

GBD PROFILE: BELGIUM

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 Belgium, 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), road injury showed the largest decrease, falling by 28% from 1990 to 2010.
- The leading risk factor in Belgium 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 <1 year (57%). Females aged 50-54 years saw the smallest decrease in mortality rate (5%).

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



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, Belgium

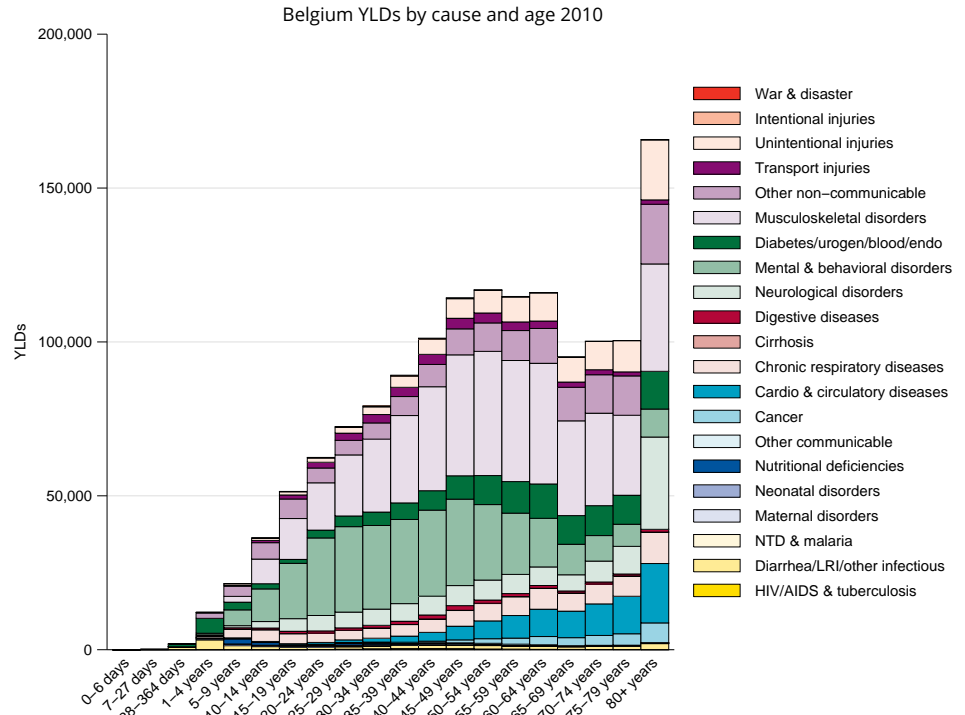
# YLLs in thousands (% of total)	Rank and disorder 1990	Rank and disorder 2010	# YLLs in thousands (% of total)	% change
301 (16.8%)	1 Ischemic heart disease	1 Ischemic heart disease	227 (14.2%)	-25
159 (8.9%)	2 Stroke	2 Lung cancer	122 (7.7%)	-14
142 (7.9%)	3 Lung cancer	3 Stroke	109 (6.8%)	-33
87 (4.8%)	4 Road injury	4 Self-harm	82 (5.1%)	-3
85 (4.7%)	5 Self-harm	5 COPD	70 (4.4%)	-5
73 (4.1%)	6 COPD	6 Colorectal cancer	58 (3.6%)	-5
60 (3.3%)	7 Colorectal cancer	7 Road injury	53 (3.3%)	-40
59 (3.3%)	8 Breast cancer	8 Lower respiratory infections	51 (3.2%)	17
45 (2.5%)	9 Other cardio & circulatory	9 Breast cancer	49 (3.1%)	-17
44 (2.5%)	10 Lower respiratory infections	10 Alzheimers disease	44 (2.8%)	83
39 (2.2%)	11 Cirrhosis	11 Other cardio & circulatory	41 (2.6%)	-8
28 (1.6%)	12 Stomach cancer	12 Cirrhosis	38 (2.4%)	-1
27 (1.5%)	13 Diabetes	13 Pancreatic cancer	27 (1.7%)	19
27 (1.5%)	14 Congenital anomalies	14 Diabetes	26 (1.6%)	-6
26 (1.4%)	15 Preterm birth complications	15 Falls	26 (1.6%)	20
24 (1.3%)	16 Alzheimers disease	16 Prostate cancer	24 (1.5%)	4
23 (1.3%)	17 Pancreatic cancer	17 Brain cancer	20 (1.3%)	-13
23 (1.3%)	18 Brain cancer	18 Leukemia	18 (1.1%)	-13
22 (1.2%)	19 Prostate cancer	19 Stomach cancer	18 (1.1%)	-37
22 (1.2%)	20 Falls	20 Chronic kidney disease	16 (1.0%)	-5
20 (1.1%)	21 Leukemia	21 Kidney cancers	17 (1.0%)	58
17 (0.9%)	22 Chronic kidney disease	22 Cardiomyopathy	16 (1.0%)	7
16 (0.9%)	23 Bladder cancer	23 Non-Hodgkin lymphoma	16 (1.0%)	2
15 (0.9%)	24 Non-Hodgkin lymphoma	24 Esophageal cancer	14 (0.9%)	21
15 (0.8%)	25 Ovarian cancer	25 Congenital anomalies	14 (0.9%)	-49
	26 Ovarian cancer	26 Ovarian cancer		
	29 Esophageal cancer	29 Esophageal cancer		
	33 Kidney cancers	32 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 Belgium are low back pain, major depressive disorder, falls, 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.

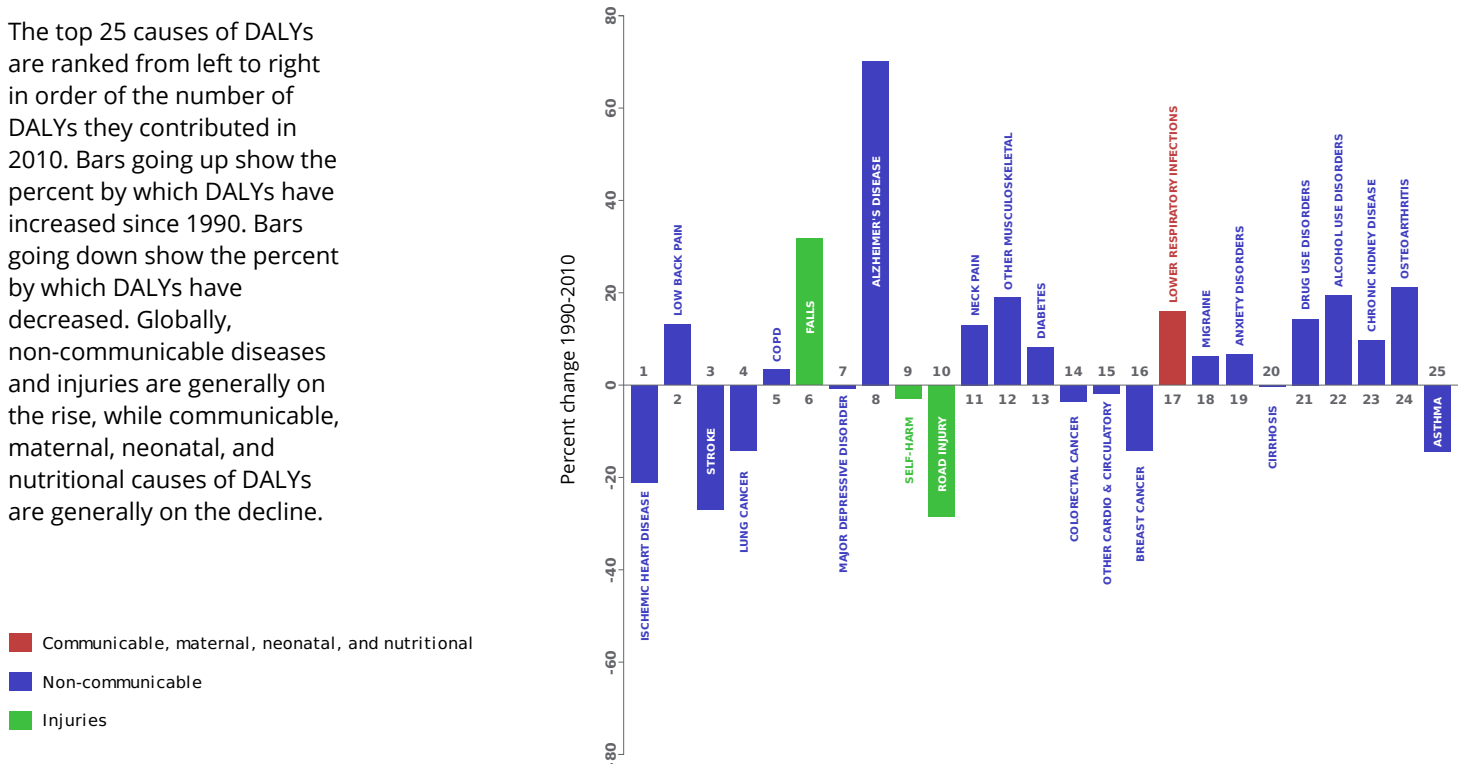


DISABILITY-ADJUSTED LIFE YEARS (DALYs)

Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Belgium, the top three causes of DALYs in 2010 were ischemic heart disease, low back pain, and cerebrovascular disease. The only cause to appear in the 10 leading causes of DALYs in 2010 and not 1990 was 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 Belgium

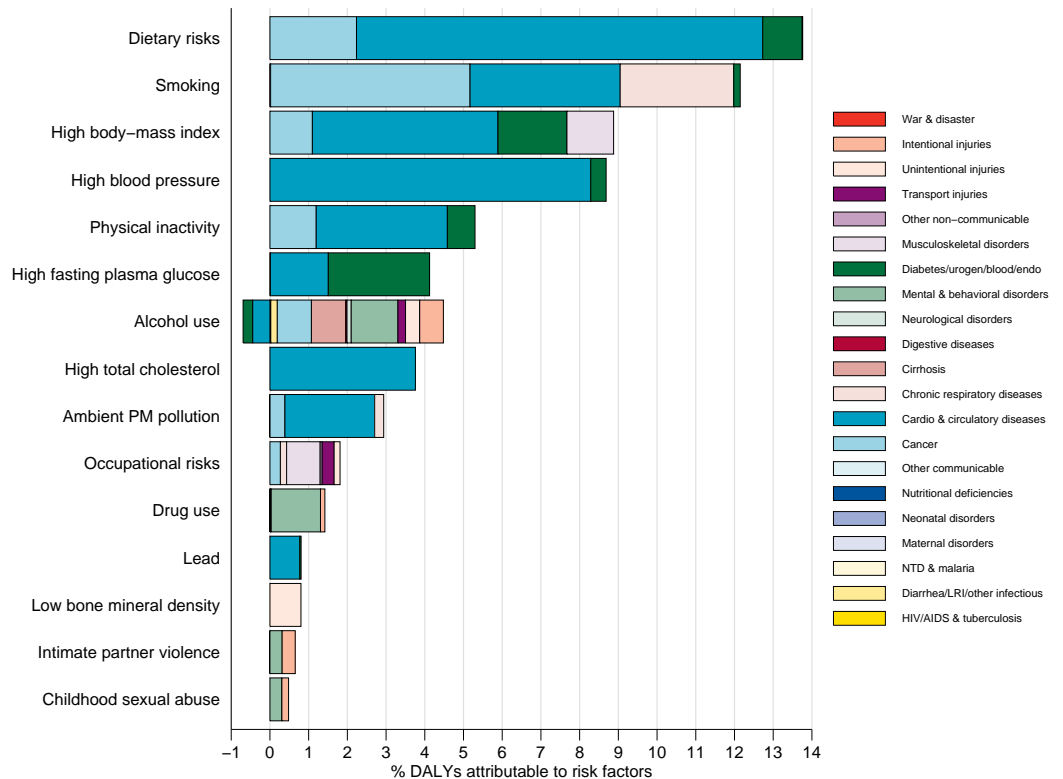


RISK FACTORS

Overall, the three risk factors that account for the most disease burden in Belgium are dietary risks, tobacco smoking, and high body-mass index. The leading risk factors for children under 5 and adults aged 15-49 years were tobacco smoking and alcohol use, 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 Belgium. 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 Belgium DALYs



COUNTRY BENCHMARKING OF BURDEN OF DISEASE

Understanding the relative performance of Belgium against other comparator countries provides key insight into public health successes and areas where Belgium might be falling behind. The table identifies Belgium'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, Belgium ranked 5th for age-standardized YLD rate and 13th for age-standardized YLL 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
Ireland	692	14	453	11	14,298	12	8,764	10	11,024	5	11,138	9	74.8	14	79.9	11	65.2	13	68.9	10
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	13
Australia	568	7	389	3	12,381	6	7,722	5	11,153	10	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	7	11,381	13	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	14	11,250	12	77.6	3	81.4	5	66.8	3	69.6	4
Denmark	656	13	504	15	14,383	13	9,592	14	11,209	12	11,456	15	75.2	12	78.9	14	65.3	12	67.9	14
Belgium	615	8	460	13	13,458	9	9,381	13	11,119	9	10,933	5	75.9	8	79.5	13	65.7	8	68.5	12
United Kingdom	638	10	455	12	13,452	8	8,949	11	11,453	15	11,435	14	75.7	10	79.9	12	65.4	10	68.6	11
Germany	644	11	433	9	14,032	11	8,512	7	11,165	11	11,015	7	75.4	11	80.2	9	65.3	11	69	9
Finland	655	12	437	10	14,467	14	9,050	12	11,092	8	11,248	11	75.1	13	80.1	10	63.8	15	67.3	15
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	13	11,194	10	77.1	5	80.9	6	66.5	5	69.5	7
Taiwan	723	15	481	14	16,396	15	10,440	15	10,592	2	9,639	2	73.7	15	78.8	15	64.8	14	69.5	6
Italy	561	6	389	4	12,202	5	7,485	4	11,038	6	10,907	4	77	6	81.5	4	66.7	4	70.2	2

COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of Belgium 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 Belgium 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	Road injury	Major depressive disorder	Self-harm	Falls	Neck pain	Diabetes	Breast cancer	Colorectal cancer	Other musculoskeletal	Other cardio & circulatory	Alzheimer's disease	Lower respiratory infections	Cirrhosis	Migraine	Anxiety disorders	Drug use disorders	Asthma	Congenital anomalies	Alcohol use disorders	Stomach cancer
Ireland	15	10	9	10	15	6	3	3	8	12	8	11	14	12	10	6	13	2	8	10	6	12	14	4	8
Iceland	8	7	2	8	4	4	7	6	6	13	1	12	3	7	2	8	10	1	9	5	9	4	2	9	10
Australia	7	2	3	6	11	11	4	4	4	4	4	5	12	14	3	10	1	4	15	13	15	15	7	6	2
Canada	6	6	1	12	9	7	6	7	1	7	10	8	8	15	1	13	6	6	6	7	10	11	8	7	1
Austria	10	9	13	5	8	13	9	12	14	11	11	9	9	10	9	3	3	14	7	9	12	2	13	10	12
Sweden	9	13	5	1	2	3	15	10	5	2	7	3	4	6	5	9	9	3	12	11	5	13	11	13	3
Denmark	12	14	8	14	14	8	8	13	13	3	12	14	15	11	4	11	5	10	5	8	11	7	15	15	4
Belgium	5	5	7	15	10	14	10	9	11	10	9	13	10	4	14	14	8	8	10	2	7	5	6	8	6
United Kingdom	13	12	10	13	12	2	5	2	7	6	3	15	11	2	6	7	14	5	13	14	14	14	5	5	7
Germany	11	15	6	9	7	9	12	8	12	8	13	10	13	8	13	4	7	13	4	12	8	9	9	12	11
Finland	14	8	14	4	3	5	13	15	15	6	4	1	3	7	15	11	9	11	4	2	6	12	11	9	9
Japan	1	3	12	2	1	1	1	5	2	5	5	2	5	13	12	2	12	7	1	1	3	8	4	2	15
France	3	11	4	7	5	12	14	14	10	9	2	6	7	9	15	12	4	11	3	15	4	10	3	14	5
Taiwan	2	1	15	3	13	15	2	11	3	1	15	1	2	1	11	1	15	15	2	6	1	1	1	3	13
Italy	4	4	11	11	6	10	11	1	9	14	14	7	6	5	8	5	2	12	14	3	13	3	10	1	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	Stroke	Lung cancer	COPD	Falls	Major depressive disorder	Alzheimer's disease	Self-harm	Road injury	Neck pain	Other musculoskeletal	Diabetes	Colorectal cancer	Other cardio & circulatory	Breast cancer	Lower respiratory infections	Migraine	Anxiety disorders	Cirrhosis	Drug use disorders	Alcohol use disorders	Chronic kidney disease	Osteoarthritis	Asthma
Ireland	14	9	8	9	12	11	6	6	7	8	12	9	7	14	8	12	12	9	8	5	11	7	10	6	10
Iceland	6	7	1	6	5	5	8	14	3	2	13	3	2	2	3	3	4	8	14	1	8	6	4	10	6
Australia	5	3	2	4	9	4	3	9	5	11	5	13	6	13	4	7	3	15	12	2	14	4	6	3	15
Canada	9	5	4	13	8	1	7	13	8	5	11	15	13	6	2	9	8	6	3	4	13	5	12	13	12
Austria	12	11	7	8	11	14	13	3	10	10	9	5	12	3	12	6	2	7	6	13	12	11	11	7	2
Sweden	7	13	5	1	6	6	9	11	9	3	2	4	8	4	5	4	5	12	10	3	4	12	1	12	13
Denmark	8	14	13	15	15	10	14	10	6	9	3	12	14	15	7	13	10	5	7	10	9	14	8	5	9
Belgium	10	6	11	14	13	13	5	12	13	14	10	8	9	12	15	15	11	10	4	8	7	8	7	9	3
United Kingdom	11	12	10	11	14	8	4	7	2	4	6	11	1	10	10	14	13	13	13	9	15	9	3	11	14
Germany	13	15	6	10	7	9	12	4	4	6	8	7	10	9	14	8	9	4	11	12	5	10	14	8	7
Finland	15	8	12	3	2	15	15	15	15	7	15	6	4	1	9	5	6	11	2	14	6	15	2	4	8
Japan	1	2	14	2	1	2	1	2	14	1	4	14	3	5	1	1	15	1	1	6	2	2	13	15	4
France	3	10	3	12	3	12	10	8	12	12	7	10	5	7	13	11	7	3	15	11	3	13	9	1	11
Taiwan	2	1	15	7	10	3	2	1	11	15	1	1	15	11	6	2	14	2	9	15	1	3	15	14	1
Italy	4	4	9	5	4	7	11	5	1	13	14	2	11	8	11	10	1	14	5	7	10	1	5	2	5
Ranking Legend	1 - 3			4 - 7			8 - 11			12 - 15															