

GBD PROFILE: UNITED KINGDOM

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.

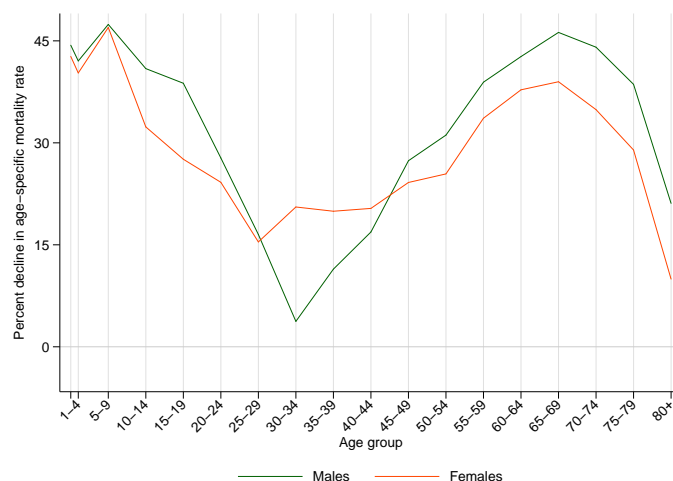
PROFILE OVERVIEW

- In terms of the number of years of life lost (YLLs) due to premature death in the United Kingdom, 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), ischemic heart disease showed the largest decrease, falling by 50% from 1990 to 2010.
- The leading risk factor in the United Kingdom 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 5-9 years (47%). Males aged 30-34 years saw the smallest decrease in mortality rate (4%).

Percent decline in age-specific mortality rate by sex from 1990-2010 in the United Kingdom



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, United Kingdom

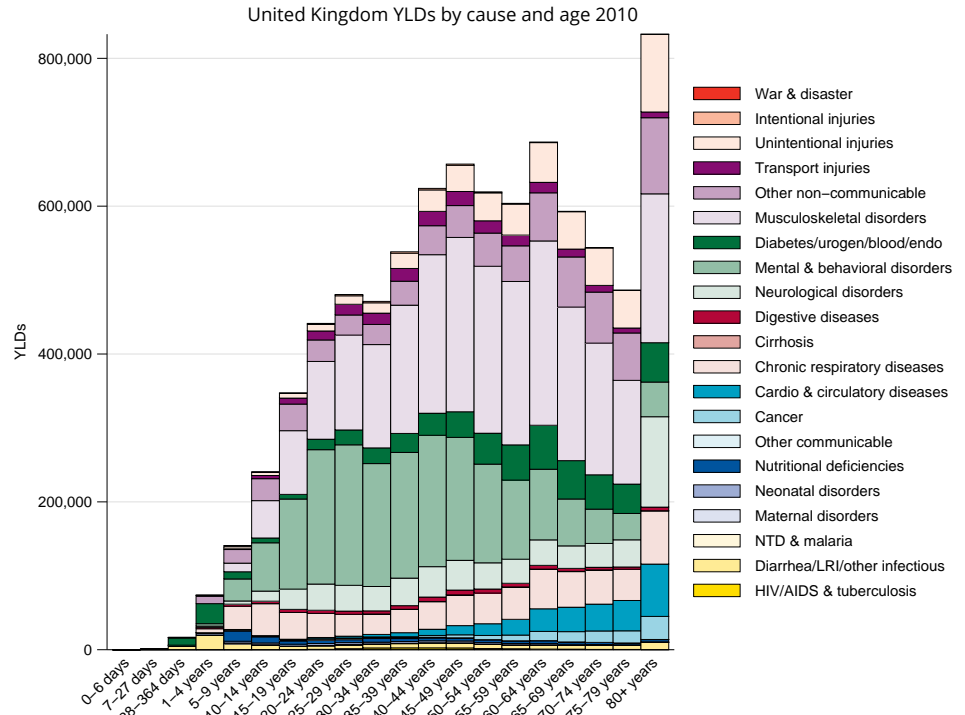
# YLLs in thousands (% of total)	Rank and disorder 1990	Rank and disorder 2010	# YLLs in thousands (% of total)	% change
2,725 (25.4%)	1 Ischemic heart disease	1 Ischemic heart disease	1,342 (15.9%)	-52
982 (9.1%)	2 Stroke	2 Lung cancer	604 (7.2%)	-24
799 (7.4%)	3 Lung cancer	3 Stroke	576 (6.8%)	-42
486 (4.5%)	4 Lower respiratory infections	4 COPD	378 (4.5%)	-12
426 (4.0%)	5 COPD	5 Lower respiratory infections	374 (4.4%)	-23
351 (3.3%)	6 Breast cancer	6 Colorectal cancer	309 (3.7%)	-13
349 (3.2%)	7 Colorectal cancer	7 Breast cancer	267 (3.2%)	-24
255 (2.4%)	8 Self-harm	8 Self-harm	214 (2.5%)	-19
251 (2.3%)	9 Road injury	9 Cirrhosis	216 (2.6%)	87
181 (1.7%)	10 Stomach cancer	10 Alzheimers disease	216 (2.6%)	136
176 (1.6%)	11 Congenital anomalies	11 Other cardio & circulatory	195 (2.3%)	18
165 (1.5%)	12 Other cardio & circulatory	12 Road injury	151 (1.8%)	-42
170 (1.6%)	13 Preterm birth complications	13 Pancreatic cancer	140 (1.7%)	5
135 (1.3%)	14 Cirrhosis	14 Esophageal cancer	128 (1.5%)	5
134 (1.2%)	15 Pancreatic cancer	15 Prostate cancer	129 (1.5%)	8
129 (1.2%)	16 Diabetes	16 Congenital anomalies	113 (1.3%)	-37
128 (1.2%)	17 Esophageal cancer	17 Preterm birth complications	114 (1.4%)	-38
121 (1.1%)	18 Prostate cancer	18 Aortic aneurysm	103 (1.2%)	-11
116 (1.1%)	19 Aortic aneurysm	19 Non-Hodgkin lymphoma	102 (1.2%)	-5
106 (1.0%)	20 Non-Hodgkin lymphoma	20 Brain cancer	100 (1.2%)	0
104 (1.0%)	21 Leukemia	21 Drug use disorders	99 (1.2%)	651
103 (1.0%)	22 Ovarian cancer	22 Leukemia	95 (1.1%)	-8
103 (1.0%)	23 Brain cancer	23 Falls	92 (1.1%)	7
98 (0.9%)	24 Alzheimers disease	24 Stomach cancer	92 (1.1%)	-51
91 (0.8%)	25 Bladder cancer	25 Ovarian cancer	90 (1.1%)	-16
	26 Falls	26 Diabetes		
	64 Drug use disorders	28 Bladder cancer		

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 the United Kingdom are low back pain, falls, major depressive disorder, neck pain, 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.

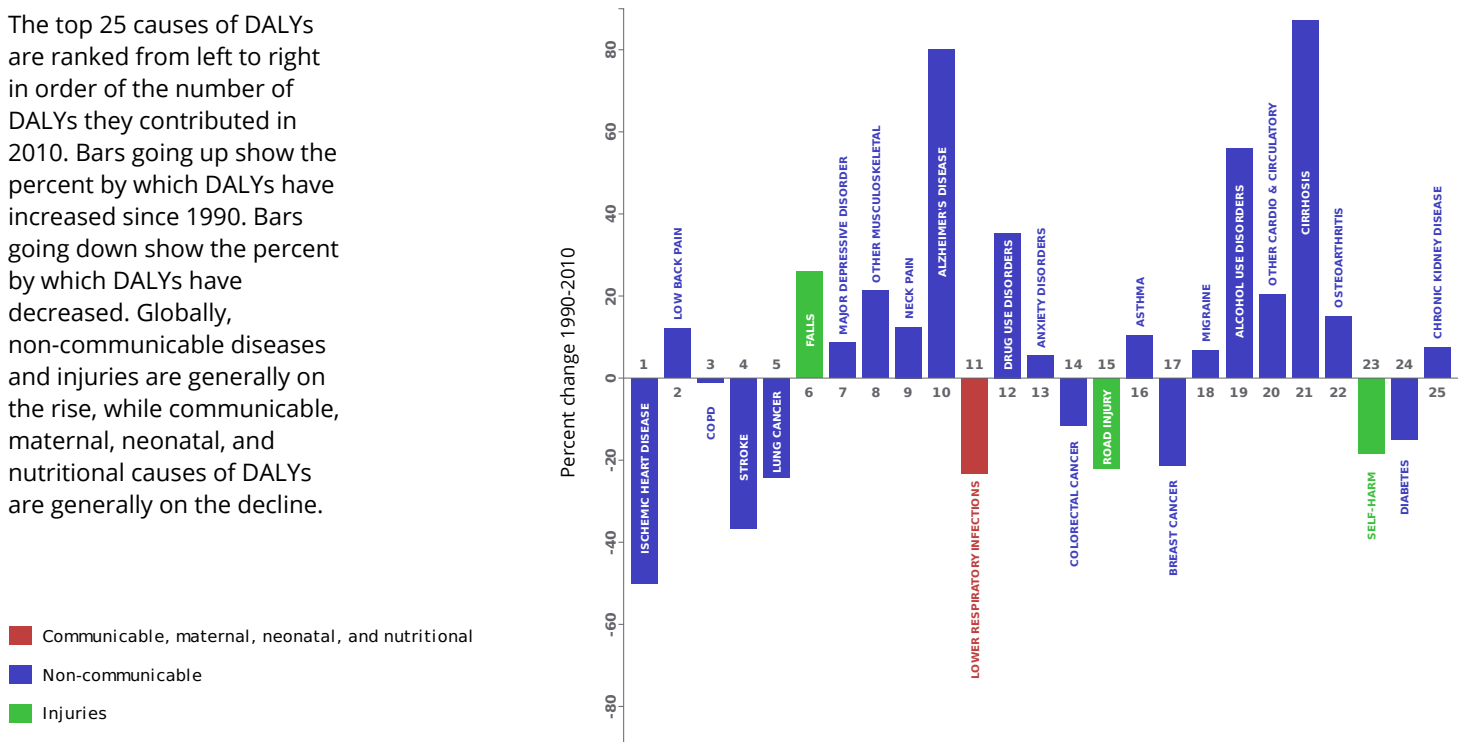


DISABILITY-ADJUSTED LIFE YEARS (DALYs)

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

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 the United Kingdom

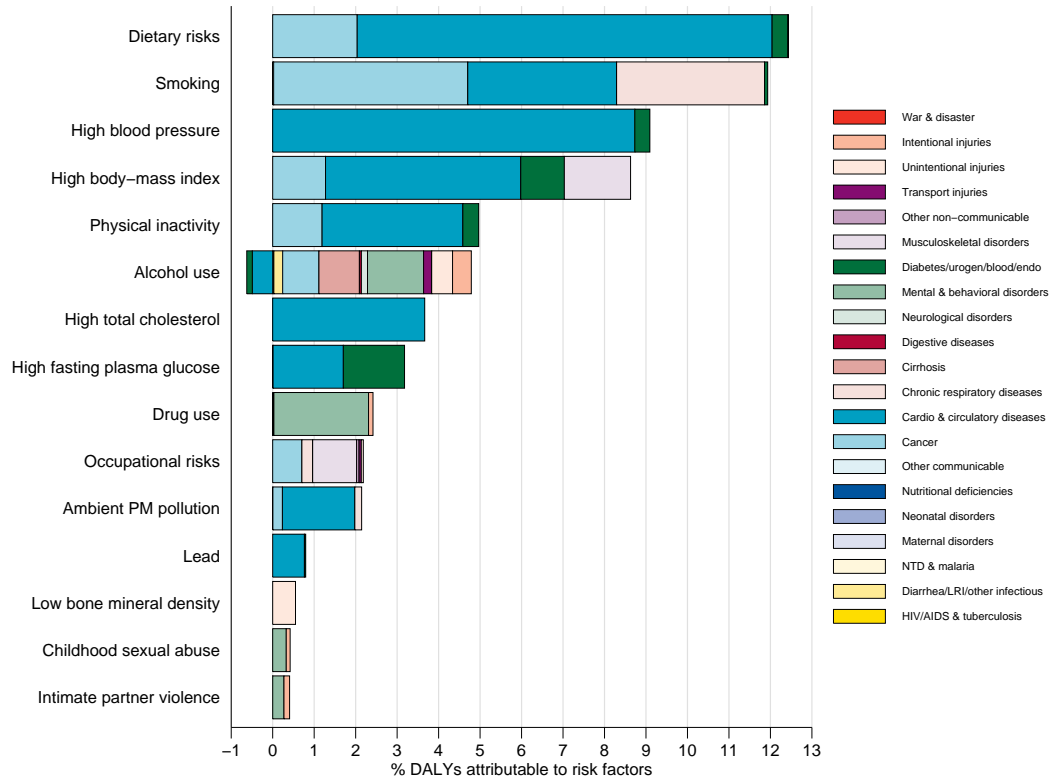


RISK FACTORS

Overall, the three risk factors that account for the most disease burden in the United Kingdom are dietary risks, tobacco smoking, and high blood pressure. The leading risk factor for both children under 5 and adults aged 15-49 years was tobacco smoking 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 United Kingdom DALYs

The graph shows the top 15 risk factors for the United Kingdom. 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 the United Kingdom against other comparator countries provides key insight into public health successes and areas where the United Kingdom might be falling behind. The table identifies the United Kingdom'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, the United Kingdom ranked 10th for health-adjusted life expectancy and 13th 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
Iceland	548	3	365	2	11,310	3	6,675	1	10,763	3	11,108	8	77.6	2	82.2	2	65.5	9	68.4	12
Australia	568	7	389	3	12,381	6	7,722	5	11,153	9	10,979	6	76.9	7	81.5	3	66.4	6	70.1	3
Canada	558	5	422	8	12,079	4	8,546	8	10,806	4	10,845	3	77.2	4	80.6	7	67	2	69.6	5
Austria	622	9	418	7	13,732	10	8,401	6	11,052	6	11,381	12	75.7	9	80.6	8	65.8	7	69.1	8
Sweden	539	2	403	5	11,196	2	7,296	3	11,378	13	11,250	11	77.6	3	81.4	5	66.8	3	69.6	4
Denmark	656	13	504	14	14,383	12	9,592	13	11,209	11	11,456	14	75.2	12	78.9	13	65.3	12	67.9	13
Belgium	615	8	460	12	13,458	9	9,381	12	11,119	8	10,933	5	75.9	8	79.5	12	65.7	8	68.5	11
United Kingdom	638	10	455	11	13,452	8	8,949	10	11,453	14	11,435	13	75.7	10	79.9	11	65.4	10	68.6	10
Germany	644	11	433	9	14,032	11	8,512	7	11,165	10	11,015	7	75.4	11	80.2	9	65.3	11	69	9
Finland	655	12	437	10	14,467	13	9,050	11	11,092	7	11,248	10	75.1	13	80.1	10	63.8	14	67.3	14
Japan	469	1	352	1	9,658	1	6,827	2	9,406	1	9,094	1	79.1	1	82.6	1	70.1	1	73.1	1
France	549	4	408	6	12,717	7	8,666	9	11,358	12	11,194	9	77.1	5	80.9	6	66.5	5	69.5	7
Taiwan	723	14	481	13	16,396	14	10,440	14	10,592	2	9,639	2	73.7	14	78.8	14	64.8	13	69.5	6
Italy	561	6	389	4	12,202	5	7,485	4	11,038	5	10,907	4	77	6	81.5	4	66.7	4	70.2	2
The Bahamas	949	15	541	15	29,297	15	18,258	15	13,220	15	12,791	15	67.4	15	76	15	57.4	15	63.2	15

COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of the United Kingdom 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 the United Kingdom 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	COPD	Lower respiratory infections	Falls	Road injury	Major depressive disorder	Breast cancer	Neck pain	Colorectal cancer	Other musculoskeletal	Anxiety disorders	Drug use disorders	Asthma	Self-harm	Migraine	Diabetes	Alzheimer's disease	Congenital anomalies	Preterm birth complications	Other cardio & circulatory	Osteoarthritis	Stomach cancer		
Iceland	9	8	2	9	4	10	7	4	6	12	13	4	8	5	8	4	6	9	1	8	2	5	2	9	9		
Australia	8	3	3	7	12	1	5	10	3	5	5	13	14	12	15	15	4	15	4	10	7	12	3	2	2		
Canada	6	7	1	12	10	6	1	6	5	9	8	9	15	7	9	11	7	6	9	13	8	8	1	10	1		
Austria	11	10	12	6	9	3	14	12	8	10	12	10	11	9	11	2	12	7	10	3	13	13	9	8	11		
Sweden	10	13	5	1	2	9	6	3	14	3	3	5	7	10	5	12	10	12	7	9	11	2	5	12	3		
Denmark	13	14	8	14	15	5	13	7	7	14	4	15	12	8	10	7	13	5	11	11	14	4	4	5	4		
Belgium	5	6	7	15	11	8	11	14	9	13	11	11	5	2	6	5	9	10	8	14	6	9	13	6	6		
United Kingdom	14	12	9	13	13	13	8	2	4	15	7	12	3	13	14	13	3	13	3	7	5	10	6	11	7		
Germany	12	15	6	10	8	7	12	8	11	11	9	14	9	11	7	9	8	4	12	5	9	11	12	7	10		
Finland	15	9	13	5	3	11	15	5	12	4	15	1	4	4	2	6	15	11	6	15	12	3	7	4	8		
Japan	1	4	11	2	1	12	3	1	1	2	6	6	13	1	3	8	5	1	5	2	4	1	11	14	15		
France	3	11	4	8	5	4	10	11	13	6	10	8	10	14	4	10	14	3	2	12	3	7	14	1	5		
Taiwan	2	2	15	4	14	14	4	15	2	1	1	2	1	6	1	1	11	2	14	1	1	6	10	13	12		
Italy	4	5	10	11	6	2	9	9	10	8	14	7	6	3	13	3	2	14	13	6	10	14	8	3	13		
The Bahamas	7	1	14	3	7	15	2	13	15	7	2	3	2	15	12	14	1	8	15	4	15	15	15	15	14		
Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to comparator countries in 2010																											
Country	Ischemic heart disease	Low back pain	COPD	Stroke	Lung cancer	Falls	Major depressive disorder	Other musculoskeletal	Neck pain	Alzheimer's disease	Lower respiratory infections	Drug use disorders	Anxiety disorders	Colorectal cancer	Road injury	Asthma	Breast cancer	Migraine	Alcohol use disorders	Other cardio & circulatory	Girrhosis	Osteoarthritis	Self-harm	Diabetes	Chronic kidney disease		
Iceland	7	8	6	1	7	6	7	4	13	14	4	8	14	3	2	6	4	9	6	3	1	9	4	2	4		
Australia	6	4	10	2	5	5	3	13	6	9	3	14	12	14	10	15	8	15	4	4	2	3	6	6	6		
Canada	10	6	9	4	13	1	6	15	12	13	8	12	3	7	5	11	10	6	5	2	4	12	8	12	11		
Austria	13	11	12	7	9	14	12	6	10	4	2	11	6	4	9	2	7	7	11	11	13	6	10	11	10		
Sweden	8	13	7	5	2	7	8	5	3	11	5	4	10	5	3	12	5	12	12	5	3	11	9	7	1		
Denmark	9	14	15	12	15	11	13	12	4	10	10	9	7	15	8	9	13	5	14	7	10	5	7	13	8		
Belgium	11	7	13	10	14	13	5	9	11	12	11	7	4	13	13	3	15	10	7	14	8	8	13	8	7		
United Kingdom	12	12	14	9	11	9	4	11	7	7	12	15	13	11	4	14	14	13	8	9	9	10	3	1	3		
Germany	14	15	8	6	10	10	11	8	9	5	9	5	11	10	6	7	9	4	10	13	12	7	5	9	13		
Finland	15	9	3	11	4	15	15	7	15	15	6	6	2	2	7	8	6	11	15	8	14	4	15	4	2		
Japan	1	3	1	14	3	2	1	14	5	2	14	2	1	6	1	4	1	1	2	1	5	14	14	3	12		
France	3	10	4	3	12	12	9	10	8	8	7	3	15	8	11	10	12	3	13	12	11	1	12	5	9		
Taiwan	2	2	11	15	8	3	2	1	1	1	13	1	8	12	14	1	2	2	3	6	15	13	11	14	15		
Italy	4	5	5	8	6	8	10	3	14	6	1	10	5	9	12	5	11	14	1	10	7	2	2	10	5		
The Bahamas	5	1	2	13	1	4	14	2	2	3	15	13	9	1	15	13	3	8	9	15	6	15	1	15	14		
Ranking Legend	1 - 3			4 - 7			8 - 11			12 - 15																	