

GBD PROFILE: NORWAY

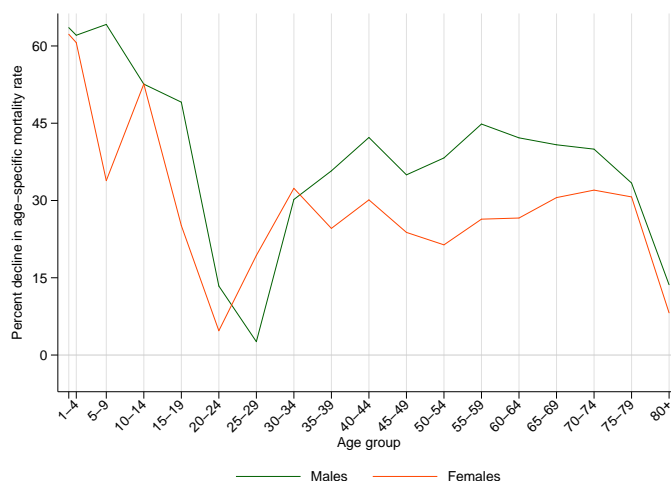
GLOBAL BURDEN OF DISEASES, INJURIES, AND RISK FACTORS STUDY 2010

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 Norway, ischemic heart disease, cerebrovascular disease, and trachea, bronchus, and lung cancers were the highest ranking causes in 2010.
- Of the 25 most important causes of burden, as measured by disability-adjusted life years (DALYs), ischemic heart disease showed the largest decrease, falling by 51% from 1990 to 2010.
- The leading risk factor in Norway is dietary risks.

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



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 5-9 years (64%). Males aged 25-29 years saw the smallest decrease in mortality rate (3%).

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, Norway

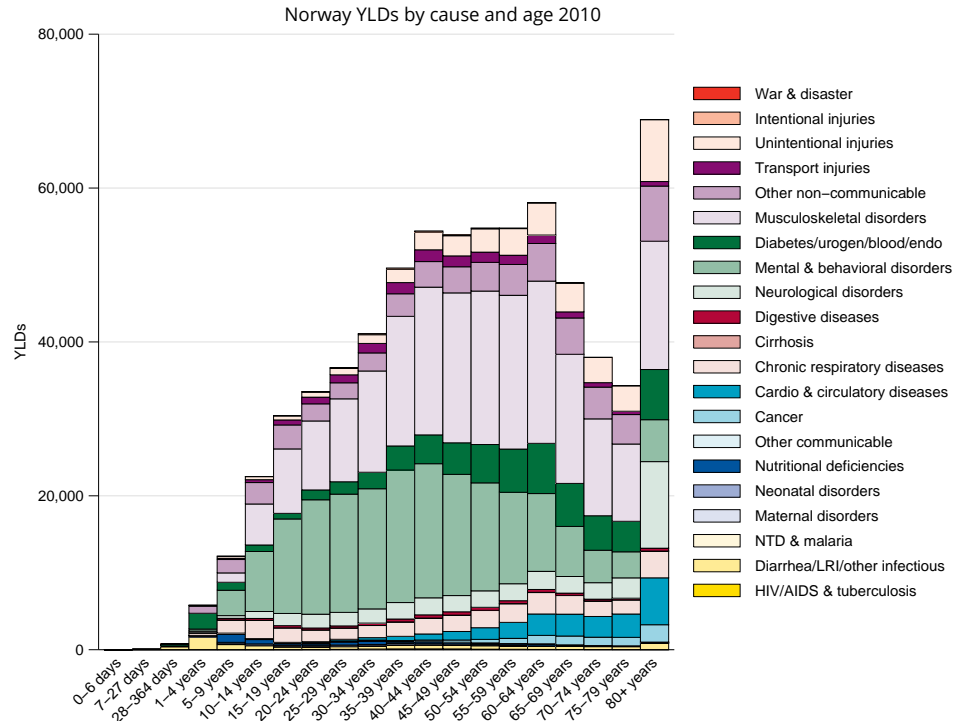
# YLLs in thousands (% of total)	Rank and disorder 1990	Rank and disorder 2010	# YLLs in thousands (% of total)	% change
180 (25.1%)	1 Ischemic heart disease	1 Ischemic heart disease	86 (15.0%)	-54
67 (9.4%)	2 Stroke	2 Stroke	39 (6.9%)	-42
31 (4.4%)	3 Lung cancer	3 Lung cancer	36 (6.4%)	27
29 (4.0%)	4 Lower respiratory infections	4 Colorectal cancer	26 (4.5%)	3
28 (3.9%)	5 Self-harm	5 COPD	25 (4.3%)	54
25 (3.5%)	6 Colorectal cancer	6 Self-harm	22 (3.9%)	-22
20 (2.8%)	7 Road injury	7 Lower respiratory infections	17 (3.0%)	-45
16 (2.2%)	8 Breast cancer	8 Alzheimers disease	16 (2.8%)	157
15 (2.1%)	9 COPD	9 Drug use disorders	14 (2.4%)	206
15 (2.1%)	10 Congenital anomalies	10 Breast cancer	13 (2.3%)	-16
12 (1.7%)	11 Other cardio & circulatory	11 Prostate cancer	13 (2.3%)	3
13 (1.8%)	12 Prostate cancer	12 Pancreatic cancer	11 (2.0%)	14
12 (1.6%)	13 Stomach cancer	13 Other cardio & circulatory	11 (1.9%)	-10
10 (1.4%)	14 Pancreatic cancer	14 Road injury	11 (1.9%)	-48
10 (1.3%)	15 Falls	15 Brain cancer	10 (1.7%)	27
10 (1.3%)	16 Neonatal encephalopathy	16 Falls	10 (1.7%)	-1
8 (1.2%)	17 Diabetes	17 Diabetes	10 (1.7%)	15
8 (1.1%)	18 Aortic aneurysm	18 Congenital anomalies	7 (1.2%)	-55
8 (1.1%)	19 Brain cancer	19 Cirrhosis	7 (1.2%)	-8
8 (1.1%)	20 Alcohol use disorders	20 Alcohol use disorders	7 (1.3%)	-22
7 (1.0%)	21 Cirrhosis	21 Ovarian cancer	7 (1.2%)	2
7 (0.9%)	22 Preterm birth complications	22 Aortic aneurysm	7 (1.2%)	-16
7 (0.9%)	23 Leukemia	23 Kidney cancers	7 (1.2%)	27
7 (0.9%)	24 Ovarian cancer	24 Atrial fibrillation	6 (1.1%)	63
7 (0.9%)	25 Non-Hodgkin lymphoma	25 Stomach cancer	6 (1.1%)	-46
	26 Alzheimers disease	26 Leukemia		
	29 Kidney cancers	28 Non-Hodgkin lymphoma		
	32 Drug use disorders	32 Neonatal encephalopathy		
	34 Atrial fibrillation	40 Preterm birth complications		

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 Norway are low back pain, major depressive disorder, anxiety disorders, neck pain, and falls.

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.

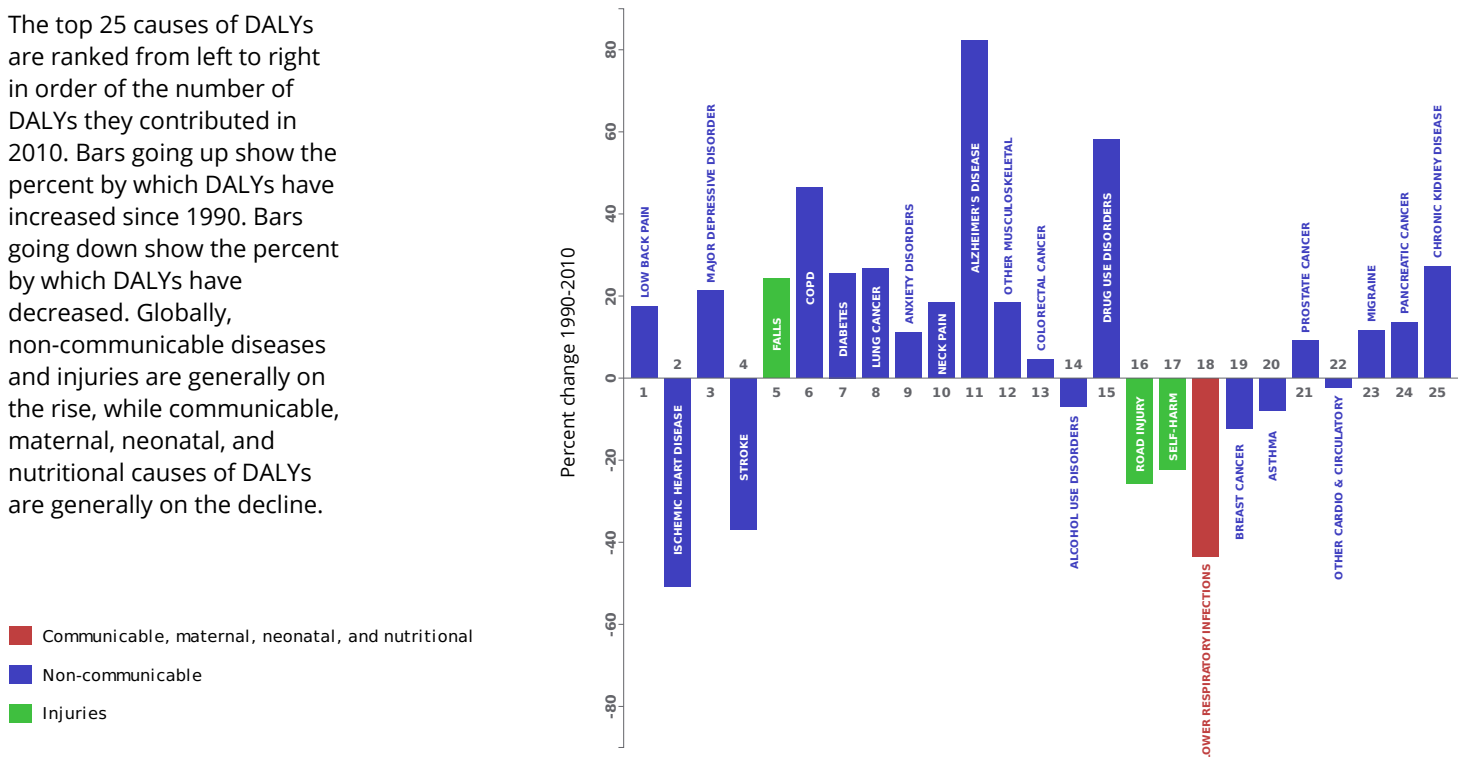


DISABILITY-ADJUSTED LIFE YEARS (DALYs)

Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Norway, 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 chronic obstructive pulmonary disease and neck pain.

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.

Leading causes of DALYs and percent change 1990 to 2010 for Norway

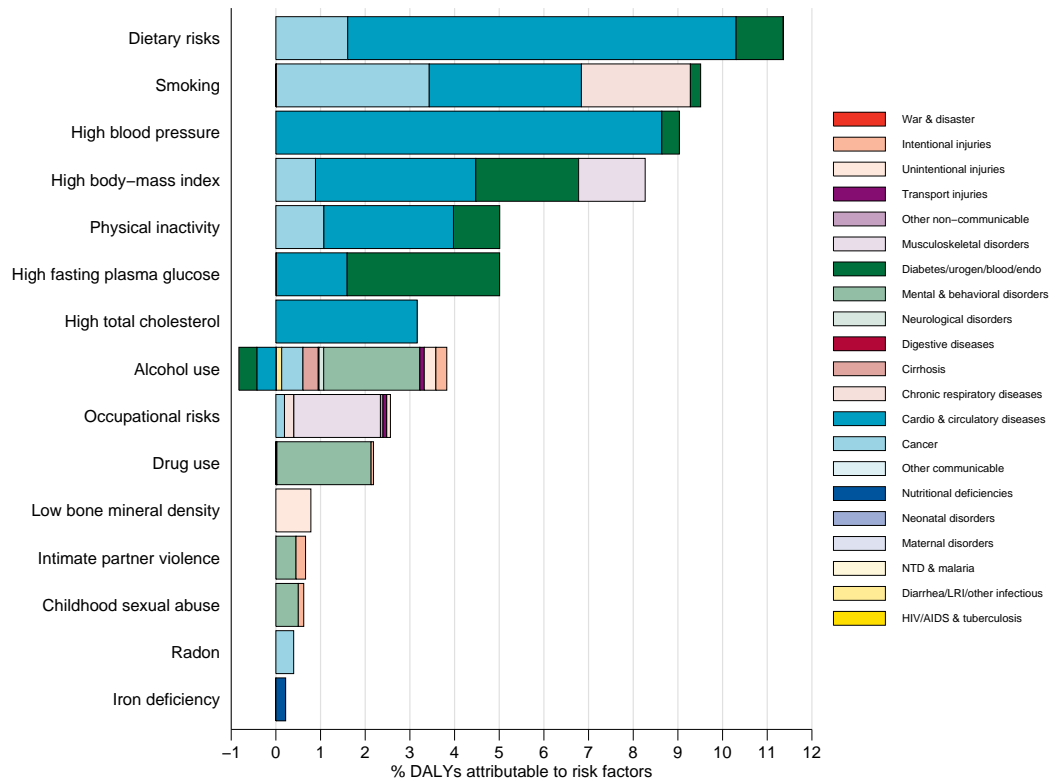


RISK FACTORS

Overall, the three risk factors that account for the most disease burden in Norway are dietary risks, tobacco smoking, and high blood pressure. 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.

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

The graph shows the top 15 risk factors for Norway. 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.



COUNTRY BENCHMARKING OF BURDEN OF DISEASE

Understanding the relative performance of Norway against other comparator countries provides key insight into public health successes and areas where Norway might be falling behind. The table identifies Norway'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, Norway ranked 5th for age-standardized YLL rate and 14th for age-standardized YLD rate.

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
Qatar	586	9	443	10	13,854	9	9,355	11	12,806	15	12,639	15	76.2	9	79.8	11	64	14	66.7	13
Luxembourg	641	11	432	9	14,255	10	8,484	8	11,370	10	11,683	10	75.3	10	80.2	9	65.2	11	68.4	8
Andorra	443	1	369	2	9,206	1	6,832	2	11,769	11	11,724	11	80.3	1	82.6	1	68.7	1	70.3	3
Norway	580	8	422	6	12,291	7	7,904	5	12,365	14	12,329	14	76.8	8	80.8	6	65.2	12	68	10
Brunei	705	14	576	14	15,283	14	11,525	13	10,711	4	10,502	2	74.4	14	77.2	14	64.9	13	67.3	12
Singapore	665	12	425	7	14,747	12	8,192	7	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	13	11,951	13	72.7	15	76.3	15	62.2	15	65.1	15
Kuwait	489	2	511	12	11,796	3	12,133	14	12,022	12	11,867	12	77.8	2	77.4	13	66.1	7	65.9	14
United States	639	10	516	13	15,130	13	11,447	12	10,503	2	10,509	3	75.2	12	78.2	12	65.6	8	67.9	11
Switzerland	532	3	369	3	11,825	4	7,071	3	10,663	3	10,807	4	77.5	4	82.2	3	67.5	2	70.8	2
Netherlands	572	7	426	8	11,847	5	7,988	6	11,355	9	11,492	9	77	6	80.6	8	66.5	4	69.1	6
Ireland	692	13	453	11	14,298	11	8,764	10	11,024	7	11,138	8	74.8	13	79.9	10	65.2	10	68.9	7
Iceland	548	4	365	1	11,310	2	6,675	1	10,763	5	11,108	7	77.6	3	82.2	2	65.5	9	68.4	9
Australia	568	6	389	4	12,381	8	7,722	4	11,153	8	10,979	6	76.9	7	81.5	4	66.4	6	70.1	4
Canada	558	5	422	5	12,079	6	8,546	9	10,806	6	10,845	5	77.2	5	80.6	7	67	3	69.6	5

COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of Norway 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 Norway 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	Major depressive disorder	Falls	Diabetes	Lung cancer	Road injury	Anxiety disorders	Lower respiratory infections	Alcohol use disorders	COPD	Self-harm	Neck pain	Other musculoskeletal	Colorectal cancer	Breast cancer	Alzheimer's disease	Asthma	Drug use disorders	Congenital anomalies	Other cardio & circulatory	Prostate cancer	Migraine	Stomach cancer	
Qatar	13	8	11	14	4	14	2	13	14	7	3	5	3	1	2	2	2	4	7	13	15	13	4	2	3	
Luxembourg	4	13	12	8	14	6	12	14	6	2	14	7	14	10	5	12	12	15	2	10	2	15	7	10	10	
Andorra	1	12	7	11	11	3	4	2	13	3	10	4	5	13	6	6	6	9	6	6	3	9	6	14	6	
Norway	10	15	8	9	13	10	6	4	15	9	15	3	13	9	8	11	7	11	10	11	7	4	14	7	9	
Brunei	3	5	14	6	12	15	5	10	7	13	5	13	4	4	11	4	4	5	14	5	13	7	4	2	5	14
Singapore	9	1	13	10	3	11	11	1	8	15	4	8	12	6	12	15	5	1	5	3	9	6	3	1	15	
United Arab Emirates	15	4	15	15	9	12	3	15	5	14	2	15	2	2	1	3	1	3	13	15	10	14	5	3	8	
Kuwait	11	3	10	13	5	13	1	12	11	11	1	1	1	3	3	1	3	2	9	2	14	8	1	4	1	
United States	12	2	3	5	1	9	15	11	12	8	13	12	8	15	15	8	9	10	8	12	6	10	9	6	2	
Switzerland	2	6	4	7	15	7	7	8	3	5	11	11	15	12	7	7	11	13	4	7	11	5	13	13	7	
Netherlands	5	9	6	12	6	5	14	3	10	4	6	9	6	8	10	10	15	6	1	1	8	12	8	9	11	
Ireland	14	14	9	1	10	4	10	6	4	12	7	14	7	11	9	14	13	7	12	4	12	11	11	11	12	
Iceland	8	11	2	4	8	1	9	5	1	10	12	2	10	14	4	5	14	8	3	8	1	2	15	12	13	
Australia	7	7	5	2	7	2	8	9	9	1	8	10	9	5	13	13	8	12	15	14	4	3	12	15	5	
Canada	6	10	1	3	2	8	13	7	2	6	9	6	11	7	14	9	10	14	11	9	5	1	10	8	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	Stroke	Falls	COPD	Diabetes	Lung cancer	Anxiety disorders	Neck pain	Alzheimer's disease	Other musculoskeletal	Colorectal cancer	Alcohol use disorders	Drug use disorders	Road injury	Self-harm	Lower respiratory infections	Breast cancer	Asthma	Prostate cancer	Other cardio & circulatory	Migraine	Pancreatic cancer	Chronic kidney disease	
Qatar	8	9	13	4	8	2	15	1	14	1	4	1	1	4	13	13	4	7	1	4	3	11	2	4	13	
Luxembourg	14	6	11	10	14	7	3	12	11	13	9	7	11	14	9	9	7	4	10	2	6	14	11	15	6	
Andorra	12	8	10	11	11	5	6	4	10	11	8	8	10	8	6	3	5	5	6	12	12	8	10	5	9	
Norway	15	5	8	6	13	8	9	9	15	8	12	6	14	15	11	5	11	8	8	8	14	7	7	12	1	
Brunei	5	13	4	14	4	12	14	6	5	4	5	13	6	5	3	11	3	14	3	9	2	3	6	14	14	
Singapore	1	11	7	12	3	1	11	8	6	5	2	11	9	2	1	1	9	15	5	1	1	1	1	3	10	
United Arab Emirates	4	15	15	15	5	14	12	3	4	2	3	2	3	1	14	15	2	12	2	6	5	15	3	1	12	
Kuwait	3	14	12	13	7	4	13	2	9	3	1	3	2	3	5	14	1	13	4	11	4	10	4	2	15	
United States	2	12	5	9	2	15	10	14	13	15	15	15	7	13	15	12	12	10	11	10	9	12	5	13	11	
Switzerland	6	2	9	3	15	13	7	7	2	14	6	4	5	10	4	7	15	2	12	7	8	2	14	8	2	
Netherlands	10	1	14	7	10	11	2	15	7	7	11	9	15	7	2	4	6	9	15	3	10	13	9	11	4	
Ireland	13	10	2	8	12	10	5	11	3	10	7	10	13	12	8	8	13	11	14	13	11	9	13	10	7	
Iceland	11	4	6	1	9	3	1	10	12	12	14	5	4	11	7	2	8	3	7	5	15	5	12	7	3	
Australia	7	3	1	2	6	9	4	5	8	6	10	12	12	6	12	10	10	1	9	15	13	6	15	6	5	
Canada	9	7	3	5	1	6	8	13	1	9	13	14	8	9	10	6	14	6	13	14	7	4	8	9	8	
Ranking Legend	1 - 3			4 - 7			8 - 11			12 - 15																