

GBD PROFILE: ICELAND

GLOBAL BURDEN OF DISEASES, INJURIES, AND RISK FACTORS STUDY 2010

The Global Burden of Disease Study 2010 (GBD 2010) is a collaborative project of nearly 500 researchers in 50 countries led by the Institute for Health Metrics and Evaluation (IHME) at the University of Washington. It is the largest systematic scientific effort in history to quantify levels and trends of health loss due to diseases, injuries, and risk factors. GBD serves as a global public good to inform evidence-based policymaking and health systems design.

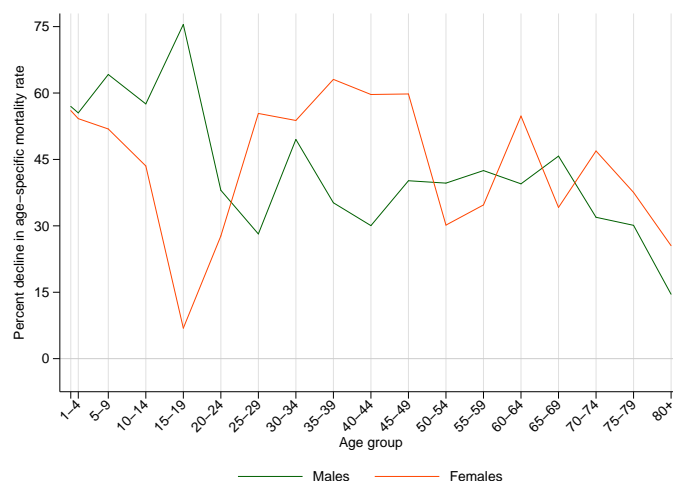
PROFILE OVERVIEW

- In terms of the number of years of life lost (YLLs) due to premature death in Iceland, ischemic heart disease, trachea, bronchus, and lung cancers, and cerebrovascular disease were the highest ranking causes in 2010.
- Of the 25 most important causes of burden, as measured by disability-adjusted life years (DALYs), lower respiratory infections showed the largest decrease, falling by 56% from 1990 to 2010.
- The leading risk factor in Iceland is dietary risks.

ALL-CAUSE MORTALITY RATE

- This chart shows the decline in mortality rate at every age range. The higher points on the chart indicate that declines in mortality rates were faster in those age groups between 1990 and 2010.
- The greatest reductions in all-cause mortality rate were experienced by males aged 15-19 years (75%). Females aged 15-19 years saw the smallest decrease in mortality rate (7%).

Percent decline in age-specific mortality rate by sex from 1990-2010 in Iceland



CAUSES OF PREMATURE DEATH

Years of life lost (YLLs) quantify premature mortality by weighting younger deaths more than older deaths.

Ranks for top 25 causes of YLLs 1990-2010, Iceland

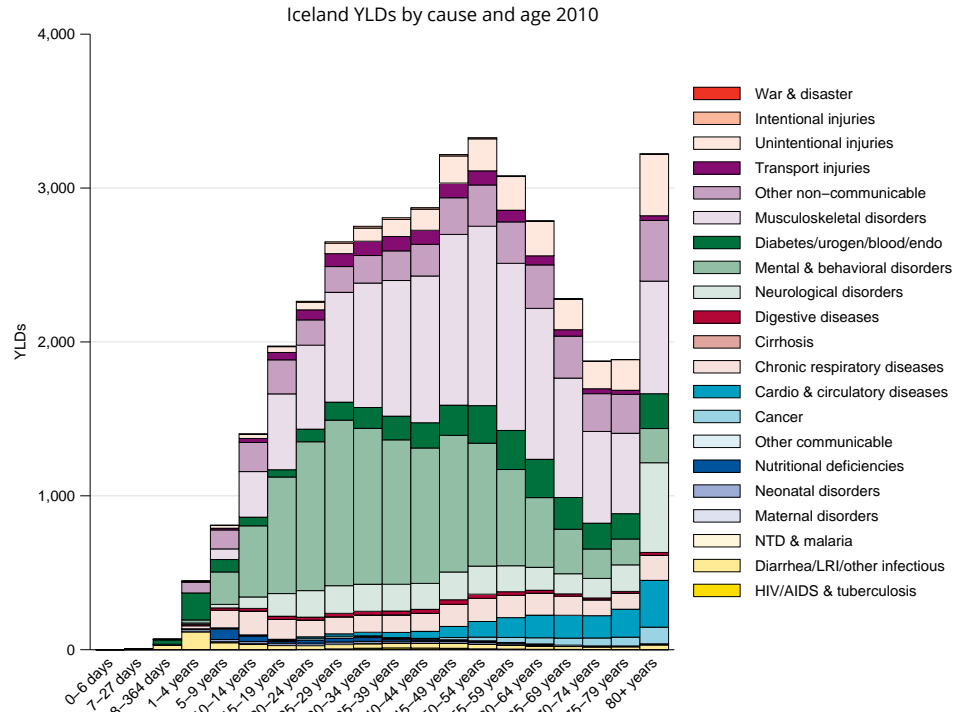
# YLLs in hundreds (% of total)	Rank and disorder 1990	Rank and disorder 2010	# YLLs in hundreds (% of total)	% change
73 (22.8%)	1 Ischemic heart disease	1 Ischemic heart disease	48 (16.9%)	-36
22 (7.0%)	2 Stroke	2 Lung cancer	21 (7.6%)	13
19 (6.1%)	3 Lung cancer	3 Stroke	16 (5.7%)	-28
16 (5.0%)	4 Self-harm	4 Self-harm	13 (4.7%)	-14
13 (4.2%)	5 Lower respiratory infections	5 Alzheimers disease	11 (3.7%)	586
13 (4.0%)	6 Road injury	6 Colorectal cancer	10 (3.4%)	17
11 (3.3%)	7 Breast cancer	7 COPD	9 (3.1%)	40
8 (2.5%)	8 Colorectal cancer	8 Breast cancer	8 (2.7%)	-27
8 (2.5%)	9 Congenital anomalies	9 Prostate cancer	7 (2.5%)	30
7 (2.2%)	10 Stomach cancer	10 Lower respiratory infections	7 (2.5%)	-57
6 (2.0%)	11 Preterm birth complications	11 Road injury	6 (2.2%)	-52
6 (1.9%)	12 COPD	12 Brain cancer	6 (2.0%)	31
5 (1.7%)	13 Prostate cancer	13 Pancreatic cancer	5 (1.9%)	23
4 (1.4%)	14 Brain cancer	14 Kidney cancers	5 (1.8%)	55
4 (1.4%)	15 Other cardio & circulatory	15 Other cardio & circulatory	5 (1.7%)	12
4 (1.4%)	16 Pancreatic cancer	16 Leukemia	3 (1.2%)	-15
4 (1.3%)	17 Leukemia	17 Falls	3 (1.2%)	23
4 (1.1%)	18 Drowning	18 HIV/AIDS	3 (1.2%)	401
4 (1.1%)	19 Other transport injuries	19 Congenital anomalies	3 (1.2%)	-59
3 (1.0%)	20 Kidney cancers	20 Diabetes	3 (1.1%)	93
3 (0.9%)	21 Ovarian cancer	21 Drug use disorders	3 (1.2%)	154
3 (0.9%)	22 Non-Hodgkin lymphoma	22 Stomach cancer	3 (1.1%)	-59
3 (0.9%)	23 Falls	23 Non-Hodgkin lymphoma	3 (1.1%)	5
2 (0.7%)	24 Bladder cancer	24 Preterm birth complications	3 (1.1%)	-54
2 (0.6%)	25 Aortic aneurysm	25 Ovarian cancer	3 (0.9%)	-18
	28 Diabetes	26 Bladder cancer		
	29 Alzheimers disease	29 Alzheimers disease		
	41 Drug use disorders	32 Aortic aneurysm		
	60 HIV/AIDS	40 Drowning		
		45 Other transport injuries		

This chart shows the change in the top 25 causes of YLLs due to premature mortality from 1990 to 2010. Solid lines indicate a cause has moved up in rank or stayed the same. Broken lines indicate a cause has moved down in rank. The causes are color coded by blue for non-communicable diseases, green for injuries, and red for communicable, maternal, neonatal, and nutritional causes of death.

YEARS LIVED WITH DISABILITY (YLDs)

Years lived with disability (YLDs) are estimated by weighting the prevalence of different conditions based on severity. The top five leading causes of YLDs in Iceland are low back pain, major depressive disorder, neck pain, falls, and other musculoskeletal disorders.

The size of the colored portion in each bar represents the number of YLDs attributable to each cause. The height of each bar shows which age groups had the most YLDs in 2010. The causes are aggregated. For example, musculoskeletal disorders include low back pain and neck pain.

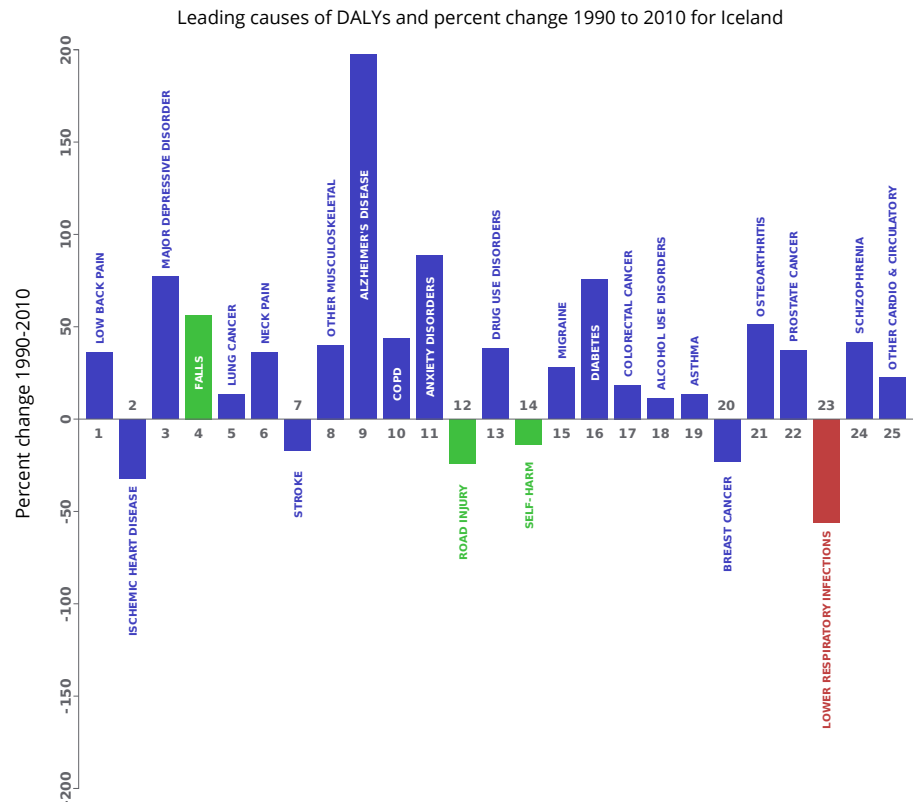


DISABILITY-ADJUSTED LIFE YEARS (DALYs)

Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Iceland, the top three causes of DALYs in 2010 were low back pain, ischemic heart disease, and major depressive disorder. Two causes that appeared in the 10 leading causes of DALYs in 2010 and not 1990 were Alzheimer's disease and other dementias and chronic obstructive pulmonary disease.

The top 25 causes of DALYs are ranked from left to right in order of the number of DALYs they contributed in 2010. Bars going up show the percent by which DALYs have increased since 1990. Bars going down show the percent by which DALYs have decreased. Globally, non-communicable diseases and injuries are generally on the rise, while communicable, maternal, neonatal, and nutritional causes of DALYs are generally on the decline.

- Communicable, maternal, neonatal, and nutritional
- Non-communicable
- Injuries

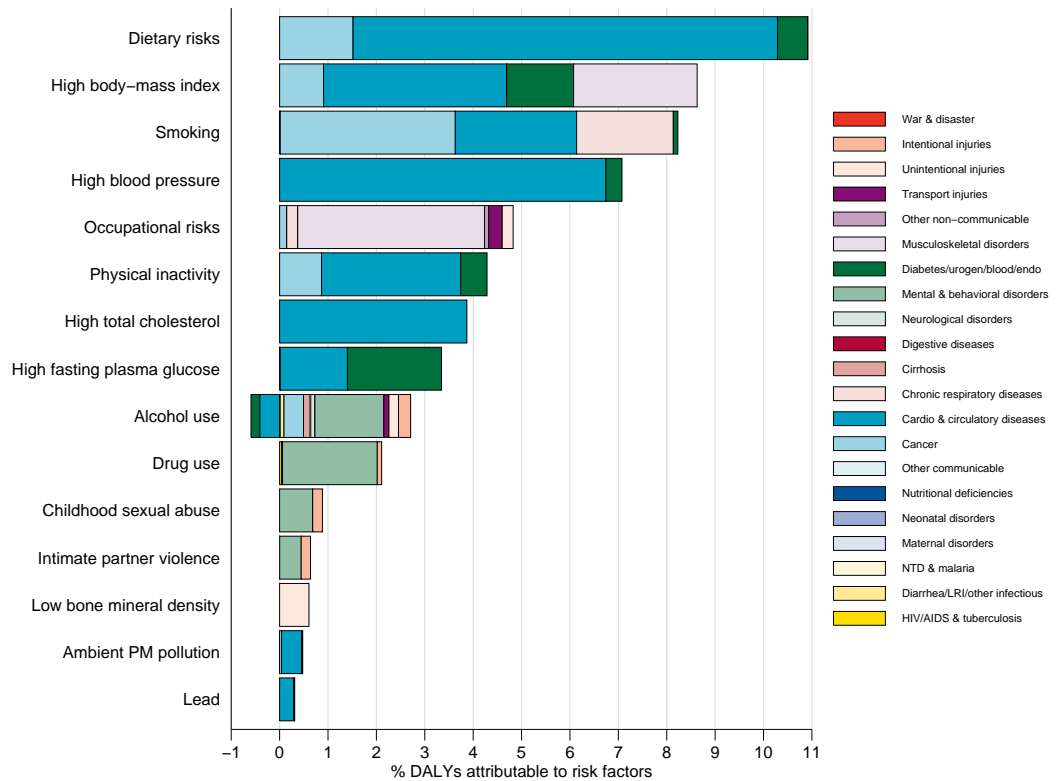


RISK FACTORS

Overall, the three risk factors that account for the most disease burden in Iceland are dietary risks, high body-mass index, and tobacco smoking. The leading risk factors for children under 5 and adults aged 15-49 years were tobacco smoking and occupational risks, respectively, in 2010. Tobacco smoking as a risk factor for children is due to second-hand smoke exposure.

The graph shows the top 15 risk factors for Iceland. The colored portion of each bar represents the specific diseases attributable to that risk factor while bar size represents the percentage of DALYs linked to specific risk factors.

Burden of disease attributable to 15 leading risk factors in 2010, expressed as a percentage of Iceland DALYs



COUNTRY BENCHMARKING OF BURDEN OF DISEASE

Understanding the relative performance of Iceland against other comparator countries provides key insight into public health successes and areas where Iceland might be falling behind. The table identifies Iceland's rank across 14 other comparator countries, selected and ordered by income per capita, for five metrics of interest, with 1 indicating the best rank and 15 indicating the worst rank.

- Age-standardized rates are used to make meaningful comparisons across time by adjusting for changes in population size and age structure.
- Life expectancy incorporates mortality, and health-adjusted life expectancy further incorporates years lived in less than ideal health.
- In 2010, Iceland ranked 1st for age-standardized death rate and 11th for health-adjusted life expectancy.

Age-standardized death rates, YLL rates, YLD rates, and life expectancy at birth and health-adjusted life expectancy at birth for 1990 and 2010, both sexes combined																				
Country	Age-standardized death rate (per 100,000)				Age-standardized YLL rate (per 100,000)				Age-standardized YLD rate (per 100,000)				Life expectancy at birth				Health-adjusted life expectancy at birth			
	1990		2010		1990		2010		1990		2010		1990		2010		1990		2010	
	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	LE	Rank	LE	Rank	HALE	Rank	HALE	Rank
Singapore	665	13	425	7	14,747	13	8,192	6	10,079	1	9,827	1	75.3	11	81	5	66.4	5	71.1	1
United Arab Emirates	795	15	615	15	18,366	15	13,157	15	12,272	15	11,951	15	72.7	15	76.3	15	62.2	15	65.1	15
Kuwait	489	1	511	13	11,796	3	12,133	14	12,022	14	11,867	14	77.8	1	77.4	14	66.1	7	65.9	14
United States	639	11	516	14	15,130	14	11,447	13	10,503	2	10,509	2	75.2	12	78.2	13	65.6	10	67.9	12
Switzerland	532	2	369	2	11,825	4	7,071	2	10,663	3	10,807	3	77.5	4	82.2	2	67.5	1	70.8	2
Netherlands	572	7	426	8	11,847	5	7,988	5	11,355	11	11,492	13	77	6	80.6	8	66.5	4	69.1	7
Ireland	692	14	453	9	14,298	11	8,764	9	11,024	6	11,138	8	74.8	14	79.9	9	65.2	14	68.9	8
Iceland	548	4	365	1	11,310	2	6,675	1	10,763	4	11,108	7	77.6	2	82.2	1	65.5	11	68.4	11
Australia	568	6	389	3	12,381	7	7,722	4	11,153	9	10,979	6	76.9	7	81.5	3	66.4	6	70.1	3
Canada	558	5	422	6	12,079	6	8,546	8	10,806	5	10,845	4	77.2	5	80.6	6	67	2	69.6	5
Austria	622	9	418	5	13,732	10	8,401	7	11,052	7	11,381	10	75.7	9	80.6	7	65.8	8	69.1	6
Sweden	539	3	403	4	11,196	1	7,296	3	11,378	12	11,250	9	77.6	3	81.4	4	66.8	3	69.6	4
Denmark	656	12	504	12	14,383	12	9,592	12	11,209	10	11,456	12	75.2	13	78.9	12	65.3	13	67.9	13
Belgium	615	8	460	11	13,458	9	9,381	11	11,119	8	10,933	5	75.9	8	79.5	11	65.7	9	68.5	10
United Kingdom	638	10	455	10	13,452	8	8,949	10	11,453	13	11,435	11	75.7	10	79.9	10	65.4	12	68.6	9

COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of Iceland relative to the same comparator countries for the leading causes of DALYs in 1990 (top) and 2010 (bottom).

- The columns are ordered by the absolute number of DALYs in Iceland for that particular year, with greatest burden on the left.
- The numbers indicate the rank across countries for each cause in terms of age-standardized DALY rates, with 1 as the best performance and 15 as the worst.

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to comparator countries in 1990																											
Country	Ischemic heart disease	Low back pain	Stroke	Lung cancer	Road injury	Major depressive disorder	Self-harm	Neck pain	Falls	Other musculoskeletal	Lower respiratory infections	COPD	Breast cancer	Drug use disorders	Migraine	Congenital anomalies	Anxiety disorders	Colorectal cancer	Alcohol use disorders	Asthma	Preterm birth complications	Stomach cancer	Alzheimer's disease	Diabetes	Prostate cancer		
Singapore	8	1	14	9	1	12	10	6	3	12	15	6	3	3	1	10	10	14	3	6	4	15	1	13	2		
United Arab Emirates	15	4	15	2	15	15	2	1	9	1	14	15	1	15	2	11	9	2	2	13	15	8	3	14	3		
Kuwait	11	3	12	1	13	14	1	2	4	2	11	2	2	2	3	15	13	1	1	9	13	1	2	15	1		
United States	12	2	3	14	11	8	6	15	1	15	9	12	6	12	4	6	15	6	12	8	14	2	9	12	7		
Switzerland	1	5	4	4	9	10	15	13	15	7	4	10	9	7	12	12	5	5	10	5	1	7	13	8	12		
Netherlands	3	8	7	11	4	13	4	9	5	11	3	7	12	1	7	9	12	8	4	1	6	11	5	6	6		
Ireland	14	12	10	8	6	1	5	12	11	10	12	14	10	5	9	13	7	13	5	11	9	12	6	5	10		
Iceland	6	10	2	7	5	5	8	14	8	6	10	3	11	8	10	1	2	3	11	3	5	13	8	1	15		
Australia	5	6	5	6	10	2	7	5	6	13	1	9	5	14	15	4	11	12	7	15	11	4	11	3	11		
Canada	4	9	1	10	7	4	9	8	2	14	6	5	7	9	6	5	3	7	8	10	7	3	14	9	8		
Austria	9	11	13	5	12	7	13	11	14	8	2	4	8	11	8	8	6	9	13	2	12	14	4	10	5		
Sweden	7	14	6	3	3	11	12	3	7	5	8	1	4	4	13	7	8	4	14	12	2	5	10	4	14		
Denmark	10	15	9	13	8	6	14	4	13	9	5	13	14	10	5	14	4	15	15	7	3	6	12	11	13		
Belgium	2	7	8	15	14	9	11	10	12	4	7	8	13	6	11	3	1	10	9	4	8	9	15	7	9		
United Kingdom	13	13	11	12	2	3	3	7	10	3	13	11	15	13	14	2	14	11	6	14	10	10	7	2	4		
Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to comparator countries in 2010																											
Country	Low back pain	Ischemic heart disease	Major depressive disorder	Falls	Lung cancer	Neck pain	Stroke	Other musculoskeletal	Alzheimer's disease	COPD	Anxiety disorders	Road injury	Drug use disorders	Self-harm	Migraine	Diabetes	Colorectal cancer	Alcohol use disorders	Asthma	Breast cancer	Osteoarthritis	Prostate cancer	Lower respiratory infections	Schizophrenia	Other cardio & circulatory		
Singapore	1	12	11	3	6	5	13	12	2	1	9	1	1	6	1	13	9	2	1	3	13	1	15	13	1		
United Arab Emirates	4	15	15	4	2	1	15	1	3	12	7	15	13	2	2	14	2	1	6	1	15	3	13	10	15		
Kuwait	3	14	13	6	1	2	14	2	1	4	12	14	5	1	3	15	1	3	10	2	14	2	14	8	10		
United States	2	13	6	2	12	15	9	15	15	15	15	12	15	9	4	12	5	12	9	8	10	8	10	14	12		
Switzerland	5	2	12	15	5	14	3	3	5	11	5	7	3	14	11	8	4	7	8	9	6	7	3	5	2		
Netherlands	9	1	14	8	14	8	7	8	9	9	10	4	2	4	7	3	14	5	3	13	1	9	8	2	13		
Ireland	11	11	4	12	9	12	8	9	6	8	6	8	9	10	10	5	13	9	11	11	4	11	11	4	8		
Iceland	10	4	7	7	7	13	1	4	14	2	14	2	7	5	9	2	3	8	5	4	8	15	4	9	4		
Australia	6	3	1	5	4	6	2	13	8	6	11	11	12	7	15	4	12	4	15	7	2	12	2	12	5		
Canada	7	7	5	1	11	11	4	14	13	5	1	6	11	11	6	10	8	6	12	10	12	6	6	15	3		
Austria	12	10	9	14	8	9	6	6	4	7	3	10	10	13	8	9	6	13	2	6	5	4	1	3	11		
Sweden	14	5	8	9	3	3	5	5	11	3	8	3	4	12	13	6	7	14	13	5	11	13	5	7	6		
Denmark	15	6	10	11	15	4	12	11	10	14	4	9	8	8	5	11	15	15	7	12	3	14	7	1	7		
Belgium	8	8	3	13	13	10	11	7	12	10	2	13	6	15	12	7	11	10	4	15	7	10	9	6	14		
United Kingdom	13	9	2	10	10	7	10	10	7	13	13	5	14	3	14	1	10	11	14	14	9	5	12	11	9		
Ranking Legend	1 - 3			4 - 7			8 - 11			12 - 15																	