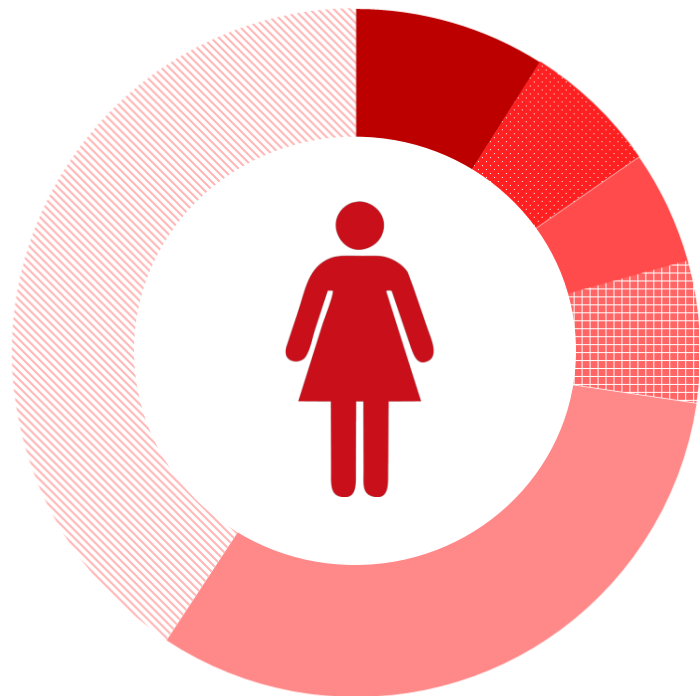


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101,425 Per Year

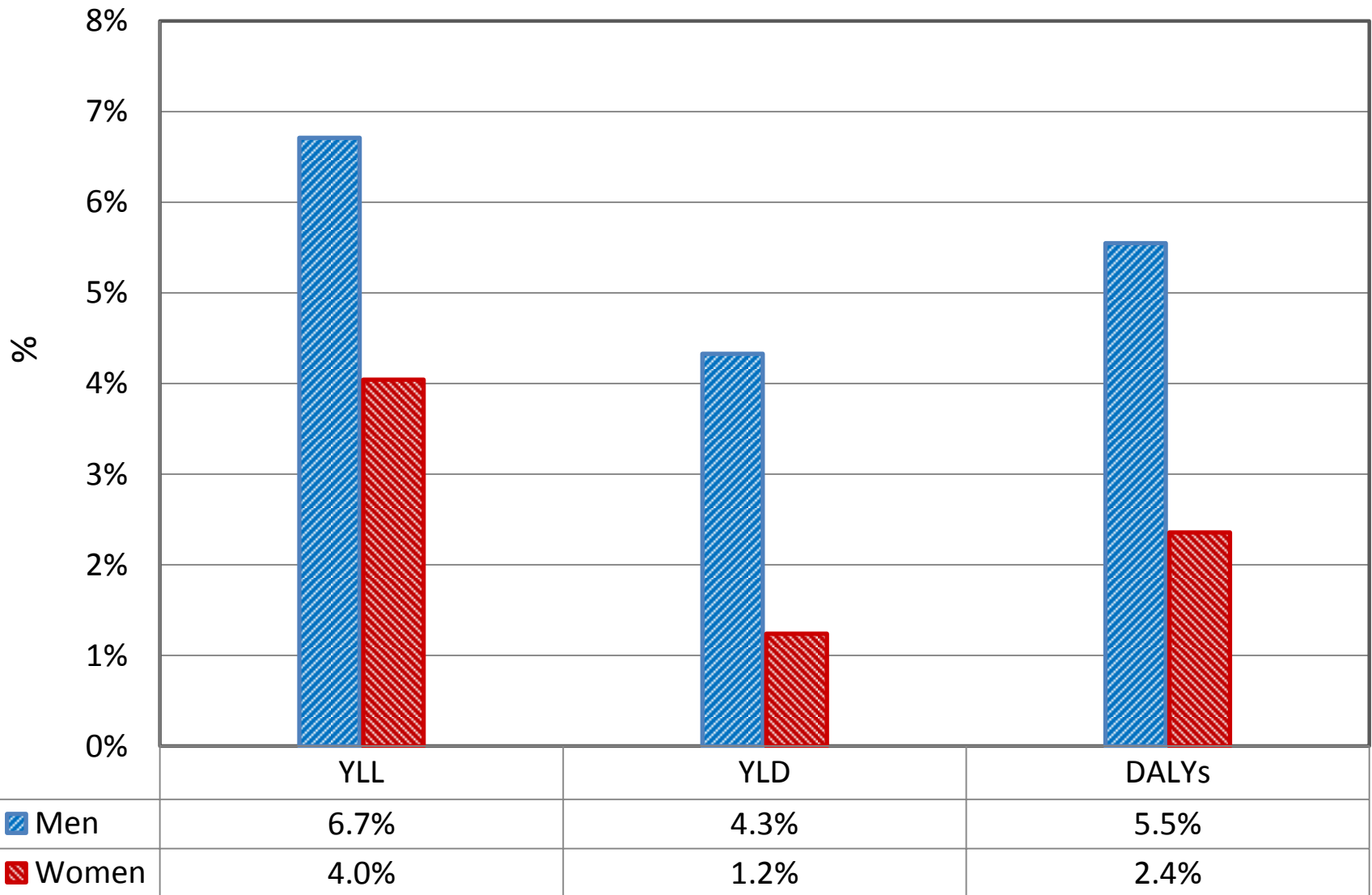
- Cancers (5%)
- Cardiovascular diseases (7%)
- Digestive diseases (7%)
- Infectious and parasitic diseases (5%)
- Injuries (47%)
- Neuropsychiatric diseases (30%)



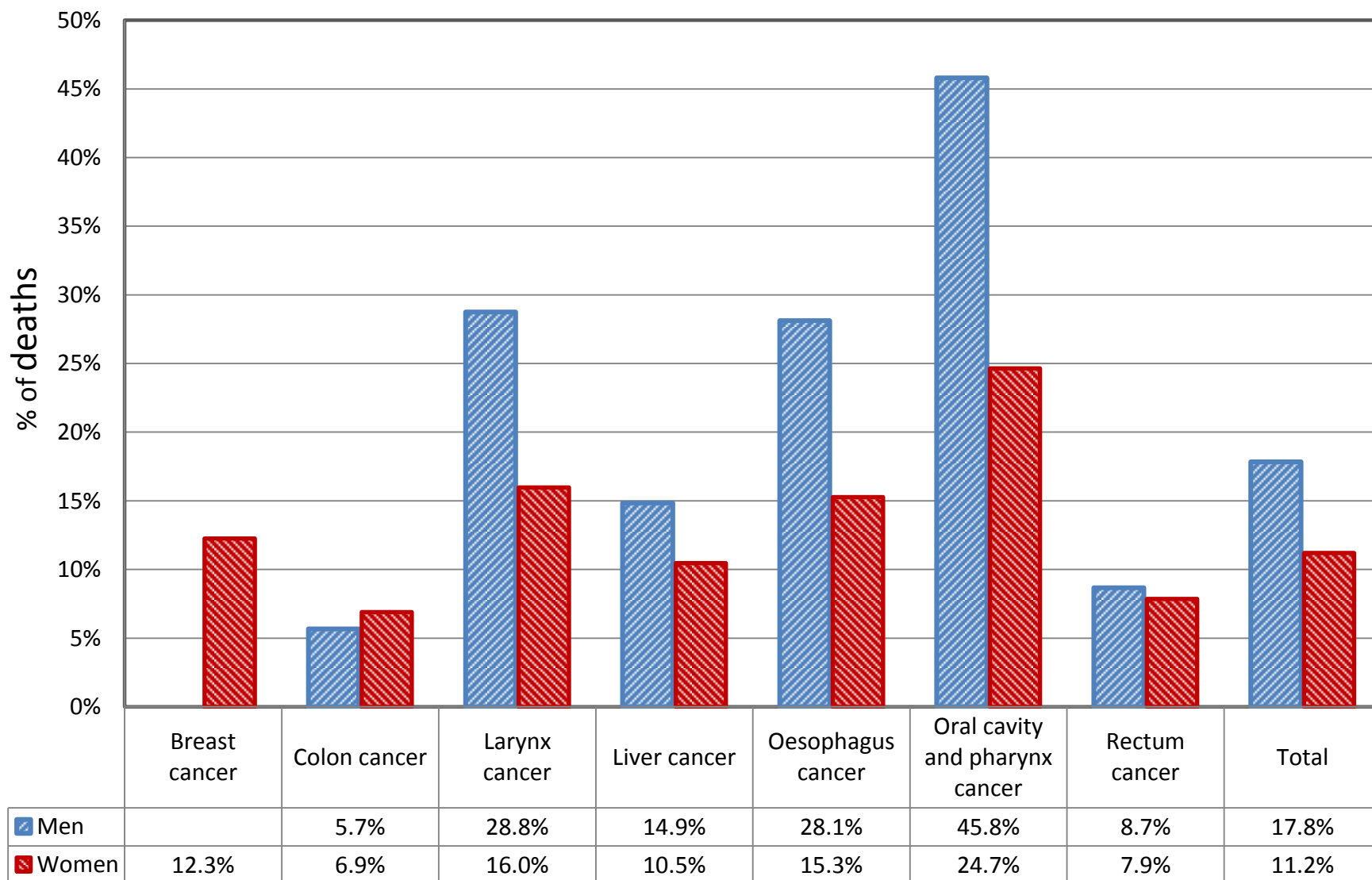
55,707 Per Year

- Cancers (9%)
- Cardiovascular diseases (6%)
- Digestive diseases (5%)
- Infectious and parasitic diseases (7%)
- Injuries (32%)
- Neuropsychiatric diseases (41%)

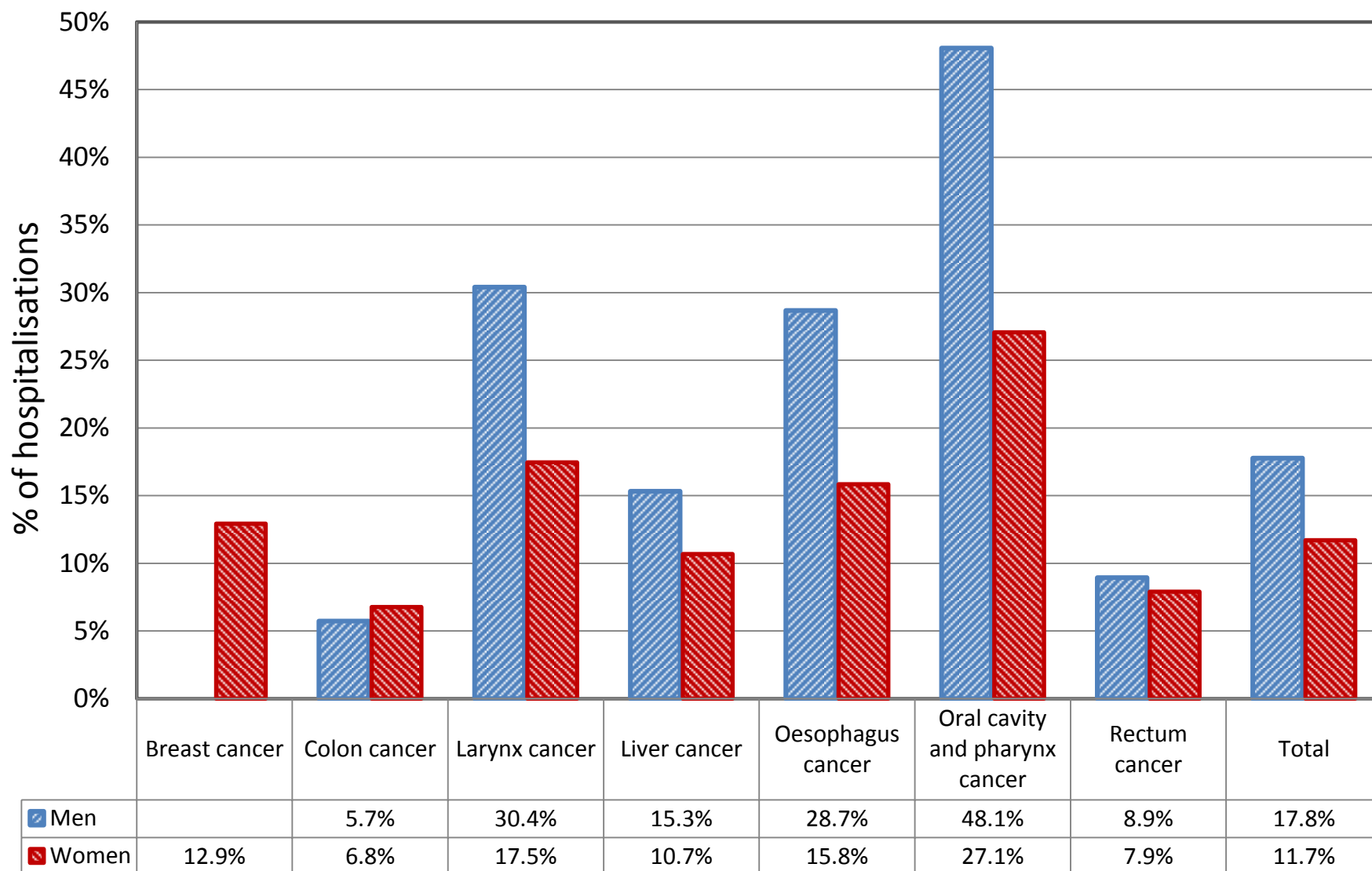
Alcohol attributable DALYs



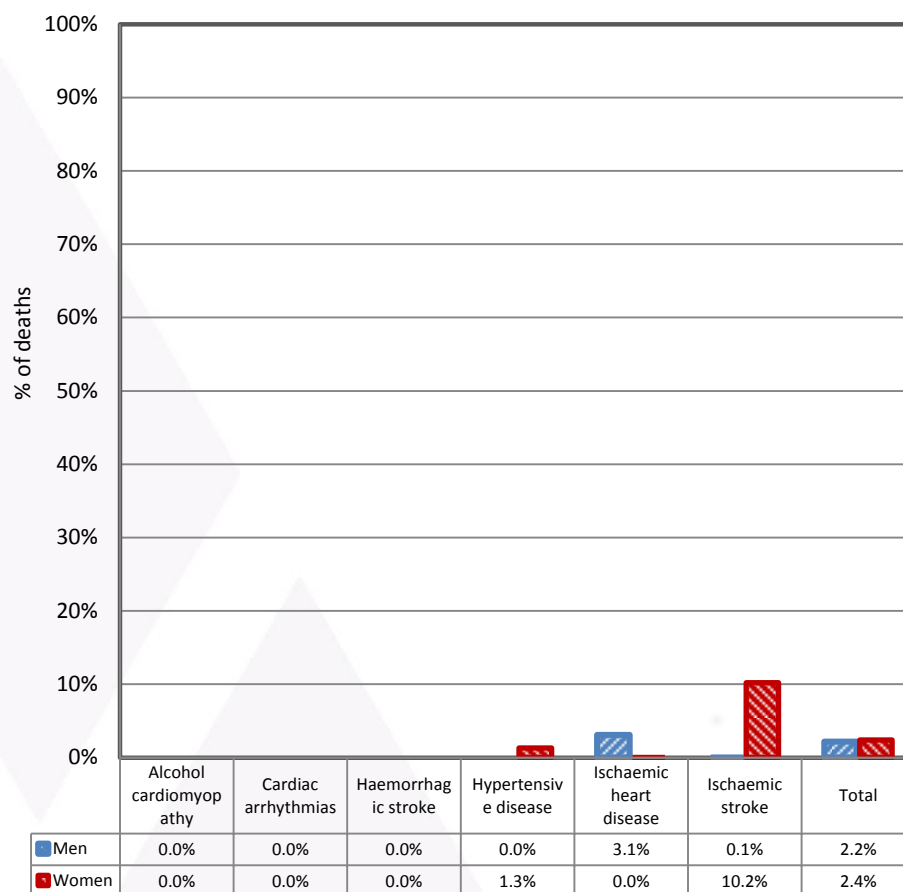
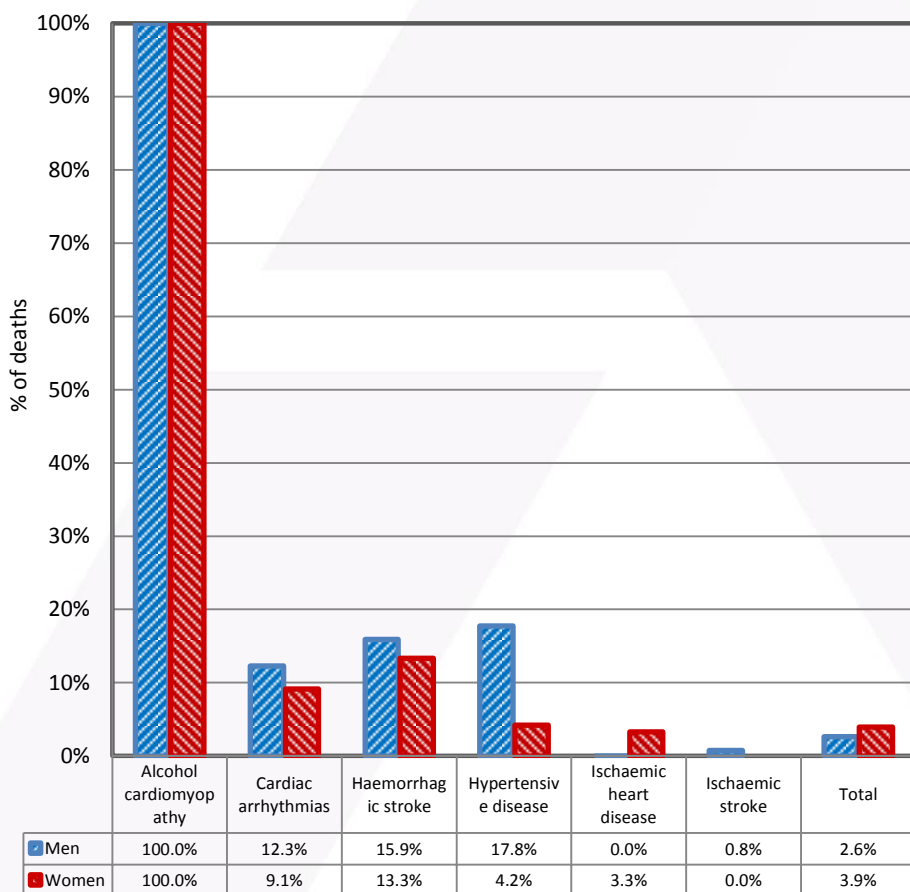
Proportion of cancers deaths attributable to alcohol



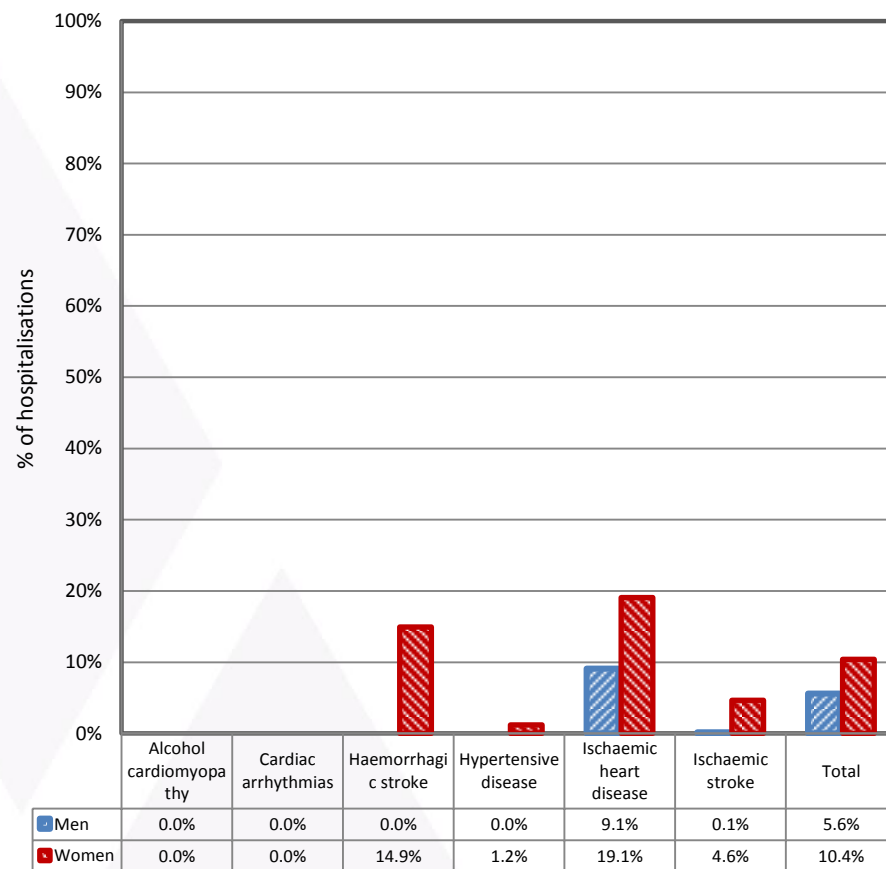
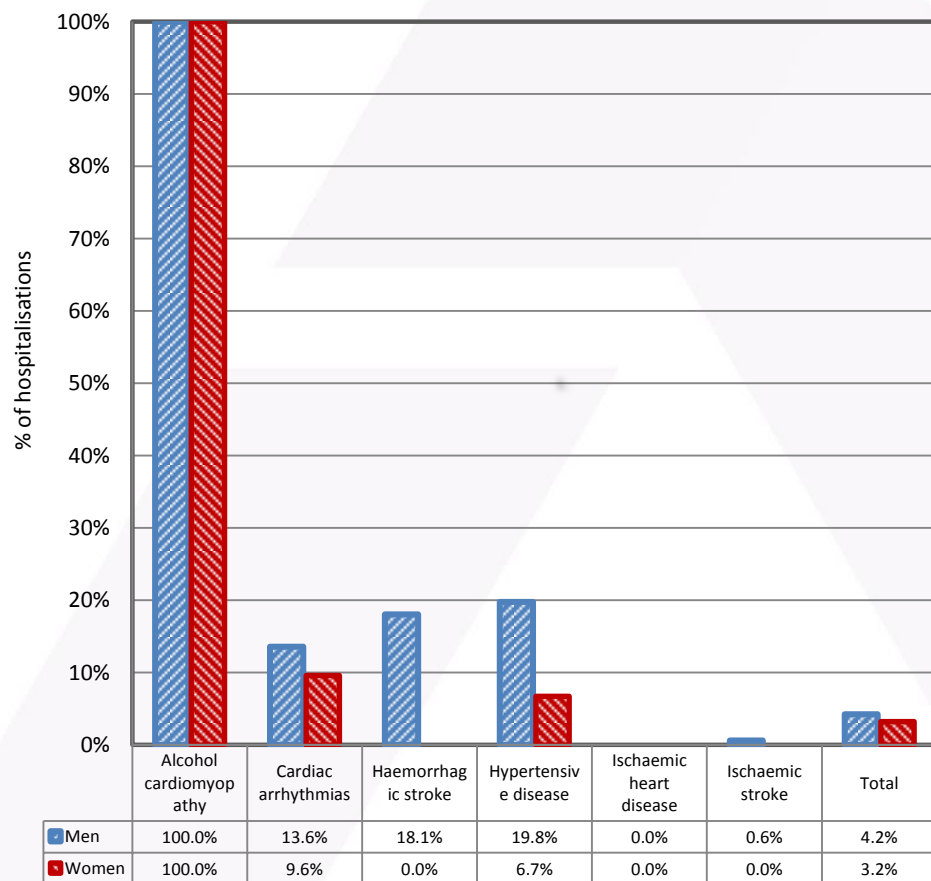
Proportion of cancers hospitalizations attributable to alcohol



Proportion of cardiovascular diseases deaths attributable or protected by alcohol



Proportion of cardiovascular diseases hospitalizations attributable or protected by alcohol



Number and percentage of alcohol-attributable injuries deaths and hospitalisations

Disease	Deaths (%*)		Hospitalisations (%*)	
	Men	Women	Men	Women
Alcohol poisoning	60 (5%)	21 (8%)	714 (2%)	690 (4%)
MVA	103 (8%)	17 (7%)	1,812 (4%)	473 (3%)
Non-MVA	1,076 (87%)	218 (85%)	44,663 (95%)	16,616 (93%)
Total	1,239 (100%)	256 (100%)	47,189 (100%)	17,779 (100%)

*—Percentage of total alcohol-attributable injuries deaths or hospitalisations

Discussion

- Alcohol consumption at the population level has remained consistent over a number of years
 - However increased abstainers + heavy drinkers
- Overall alcohol-related harm has increased since the last alcohol BoD estimate
 - Alcohol attributable for 4.1% DALYS
 - Increase in hospitalisations due to alcohol

Discussion

- Some caveats
 - Interpreting AAFs
 - Conservative Estimate of harm
 - Harm to others not examined
- **What is new**
 - More information of chronic conditions
 - State-based estimates of consumption + harm



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