

Life expectancy and disease burden among males and females in the Nordic countries: Results from the Global Burden of Diseases, Injuries and Risk Factors Study 2017 (GBD 2017)

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on behalf of the Nordic Burden of disease collaborators

Published in *Lancet Public Health* 20.11.19

The Nordic countries

- Characterised by collaboration and shared features of policy and welfare systems («The Nordic Model»)
- They generally rank high on a range of sociodemographic and health-relevant measures
- Rich and comparable health data environment, however, broad analyses of similarities and differences in life expectancy and disease burden between the countries are lacking



Aims of the study

Use results from the Global Burden of Disease Study 2017 (GBD 2017) to:

1. Explore development in life expectancy from 1990 to 2017 in the Nordic countries and Greenland
2. Identify and compare the top ten causes for disability-adjusted life-years (DALYs) among males and females in the Nordic countries and Greenland.
3. Identify and compare the top ten risk factors for disability-adjusted life-years (DALYs) among males and females in the Nordic countries and Greenland.

The Global Burden of Disease Study

- A systematic, scientific effort to quantify the comparative magnitude of health loss due to diseases, injuries, and risk factors by age, sex and geography for specific points in time
- Give an overview over disease burden which is:
 - Complete
 - Up-to-date

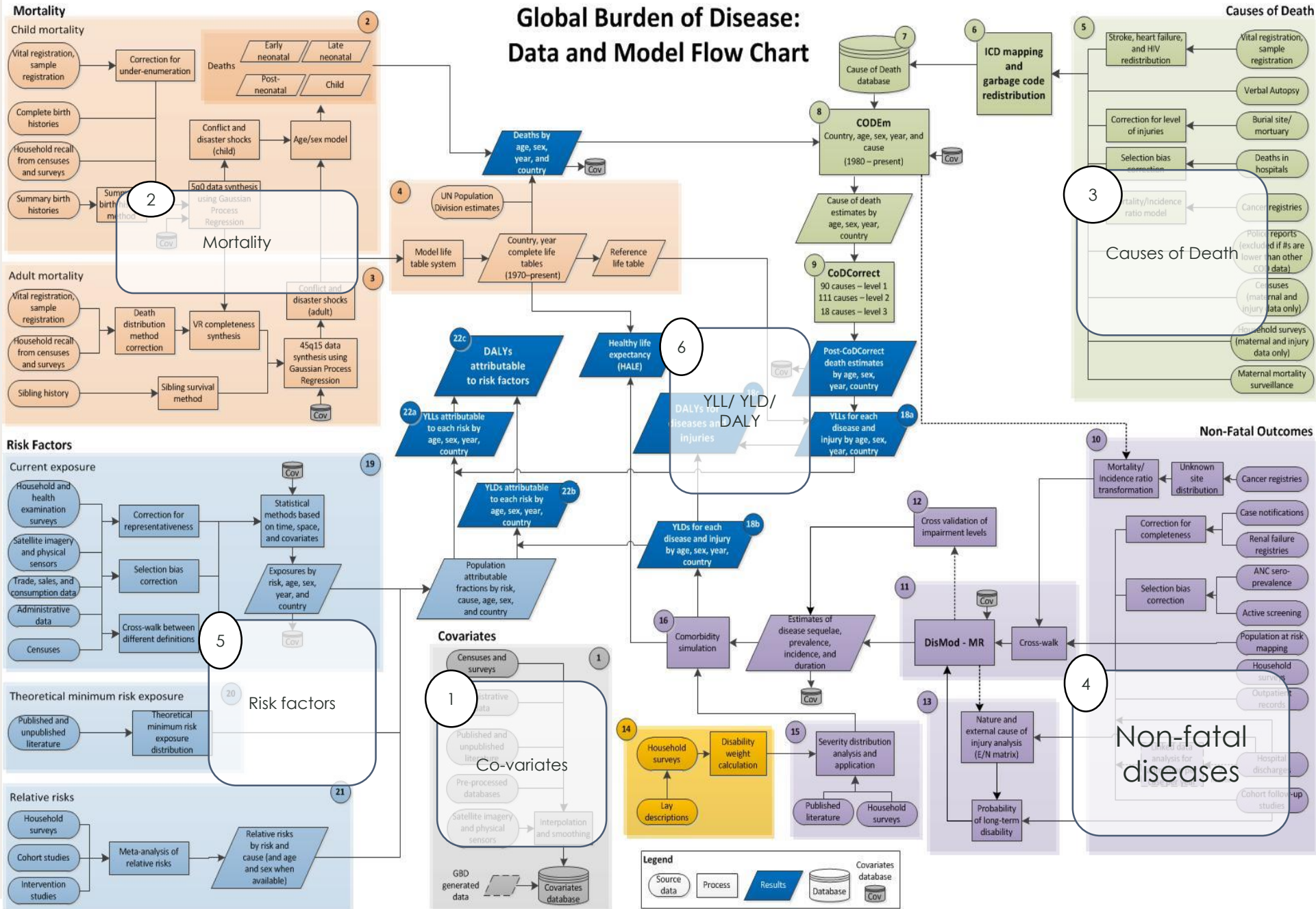


CELEBRATING 20 YEARS
OF COLLABORATION AND INNOVATION



IHME

Global Burden of Disease: Data and Model Flow Chart



Results from the Global Health Data Exchange (GHDx.org)

- Age-standardised rates of
 - Life expectancy
 - Years of Life Lost (YLL) – fatal disease burden
 - Years Lived with Disability (YLD) – nonfatal disease burden
 - Disability-Adjusted Life-Years (DALY) – summary measure of fatal and nonfatal disease burden
- Differences between Nordic regional estimates and location-specific estimates

Home > IHME Data
GBD Results Tool

Default results are global all-cause deaths and DALYs for 2017 with trends since 1990. Refer to the documentation in the 'Help' tab for assistance with common questions, querying the tool, interpreting and using results, and troubleshooting.

Base: Single (selected), Change, PoD
 Location: Add/Remove... (6)
 Year: Add/Remove... (1)
 Context: Cause
 Age: Add/Remove... (1)
 Metric: Add/Remove... (0)
 Measure: Add/Remove... (1)
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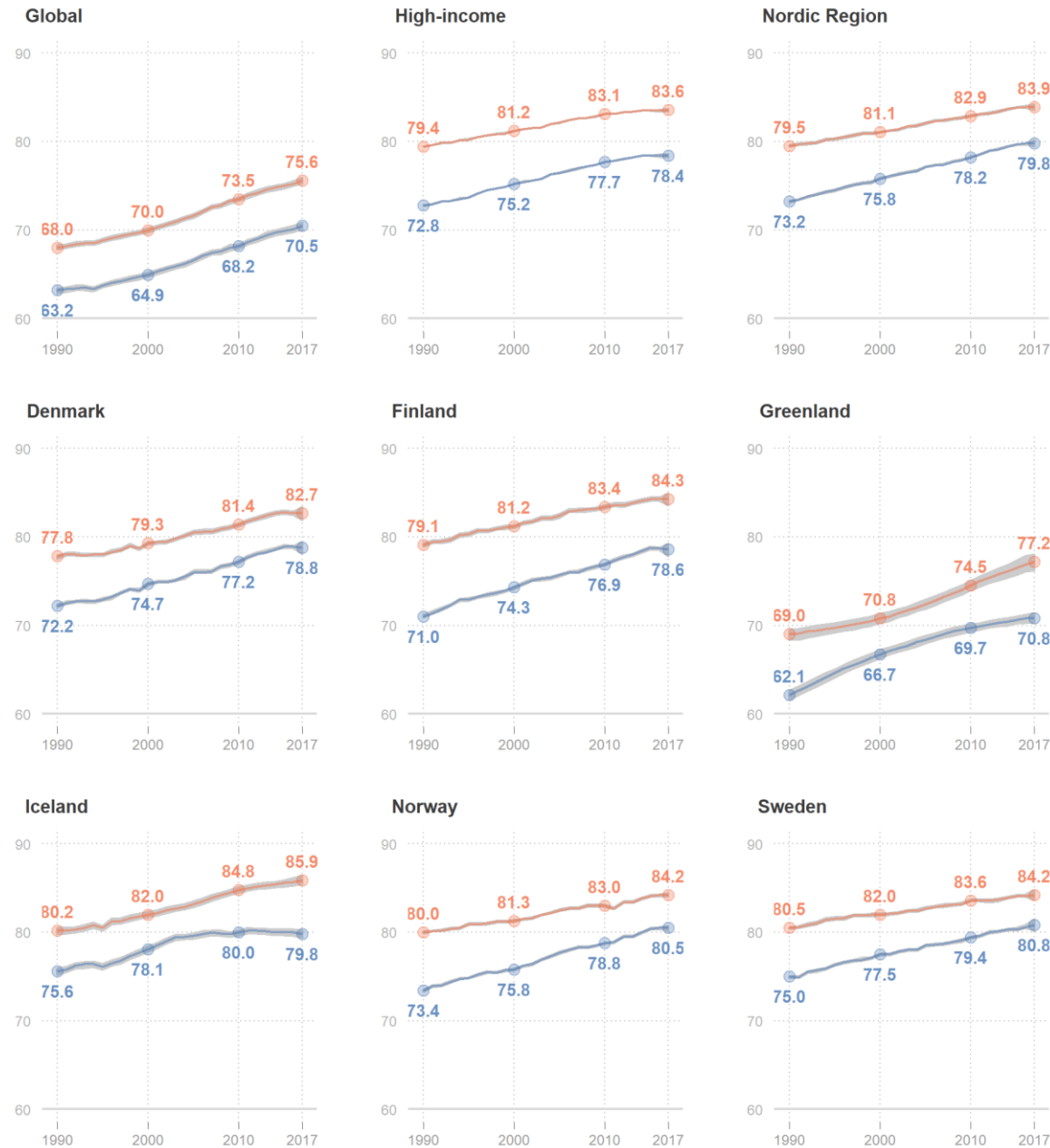
MEASURE	LOCATION	SEX	AGE	CAUSE	METRIC	YEAR	VAL	UPPER	LOWER
DALYs (Disability-Adjusted Life Years)	Norway	Both sexes	Age-standa...	All causes	Rate	2017	18,648.42	21,890.06	15,815.93
DALYs (Disability-Adjusted Life Years)	Iceland	Both sexes	Age-standa...	All causes	Rate	2017	17,664.75	20,765.71	14,940.33
DALYs (Disability-Adjusted Life Years)	Denmark	Both sexes	Age-standa...	All causes	Rate	2017	19,430.93	22,631.70	16,658.14
DALYs (Disability-Adjusted Life Years)	Greenland	Both sexes	Age-standa...	All causes	Rate	2017	30,038.05	33,257.89	26,970.68
DALYs (Disability-Adjusted Life Years)	Sweden	Both sexes	Age-standa...	All causes	Rate	2017	18,002.26	21,162.09	15,162.59
DALYs (Disability-Adjusted Life Years)	Finland	Both sexes	Age-standa...	All causes	Rate	2017	19,522.24	22,826.52	16,680.16

Figure 1. Life expectancy* at birth by sex globally, in the Global Burden of Disease high-income region¹, the Nordic region and the Nordic countries, 1990, 2000, 2010 and 2017.

*The grey area around the lines indicate the 95% uncertainty intervals around the estimates.

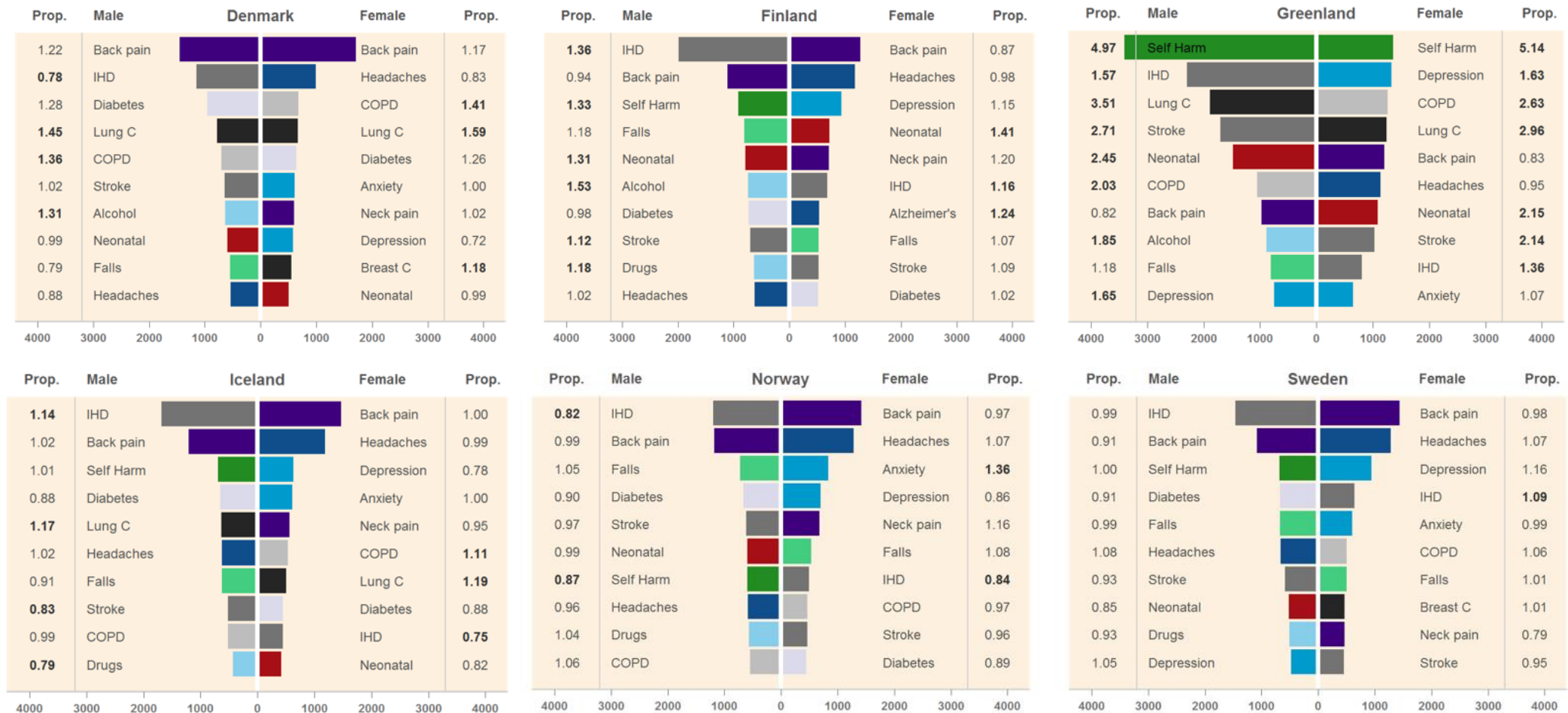
¹The GBD high income region consist of the population in Western Europe, Southern Latin America, high income countries in Northern America and Asia Pacific, and Australasia.

● Female ● Male



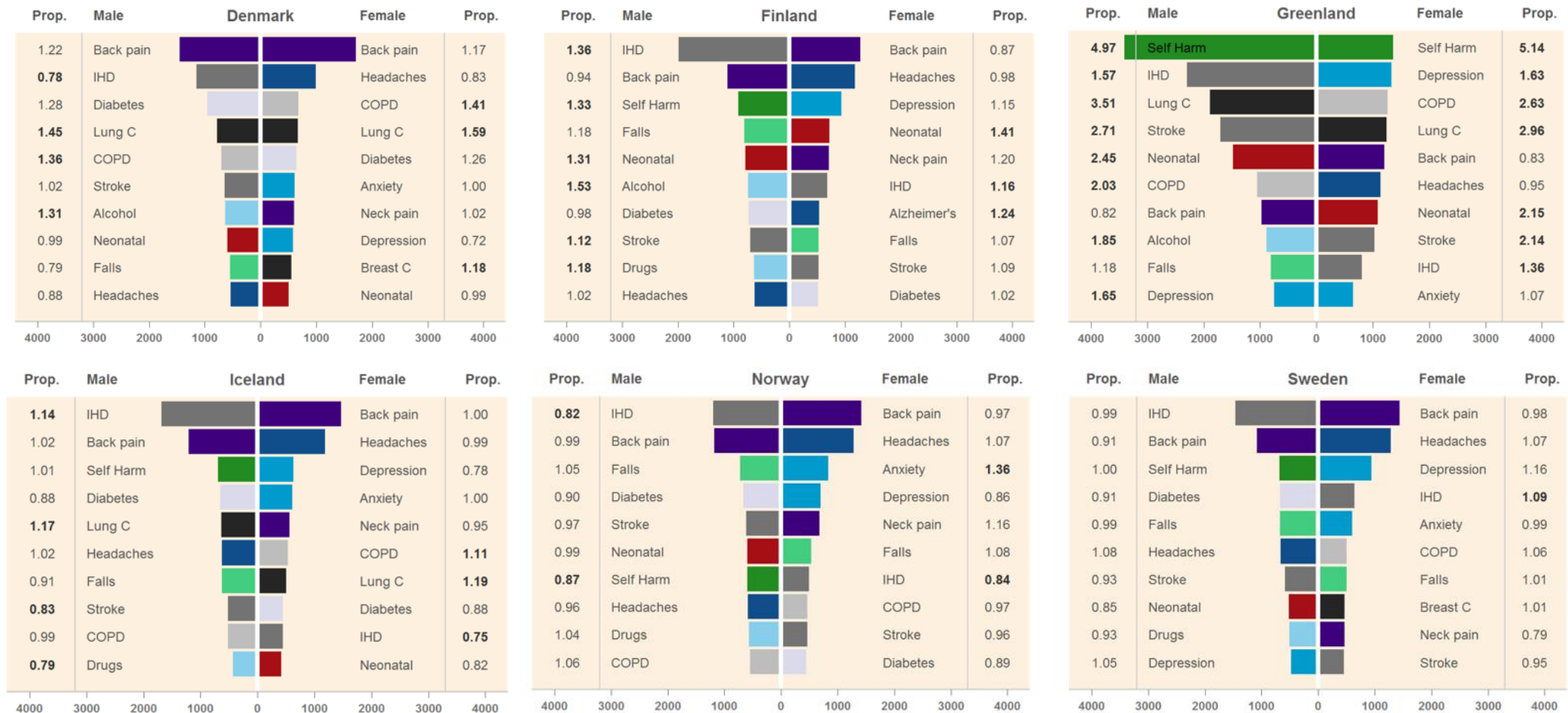
- **LE increased** from 1990 to 2017 in all sex-location groups
- Higher LE in the **Nordic countries** than globally and in the high-income region
- **Females higher LE than males**, the gap generally reduced over the period
- Highest LE in **Iceland** (females) and **Sweden** (males)
- Lower LE in **Finland** (males) and **Denmark** (males and females)
- Lowest LE in **Greenland**

Figure 2. Age-standardised disability-adjusted life-years (DALY) rates per 100,000 by sex for the top-ten causes (Level 3) in the Nordic countries in 2017, including proportional difference* from the Nordic region estimate.



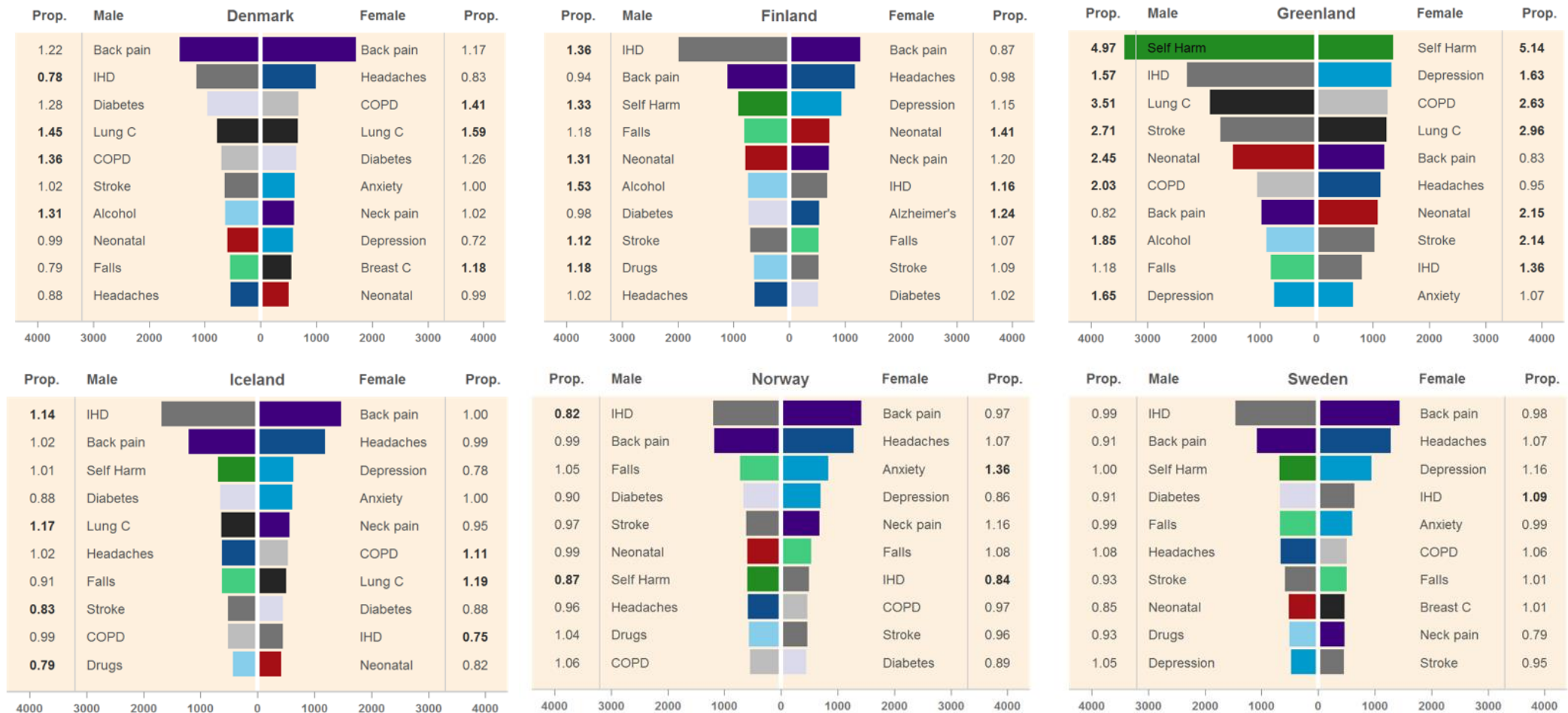
Many similarities in leading causes of DALYs and disease burden from these between the countries

Figure 2. Age-standardised disability-adjusted life-years (DALY) rates per 100,000 by sex for the top-ten causes (Level 3) in the Nordic countries in 2017, including proportional difference* from the Nordic region estimate.



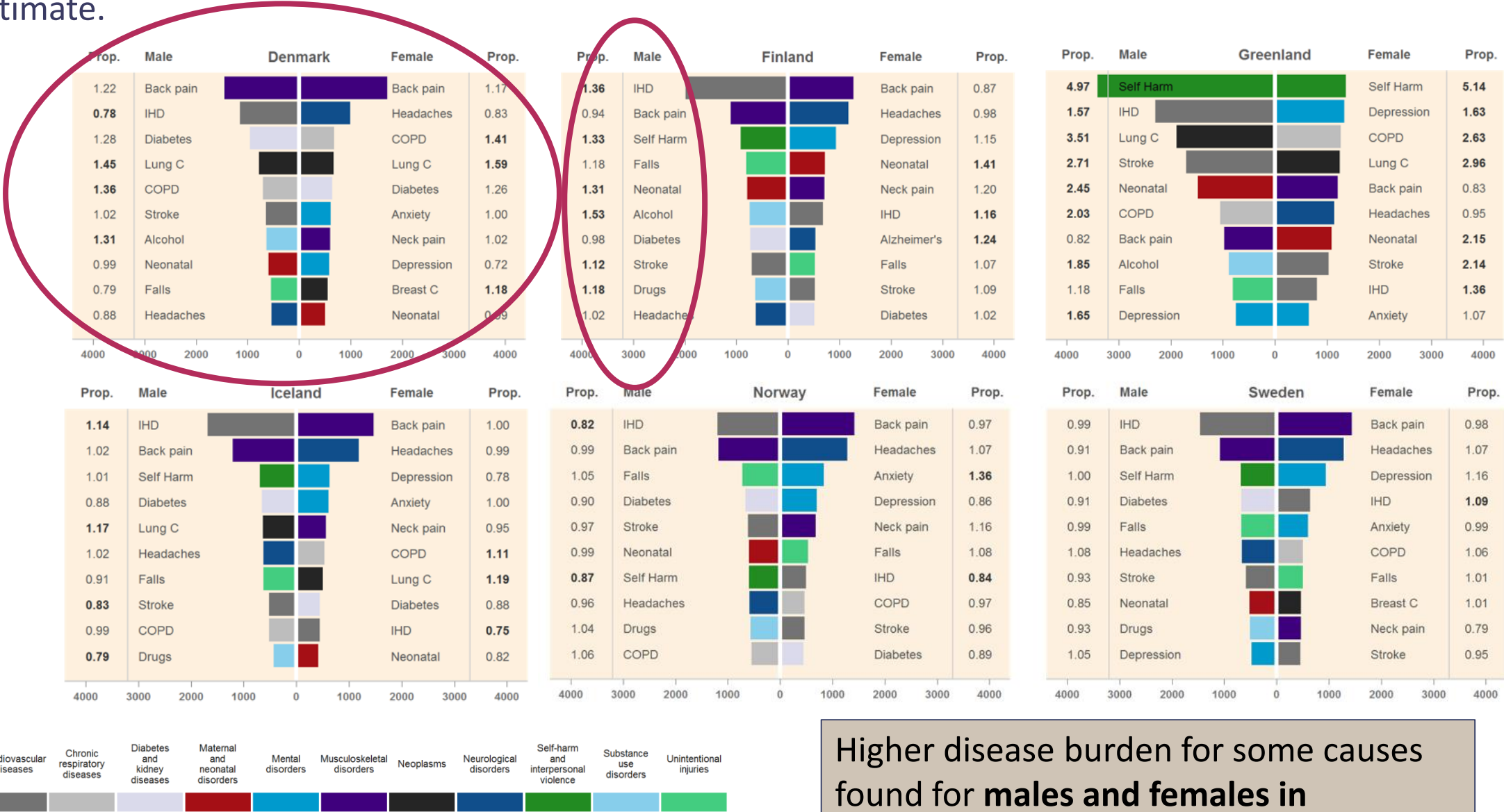
Sex-differences in leading causes; **males** causes related to YLLs, **females** causes related to YLDs

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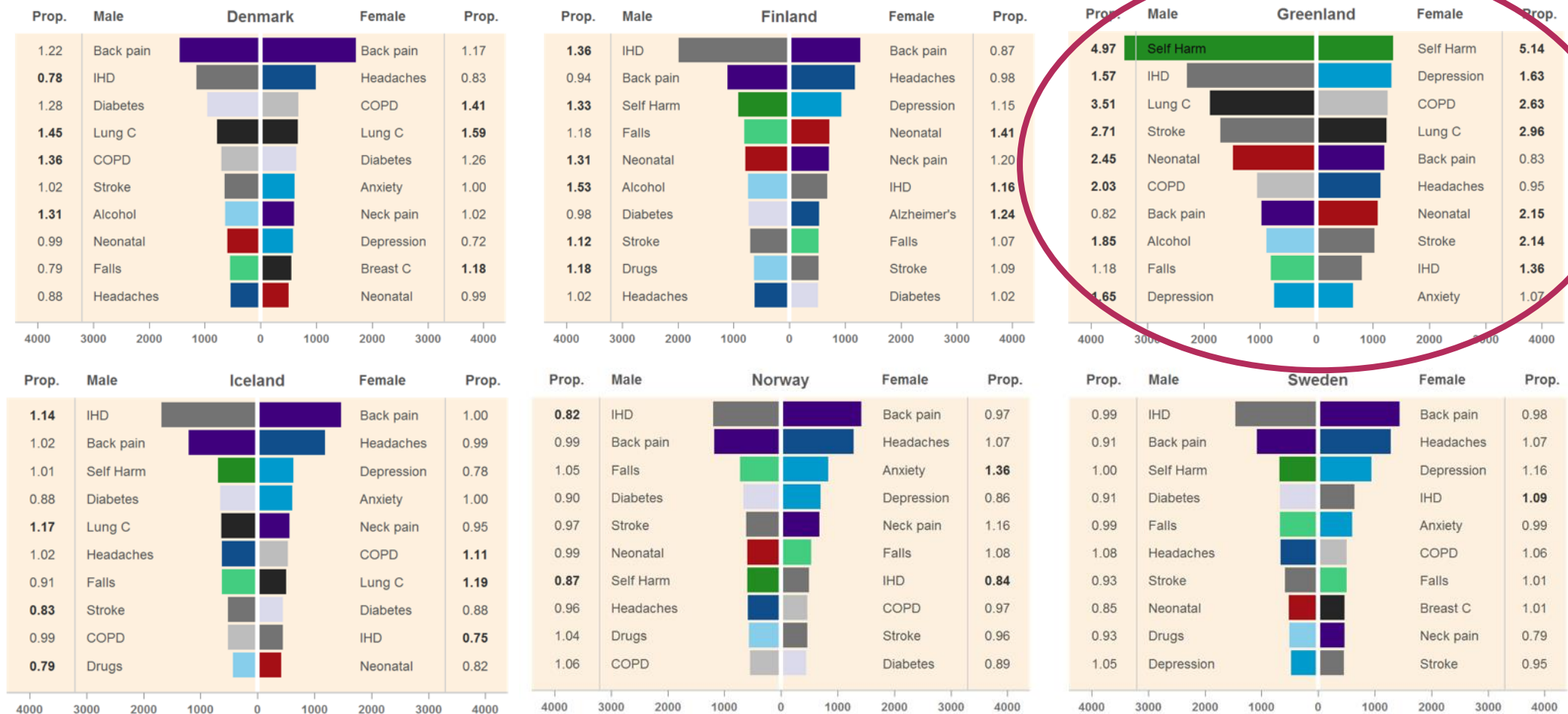
Country-differences primarily found for causes related to **YLLs**

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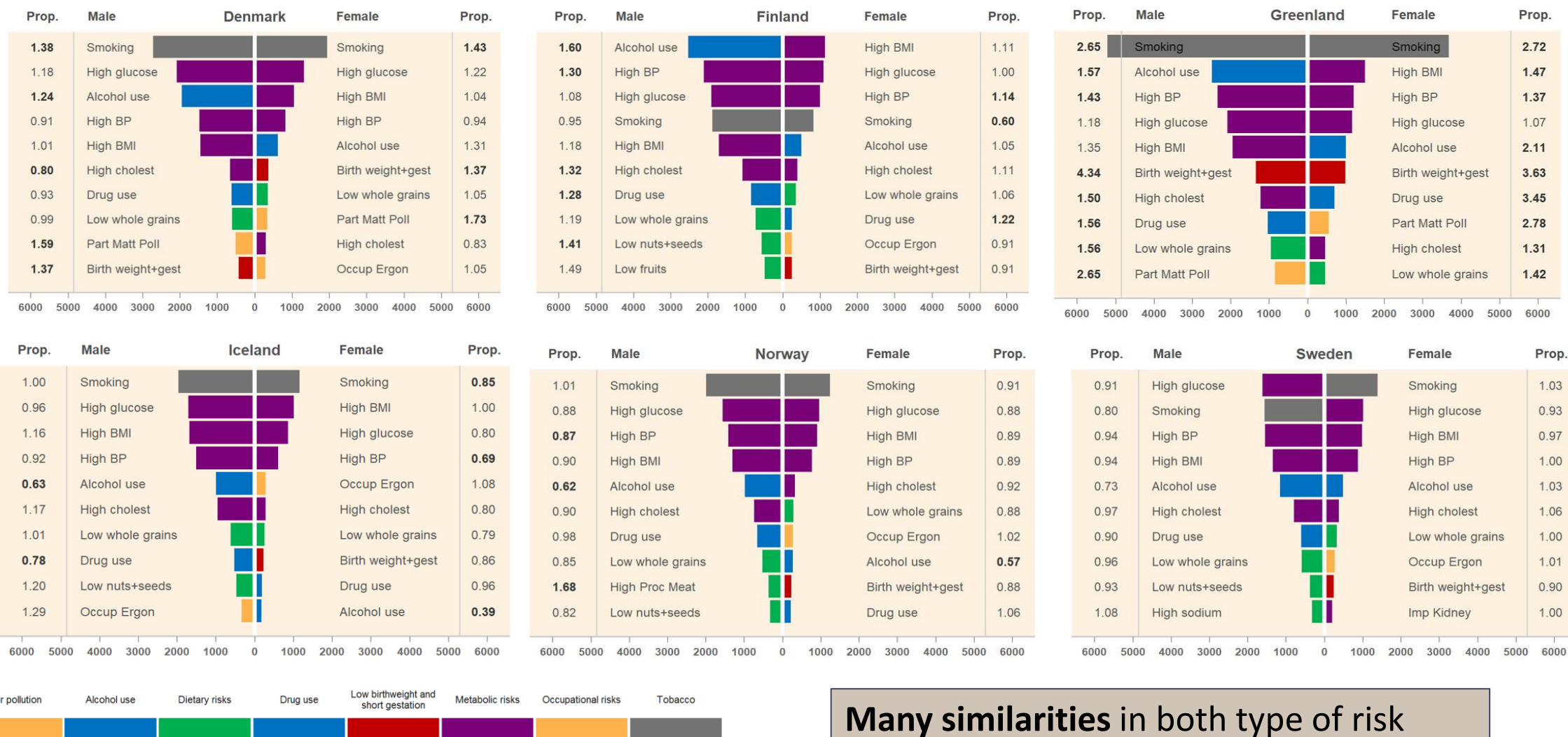
Higher disease burden for some causes found for males and females in Denmark, and males in Finland

Figure 2. Age-standardised disability-adjusted life-years (DALY) rates per 100,000 by sex for the top-ten causes (Level 3) in the Nordic countries in 2017, including proportional difference* from the Nordic region estimate.



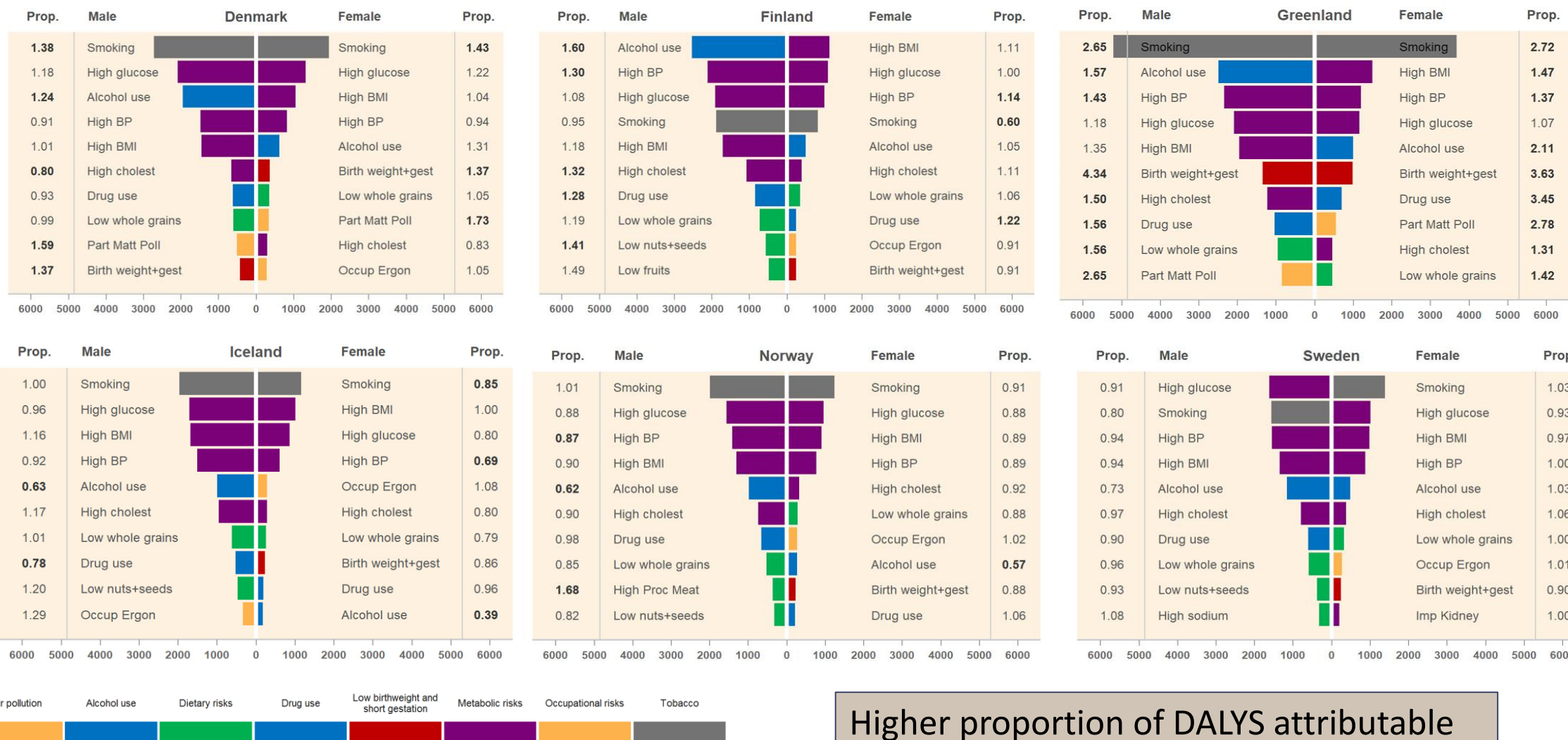
Greenland had higher disease burden than the Nordic countries for most causes

Figure 3. Age-standardised disability-adjusted life-years (DALY) rates per 100,000 by sex for the top-ten risk factors (Level 3) in the Nordic countries in 2017, including proportional difference* from the Nordic region estimate.



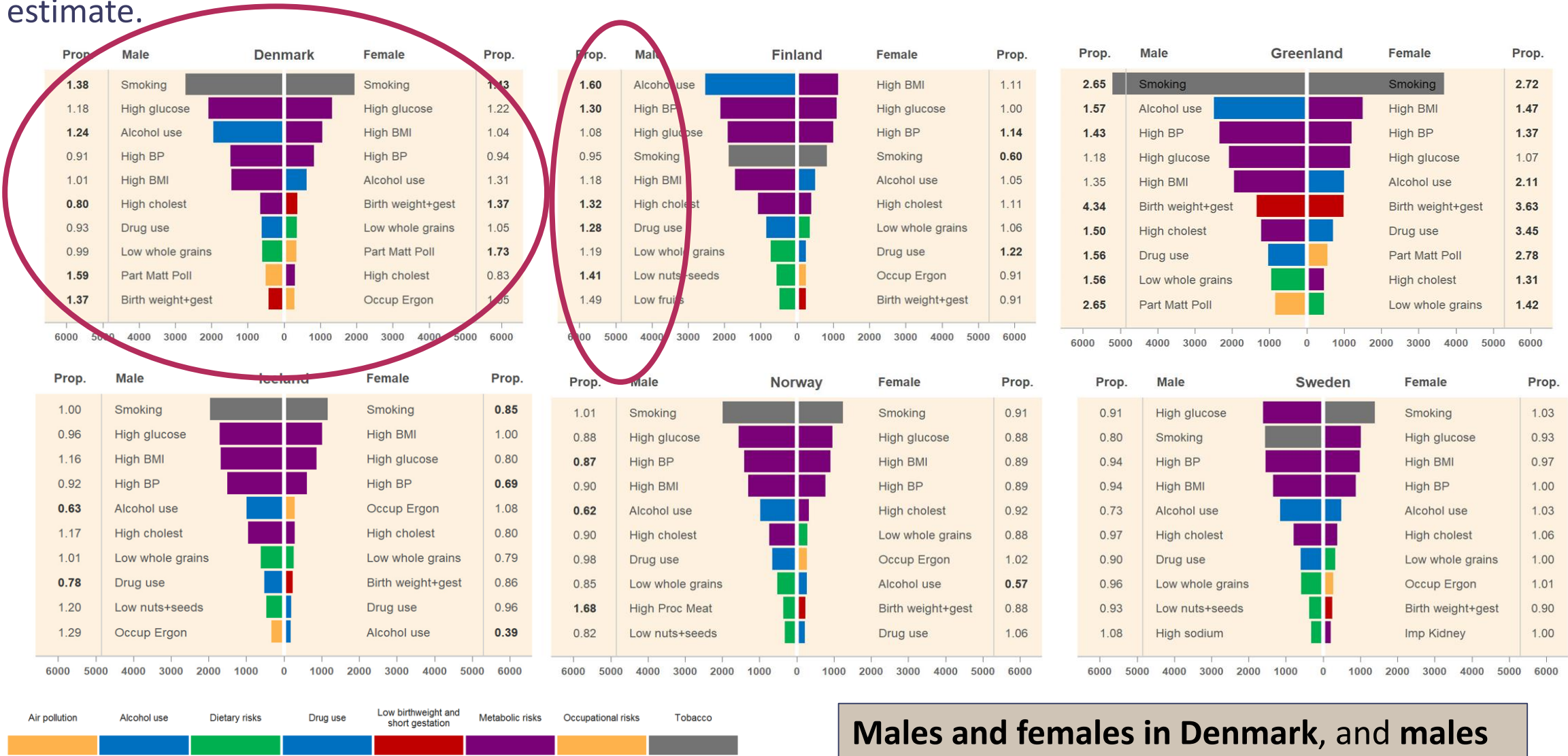
Many similarities in both type of risk factors and size of disease burden due to these between the countries

Figure 3. Age-standardised disability-adjusted life-years (DALY) rates per 100,000 by sex for the top-ten risk factors (Level 3) in the Nordic countries in 2017, including proportional difference* from the Nordic region estimate.



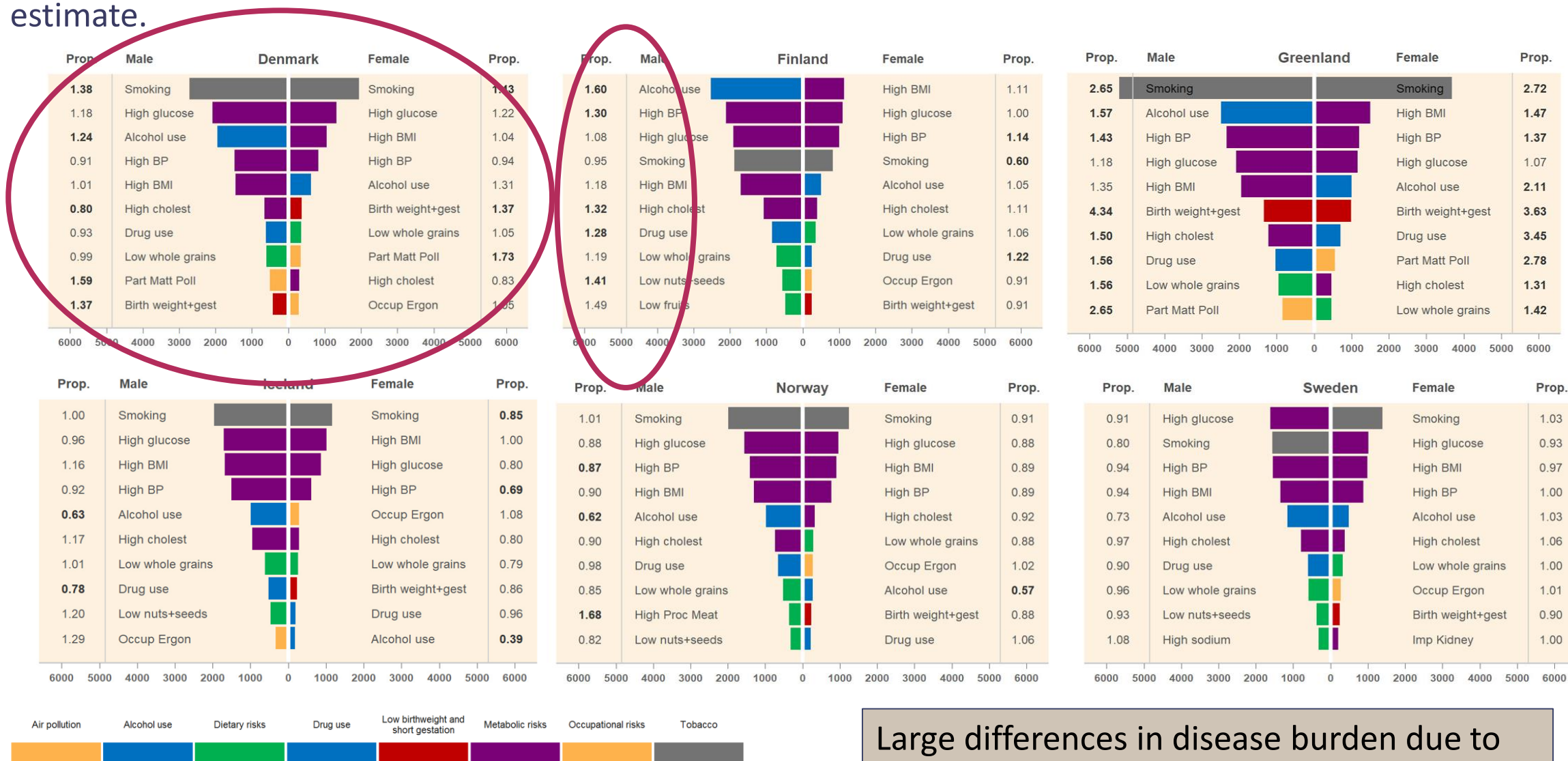
Higher proportion of DALYS attributable to risk factors among males than females

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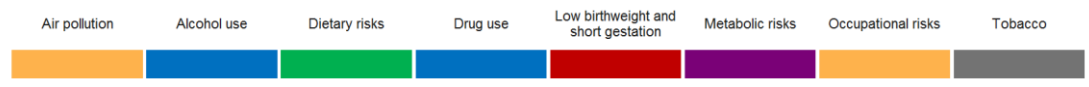
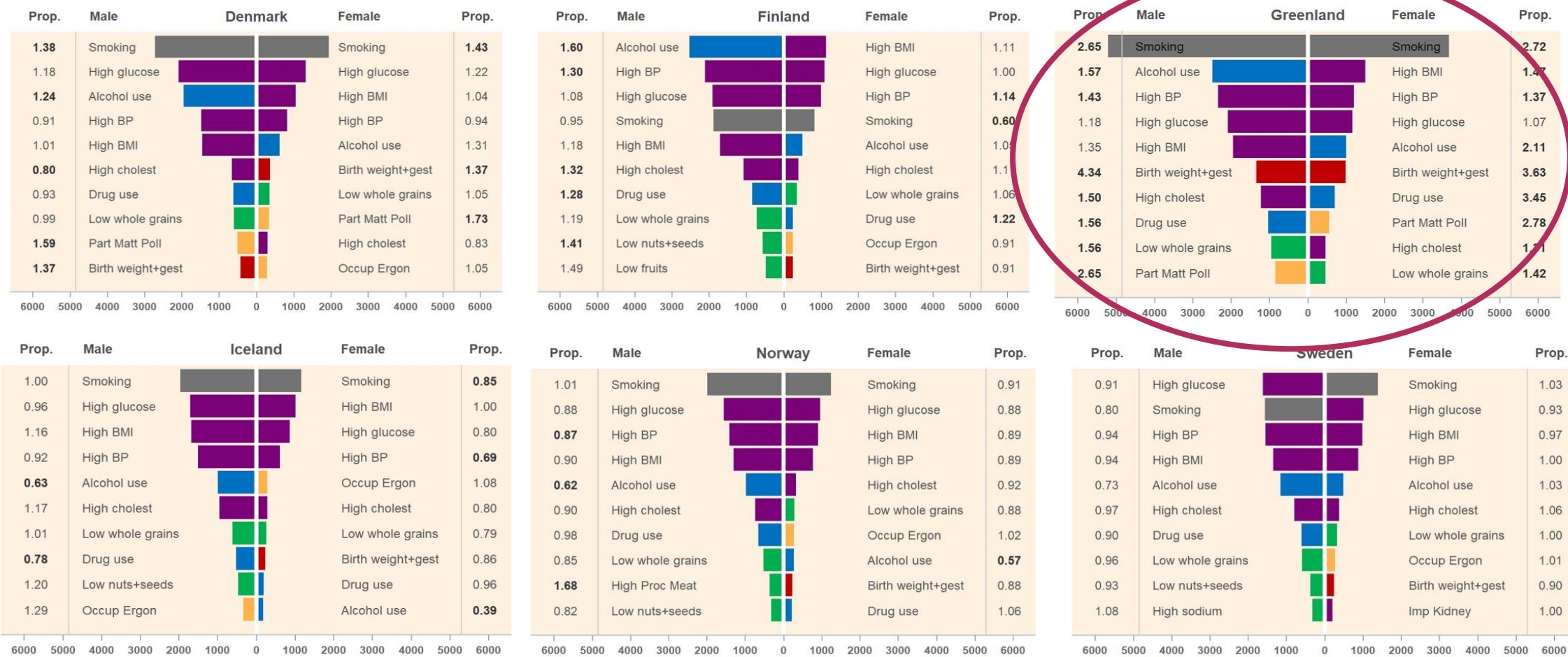
Males and females in Denmark, and males in Finland had higher DALY rates attributable to risk factors than the other countries

Figure 3. Age-standardised disability-adjusted life-years (DALY) rates per 100,000 by sex for the top-ten risk factors (Level 3) in the Nordic countries in 2017, including proportional difference* from the Nordic region estimate.



Large differences in disease burden due to **alcohol use** (highest in Finland and Denmark) and **smoking** (highest in Denmark)

Figure 3. Age-standardised disability-adjusted life-years (DALY) rates per 100,000 by sex for the top-ten risk factors (Level 3) in the Nordic countries in 2017, including proportional difference* from the Nordic region estimate.



Much higher disease burden due to risk factors in **Greenland** than in the Nordic countries

Conclusions

- Many similarities, but also important differences in life expectancy and disease burden between the Nordic countries
- Males and females differ in the distribution of fatal versus nonfatal disease burden
- Alcohol use and smoking may be important drivers of poorer population health in Denmark and Finland
- The population in the autonomous area of Greenland has a dramatically lower life expectancy and higher disease burden than the Nordic countries