

GBD PROFILE: SPAIN

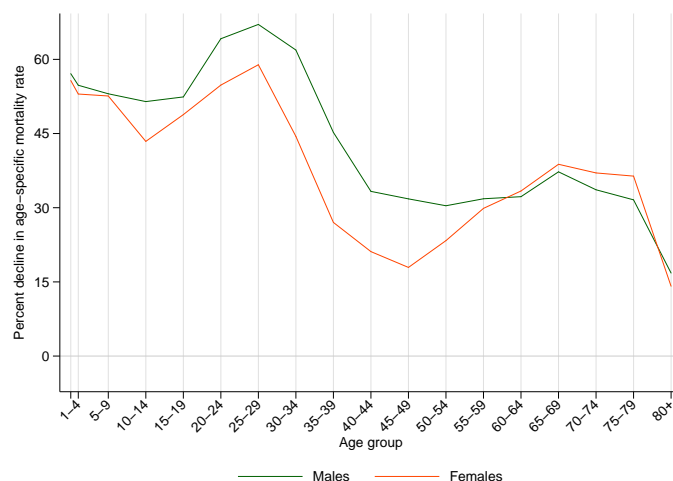
GLOBAL BURDEN OF DISEASES, INJURIES, AND RISK FACTORS STUDY 2010

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 Spain, 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), road injury showed the largest decrease, falling by 43% from 1990 to 2010.
- The leading risk factor in Spain is dietary risks.

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



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 25-29 years (67%). Females aged 80+ years saw the smallest decrease in mortality rate (14%).

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, Spain

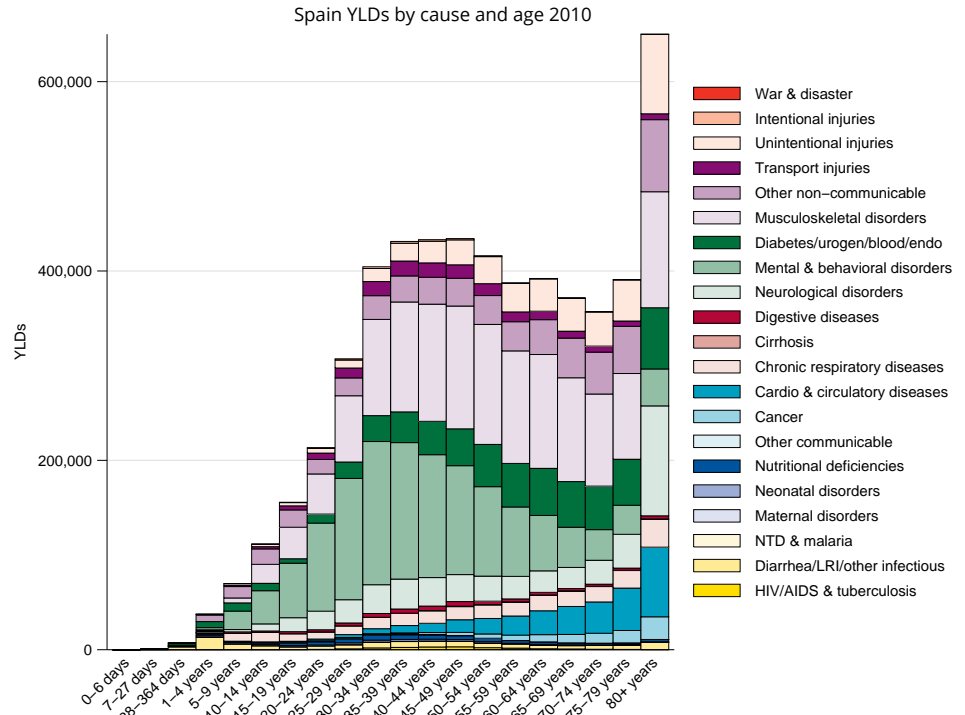
# YLLs in thousands (% of total)	Rank and disorder 1990	Rank and disorder 2010	# YLLs in thousands (% of total)	% change
847 (14.0%)	1 Ischemic heart disease	1 Ischemic heart disease	708 (13.0%)	-17
610 (10.1%)	2 Stroke	2 Stroke	411 (7.5%)	-37
369 (6.1%)	3 Road injury	3 Lung cancer	364 (6.7%)	22
310 (5.1%)	4 Lung cancer	4 Colorectal cancer	232 (4.3%)	45
232 (3.9%)	5 Cirrhosis	5 COPD	182 (3.3%)	-16
217 (3.6%)	6 COPD	6 Alzheimers disease	188 (3.4%)	227
161 (2.7%)	7 Colorectal cancer	7 Cirrhosis	174 (3.2%)	-28
142 (2.4%)	8 Other cardio & circulatory	8 Road injury	150 (2.7%)	-61
142 (2.4%)	9 Stomach cancer	9 Breast cancer	128 (2.3%)	-7
137 (2.3%)	10 Breast cancer	10 Other cardio & circulatory	123 (2.3%)	-13
135 (2.2%)	11 Lower respiratory infections	11 Lower respiratory infections	123 (2.2%)	-9
128 (2.1%)	12 Diabetes	12 Diabetes	115 (2.1%)	-14
123 (2.0%)	13 Self-harm	13 Self-harm	114 (2.1%)	-4
115 (1.9%)	14 Congenital anomalies	14 Stomach cancer	99 (1.8%)	-31
102 (1.7%)	15 HIV/AIDS	15 Pancreatic cancer	88 (1.6%)	41
83 (1.4%)	16 Chronic kidney disease	16 Liver cancer	84 (1.5%)	16
71 (1.2%)	17 Liver cancer	17 Brain cancer	83 (1.5%)	20
70 (1.2%)	18 Rheumatic heart disease	18 Chronic kidney disease	82 (1.5%)	-5
71 (1.2%)	19 Brain cancer	19 Prostate cancer	82 (1.5%)	38
69 (1.1%)	20 Preterm birth complications	20 Cardiomyopathy	70 (1.3%)	33
70 (1.2%)	21 Leukemia	21 Leukemia	67 (1.2%)	-2
62 (1.0%)	22 Pancreatic cancer	22 Bladder cancer	65 (1.2%)	13
59 (1.0%)	23 Bladder cancer	23 Congenital anomalies	64 (1.2%)	-47
58 (1.0%)	24 Alzheimers disease	24 Hypertensive heart disease	57 (1.0%)	13
57 (0.9%)	25 Prostate cancer	25 Kidney cancers	57 (1.1%)	115
	26 Cardiomyopathy	27 HIV/AIDS		
	27 Hypertensive heart disease	29 Preterm birth complications		
	37 Kidney cancers	33 Rheumatic heart disease		

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 Spain 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.

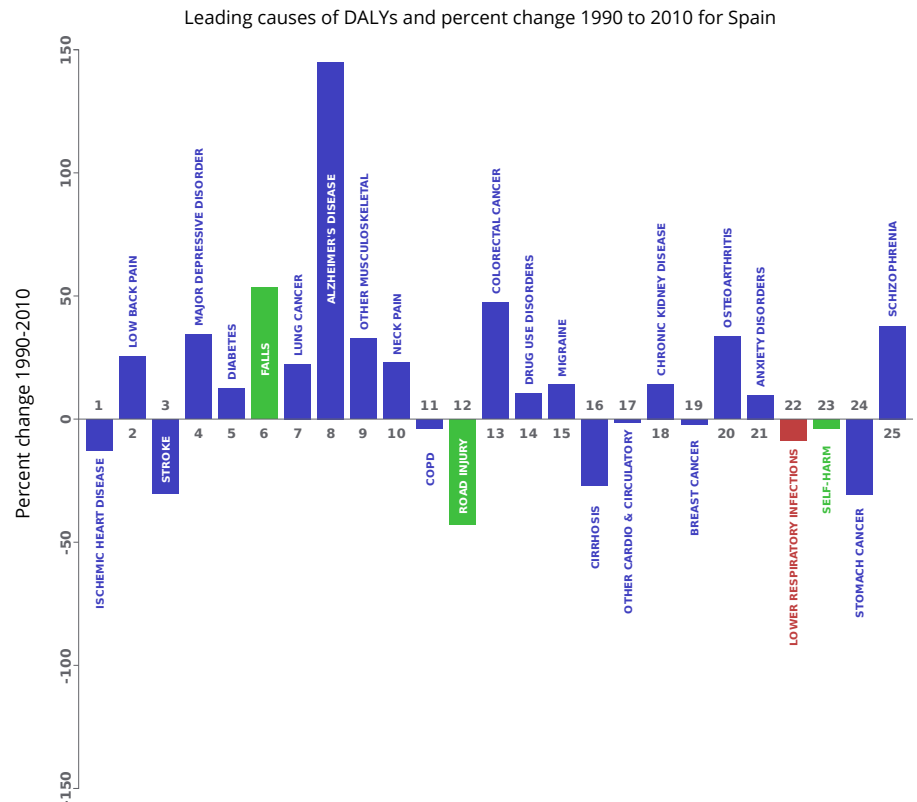


DISABILITY-ADJUSTED LIFE YEARS (DALYs)

Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Spain, the top three causes of DALYs in 2010 were ischemic heart disease, low back pain, and cerebrovascular disease. Two causes that appeared in the 10 leading causes of DALYs in 2010 and not 1990 were falls 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.

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

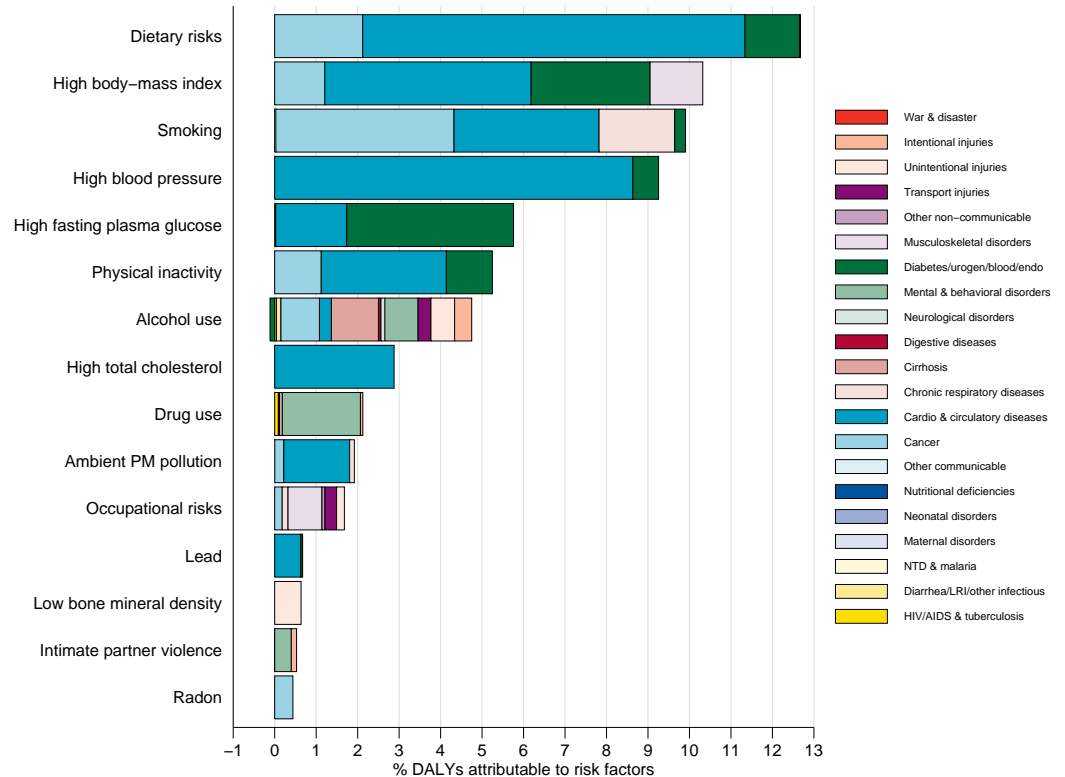


RISK FACTORS

Overall, the three risk factors that account for the most disease burden in Spain 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 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 Spain. 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 Spain DALYs



COUNTRY BENCHMARKING OF BURDEN OF DISEASE

Understanding the relative performance of Spain against other comparator countries provides key insight into public health successes and areas where Spain might be falling behind. The table identifies Spain'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, Spain ranked 2nd for health-adjusted life expectancy and 4th 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
Germany	644	8	433	7	14,032	7	8,512	5	11,165	9	11,015	8	75.4	7	80.2	7	65.3	7	69	9
Finland	655	9	437	8	14,467	8	9,050	10	11,092	8	11,248	12	75.1	9	80.1	8	63.8	10	67.3	12
Japan	469	1	352	1	9,658	1	6,827	1	9,406	1	9,094	1	79.1	1	82.6	1	70.1	1	73.1	1
France	549	2	408	5	12,717	5	8,666	7	11,358	11	11,194	11	77.1	2	80.9	5	66.5	4	69.5	7
Taiwan	723	10	481	12	16,396	10	10,440	12	10,592	4	9,639	3	73.7	10	78.8	12	64.8	9	69.5	6
Italy	561	4	389	2	12,202	3	7,485	2	11,038	6	10,907	7	77	3	81.5	2	66.7	3	70.2	4
The Bahamas	949	15	541	14	29,297	15	18,258	14	13,220	14	12,791	13	67.4	15	76	14	57.4	15	63.2	14
Spain	557	3	393	3	12,630	4	7,694	4	10,136	3	10,068	4	76.9	5	81.4	3	67.5	2	70.9	2
Bahrain	811	12	512	13	20,581	13	11,478	13	13,517	15	13,353	15	71.4	13	77.6	13	60.1	13	64.8	13
Greece	573	5	465	10	12,011	2	8,806	8	11,040	7	10,809	6	76.9	4	79.6	10	66.5	5	68.7	10
New Zealand	637	7	413	6	14,523	9	8,611	6	11,247	10	11,067	9	75.3	8	80.7	6	64.9	8	69.2	8
Israel	584	6	406	4	12,760	6	7,682	3	10,877	5	10,792	5	76.4	6	81.1	4	66.2	6	69.7	5
Slovenia	760	11	465	11	17,330	11	9,491	11	11,410	12	11,095	10	73.1	11	79.3	11	63.2	12	68.3	11
South Korea	813	13	447	9	18,830	12	8,941	9	10,074	2	9,575	2	72.1	12	79.7	9	63.8	11	70.3	3
Trinidad and Tobago	934	14	883	15	24,788	14	21,845	15	12,458	13	12,885	14	69.1	14	70.6	15	59.5	14	59.4	15

COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of Spain 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 Spain 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	Stroke	Road injury	Low back pain	Diabetes	Major depressive disorder	Lung cancer	COPD	Neck pain	Other musculoskeletal	Falls	Cirrhosis	Drug use disorders	Other cardio & circulatory	Migraine	Colorectal cancer	Breast cancer	Alzheimer's disease	Stomach cancer	Lower respiratory infections	Chronic kidney disease	Congenital anomalies	Self-harm	Anxiety disorders	HIV/AIDS		
Germany	11	4	5	15	6	8	12	9	10	11	13	11	11	10	5	14	12	7	9	4	6	4	9	9	8		
Finland	13	8	4	13	5	10	8	3	15	9	14	6	3	3	10	5	6	15	7	8	1	6	15	5	4		
Japan	1	7	1	6	4	1	2	1	7	15	2	5	6	7	1	9	3	2	14	11	8	3	8	2	3		
France	3	1	7	14	1	11	11	5	11	12	12	8	7	12	4	11	8	13	1	2	3	2	13	14	13		
Taiwan	2	13	11	5	12	3	5	15	2	2	5	13	2	6	2	6	2	1	10	13	15	1	12	6	2		
Italy	5	6	6	10	8	6	14	6	13	10	10	9	14	4	15	10	10	9	11	1	4	5	3	4	12		
The Bahamas	8	11	8	1	13	14	3	7	3	5	1	12	13	15	8	7	9	6	12	15	11	13	2	15	15		
Spain	4	5	9	4	10	4	9	8	12	13	6	10	12	9	13	8	7	12	8	5	9	8	4	3	14		
Bahrain	15	9	15	8	14	15	7	13	1	1	4	4	9	14	3	1	5	3	3	12	14	15	6	12	7		
Greece	7	10	10	12	2	12	10	4	14	8	9	3	4	5	11	3	4	5	5	3	10	12	1	8	11		
New Zealand	12	2	12	7	3	7	13	14	6	6	8	1	15	1	6	15	14	11	2	7	7	7	10	11	9		
Israel	10	3	2	11	9	5	4	11	9	7	7	2	8	8	9	12	15	10	4	6	12	10	5	1	6		
Slovenia	9	12	13	9	7	9	15	12	5	3	15	14	1	11	12	13	13	4	13	10	2	11	14	10	1		
South Korea	6	15	14	3	11	2	6	2	8	14	11	15	5	2	14	2	1	14	15	9	5	9	7	7	5		
Trinidad and Tobago	14	14	3	2	15	13	1	10	4	4	3	7	10	13	7	4	11	8	6	14	13	14	11	13	10		
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	Major depressive disorder	Diabetes	Falls	Lung cancer	Alzheimer's disease	Other musculoskeletal	Neck pain	COPD	Road injury	Colorectal cancer	Drug use disorders	Migraine	Cirrhosis	Other cardio & circulatory	Chronic kidney disease	Breast cancer	Osteoarthritis	Anxiety disorders	Lower respiratory infections	Self-harm	Stomach cancer	Schizophrenia		
Germany	11	15	4	10	6	11	12	7	10	11	10	2	11	8	5	11	13	9	10	7	11	7	7	9	3		
Finland	13	13	7	14	2	14	5	15	9	15	4	3	3	10	11	12	6	2	7	5	4	4	15	6	5		
Japan	2	6	10	1	1	1	4	3	14	7	1	1	7	4	1	5	2	7	2	11	2	13	13	14	14		
France	4	14	3	8	3	13	14	12	11	10	5	7	8	5	4	10	12	4	15	1	15	5	11	3	4		
Taiwan	3	5	13	3	12	3	10	1	2	2	13	10	13	1	2	15	5	13	3	10	6	11	10	11	9		
Italy	6	10	6	9	7	10	9	9	7	13	6	8	9	12	15	7	7	3	12	2	5	1	3	12	1		
The Bahamas	7	1	9	12	13	4	1	5	5	3	2	15	2	14	7	6	14	12	5	14	7	14	2	5	12		
Spain	5	3	5	4	9	9	11	14	13	12	7	5	12	13	13	8	8	10	6	8	3	3	4	8	6		
Bahrain	12	7	8	15	14	2	3	2	1	1	14	14	1	9	3	2	11	14	4	15	14	12	6	1	8		
Greece	14	12	12	11	4	12	15	6	6	14	8	12	4	7	10	4	4	6	8	3	12	10	1	10	2		
New Zealand	10	8	1	7	5	7	7	13	4	6	15	9	15	15	6	1	3	8	13	6	13	2	8	2	13		
Israel	8	11	2	6	11	8	6	10	12	8	9	4	10	6	9	3	9	11	14	4	1	6	5	7	7		
Slovenia	9	9	11	5	8	15	13	4	3	5	12	11	14	2	12	14	10	1	9	12	9	8	12	13	10		
South Korea	1	4	14	2	10	5	8	11	15	9	3	6	5	3	14	13	1	5	1	9	10	9	14	15	15		
Trinidad and Tobago	15	2	15	13	15	6	2	8	8	4	11	13	6	11	8	9	15	15	11	13	8	15	9	4	11		
Ranking Legend	1 - 3			4 - 7			8 - 11			12 - 15																	