

GBD PROFILE: CHILE

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 Chile, ischemic heart disease, cerebrovascular disease, and cirrhosis of the liver 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 63% from 1990 to 2010.
- The leading risk factor in Chile is dietary risks.

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



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 (54%). Males aged 25-29 years saw the smallest decrease in mortality rate (23%).

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, Chile

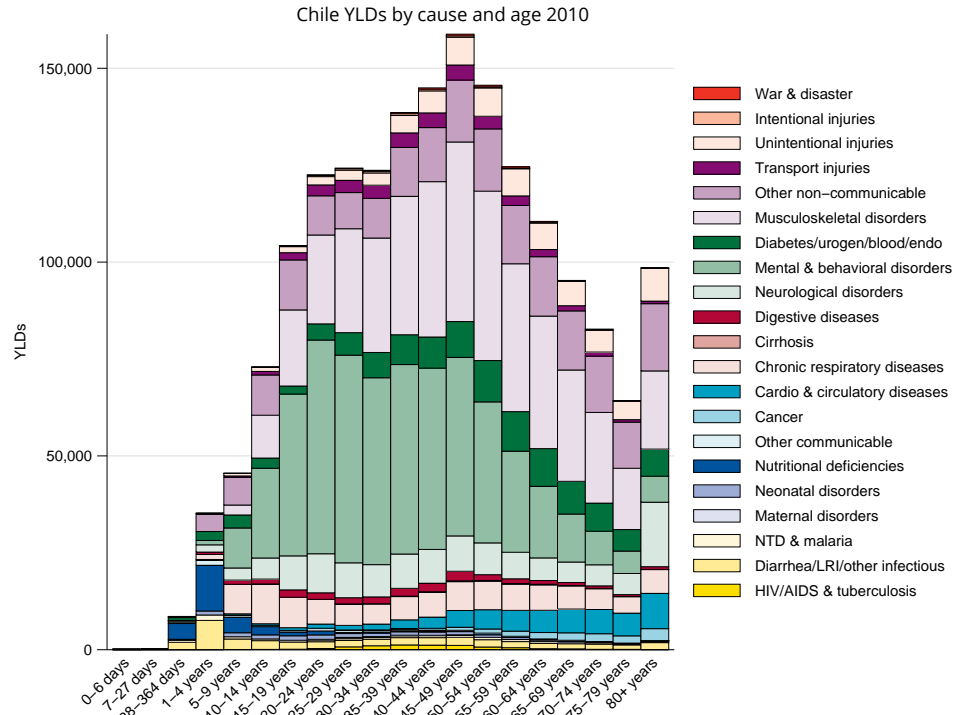
# YLLs in thousands (% of total)	Rank and disorder 1990	Rank and disorder 2010	# YLLs in thousands (% of total)	% change
184 (8.5%)	1 Lower respiratory infections	1 Ischemic heart disease	166 (8.4%)	1
164 (7.6%)	2 Ischemic heart disease	2 Stroke	133 (6.7%)	-16
153 (7.1%)	3 Stroke	3 Cirrhosis	103 (5.2%)	1
130 (6.0%)	4 Congenital anomalies	4 Road injury	92 (4.7%)	33
102 (4.7%)	5 Self-harm	5 Self-harm	96 (4.9%)	-9
101 (4.7%)	6 Preterm birth complications	6 Lower respiratory infections	76 (3.8%)	-65
102 (4.7%)	7 Cirrhosis	7 Stomach cancer	63 (3.2%)	-8
76 (3.5%)	8 Road injury	8 Congenital anomalies	60 (3.0%)	-54
68 (3.2%)	9 Stomach cancer	9 Lung cancer	49 (2.5%)	24
58 (2.7%)	10 Interpersonal violence	10 Interpersonal violence	47 (2.4%)	-21
39 (1.8%)	11 Lung cancer	11 Diabetes	45 (2.3%)	40
33 (1.5%)	12 COPD	12 Preterm birth complications	43 (2.2%)	-58
37 (1.7%)	13 Mechanical forces	13 Gallbladder cancer	44 (2.2%)	35
32 (1.5%)	14 Diabetes	14 Chronic kidney disease	42 (2.2%)	69
32 (1.5%)	15 Neonatal encephalopathy	15 COPD	42 (2.1%)	26
32 (1.5%)	16 Gallbladder cancer	16 Colorectal cancer	33 (1.7%)	81
30 (1.4%)	17 Fire	17 Alzheimers disease	33 (1.7%)	394
30 (1.4%)	18 Cervical cancer	18 Breast cancer	29 (1.4%)	17
27 (1.2%)	19 Leukemia	19 HIV/AIDS	27 (1.4%)	241
26 (1.2%)	20 Chronic kidney disease	20 Hypertensive heart disease	26 (1.3%)	35
25 (1.2%)	21 Falls	21 Leukemia	24 (1.2%)	-10
24 (1.1%)	22 Breast cancer	22 Cervical cancer	23 (1.2%)	-27
23 (1.0%)	23 Adverse medical treatment	23 Forces of nature	25 (1.3%)	0
22 (1.0%)	24 Tuberculosis	24 Pancreatic cancer	21 (1.1%)	86
21 (1.0%)	25 Meningitis	25 Prostate cancer	22 (1.1%)	78
	27 Hypertensive heart disease	29 Falls		
	30 Colorectal cancer	33 Fire		
	36 Prostate cancer	38 Neonatal encephalopathy		
	38 Pancreatic cancer	41 Mechanical forces		
	44 HIV/AIDS	43 Tuberculosis		
	49 Alzheimers disease	52 Meningitis		

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 Chile are low back pain, major depressive disorder, neck pain, other musculoskeletal disorders, and anxiety 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.

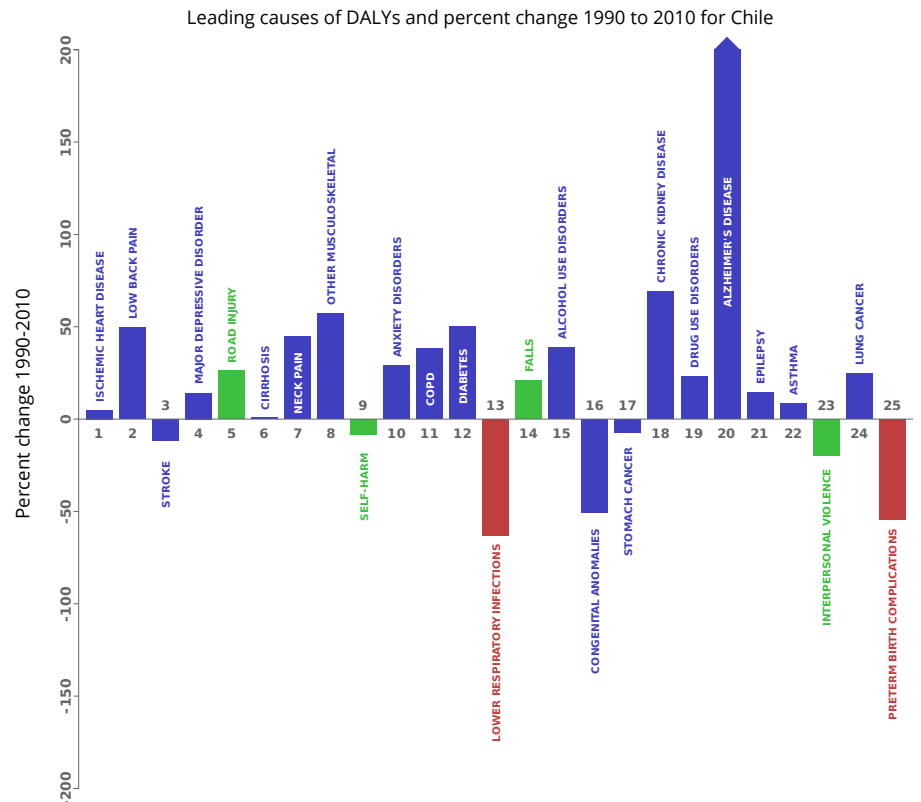


DISABILITY-ADJUSTED LIFE YEARS (DALYs)

Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Chile, the top three causes of DALYs in 2010 were ischemic heart disease, low back pain, and cerebrovascular disease. The causes that were in the 10 leading causes of DALYs in 2010 and not 1990 were neck pain, other musculoskeletal disorders, and anxiety disorders.

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

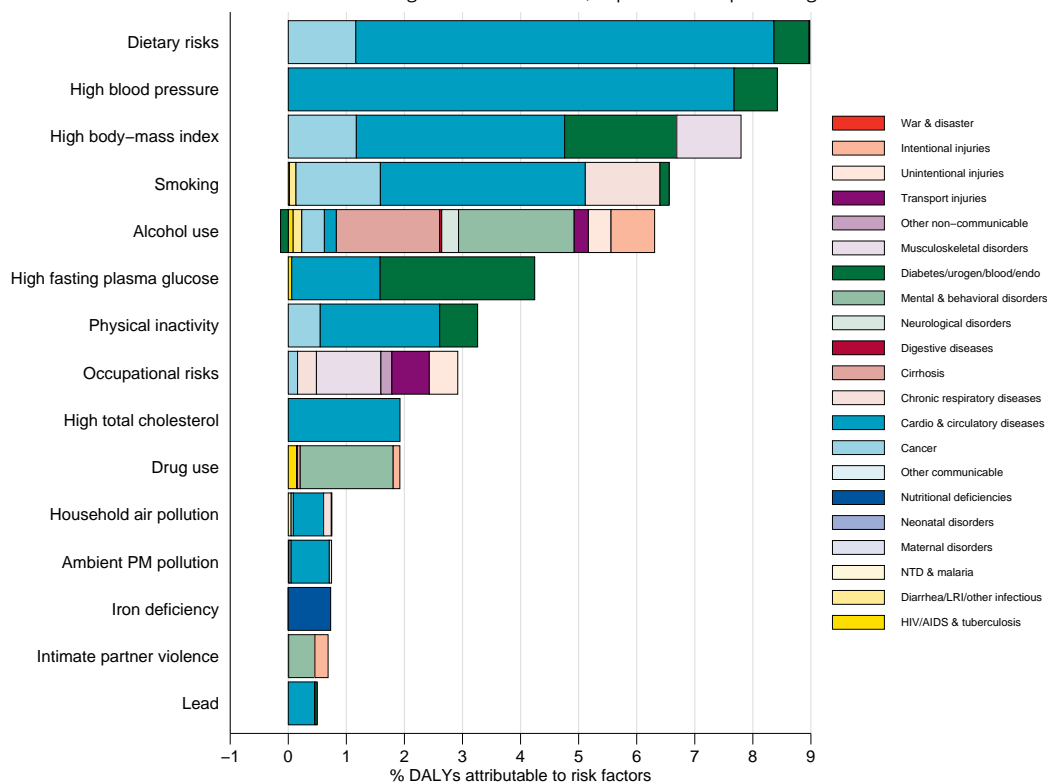


RISK FACTORS

Overall, the three risk factors that account for the most disease burden in Chile are dietary risks, high blood pressure, and high body-mass index. The leading risk factors for children under 5 and adults aged 15-49 years were suboptimal breastfeeding and alcohol use, respectively, in 2010.

The graph shows the top 15 risk factors for Chile. 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 Chile DALYs



COUNTRY BENCHMARKING OF BURDEN OF DISEASE

Understanding the relative performance of Chile against other comparator countries provides key insight into public health successes and areas where Chile might be falling behind. The table identifies Chile'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, Chile ranked 1st for life expectancy and 2nd 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
Croatia	830	8	585	3	19,273	3	11,918	3	12,083	11	11,620	10	71.9	5	76.7	3	61.8	6	66	7
Libya	693	1	645	9	19,723	5	15,897	8	13,033	13	13,106	13	72.7	3	74.7	8	61.3	10	62.9	12
Poland	872	10	589	5	21,136	8	13,059	4	11,652	7	11,401	8	70.9	10	76.3	5	61.5	8	66.1	6
Lithuania	833	9	678	10	21,127	7	16,608	10	11,684	8	11,302	7	71.3	8	74.1	10	61.7	7	64.3	9
Latvia	914	11	703	11	23,599	11	16,613	11	11,911	9	11,751	11	69.8	11	73.9	11	60.4	11	63.8	11
Russia	953	14	952	14	25,715	12	25,387	13	11,536	5	11,444	9	68.7	12	68.9	14	59.7	12	59.9	13
Mexico	740	4	604	7	22,775	10	15,658	7	10,092	1	9,364	1	71.5	7	75.5	7	63	4	66.9	3
Chile	760	5	490	1	18,210	1	11,136	1	11,185	4	10,407	2	72.9	2	78.5	1	63.4	2	68.6	1
Gabon	1,312	15	1,432	15	46,033	15	49,393	15	14,356	15	14,462	14	60	15	58.7	15	50.8	15	49.8	15
Malaysia	825	7	726	13	19,850	6	16,000	9	11,926	10	11,186	6	71.6	6	73.7	12	62.1	5	64.4	8
Argentina	731	2	597	6	19,400	4	14,343	6	11,154	3	10,843	4	72.5	4	76	6	63.2	3	66.1	5
Botswana	951	13	715	12	31,563	14	26,692	14	13,528	14	14,557	15	66.7	14	71	13	56.6	14	59.2	14
Lebanon	775	6	514	2	21,908	9	11,877	2	11,630	6	11,150	5	71.2	9	77.5	2	61.4	9	66.7	4
Turkey	942	12	628	8	30,025	13	16,760	12	12,442	12	11,885	12	67.1	13	74.4	9	57.6	13	63.9	10
Uruguay	731	3	585	4	18,332	2	13,126	5	11,007	2	10,540	3	73	1	76.5	4	63.8	1	67	2

COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of Chile 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 Chile 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	Lower respiratory infections	Ischemic heart disease	Stroke	Congenital anomalies	Major depressive disorder	Low back pain	Preterm birth complications	Self-harm	Cirrhosis	Road injury	Neck pain	Stomach cancer	Anxiety disorders	Other musculoskeletal	COPD	Falls	Interpersonal violence	Diabetes	Alcohol use disorders	Epilepsy	Drug use disorders	Asthma	Lung cancer	Neonatal encephalopathy	Diarrheal diseases
Croatia	2	8	11	3	14	14	3	12	12	11	7	11	15	7	3	11	4	5	8	6	2	4	13	1	1
Libya	9	9	8	15	15	10	12	2	5	10	1	2	14	1	7	7	2	14	2	1	11	11	4	6	11
Poland	4	10	13	8	2	15	7	10	10	9	6	10	9	5	10	14	3	10	12	5	6	9	15	3	2
Lithuania	1	14	4	9	8	12	1	15	7	13	9	12	2	9	9	12	9	1	15	10	8	2	9	4	3
Latvia	3	15	12	10	10	13	4	13	2	14	8	13	3	12	1	13	12	3	14	8	14	5	10	11	4
Russia	7	12	14	11	12	11	6	14	8	12	10	15	4	8	11	6	14	2	13	7	9	3	11	12	7
Mexico	12	2	1	6	1	1	9	4	15	8	5	6	1	11	5	2	15	15	10	12	5	1	2	13	13
Chile	11	3	2	5	3	4	5	11	14	2	15	14	8	14	2	8	10	4	11	13	12	7	5	2	6
Gabon	15	5	10	14	13	7	15	7	13	15	12	5	13	10	15	10	11	12	4	14	15	13	1	15	15
Malaysia	10	7	9	2	9	2	2	6	6	5	3	4	7	2	13	9	1	9	7	9	4	8	7	5	5
Argentina	6	6	7	7	5	5	13	8	11	1	14	7	11	15	6	4	8	6	9	2	13	6	8	8	9
Botswana	13	1	6	1	6	6	10	5	3	3	11	3	5	6	14	1	13	13	5	15	1	15	3	14	14
Lebanon	8	11	3	13	7	8	11	1	1	7	4	1	6	4	8	15	7	11	1	3	3	12	6	7	10
Turkey	14	13	15	12	11	9	14	3	4	6	2	9	12	3	12	5	6	8	3	11	10	14	14	9	12
Uruguay	5	4	5	4	4	3	8	9	9	4	13	8	10	13	4	3	5	7	6	4	7	10	12	10	8
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	Road injury	Cirrhosis	Neck pain	Other musculoskeletal	Self-harm	Anxiety disorders	COPD	Diabetes	Lower respiratory infections	Falls	Alcohol use disorders	Congenital anomalies	Stomach cancer	Chronic kidney disease	Drug use disorders	Alzheimer's disease	Epilepsy	Asthma	Interpersonal violence	Lung cancer	Preterm birth complications
Croatia	7	14	8	12	8	10	9	7	9	10	6	6	1	13	7	3	10	3	5	10	3	5	1	13	4
Libya	12	10	11	15	14	5	1	1	2	15	11	15	9	7	2	13	4	13	7	5	1	12	3	4	14
Poland	8	15	9	2	10	9	10	6	12	12	7	5	2	14	12	4	8	5	4	8	6	6	2	14	5
Lithuania	13	13	7	5	12	13	6	9	15	3	2	2	4	12	15	5	12	2	14	9	9	2	11	9	1
Latvia	14	12	12	9	6	7	8	8	13	2	1	4	3	10	13	6	13	1	11	12	8	3	9	10	2
Russia	15	11	15	10	13	12	7	10	14	4	9	3	12	9	14	11	15	6	15	11	7	4	13	12	8
Mexico	4	1	1	1	11	14	5	11	5	1	4	14	11	2	9	12	6	15	3	6	12	1	14	2	10
Chile	2	5	2	3	3	11	14	13	11	8	3	1	6	6	11	8	14	10	10	14	13	8	8	5	6
Gabon	6	7	14	13	15	15	11	12	8	13	15	13	15	11	4	14	5	14	13	7	15	14	12	3	15
Malaysia	10	2	10	8	7	3	3	4	3	5	14	10	14	8	5	1	3	12	1	1	10	10	5	7	3
Argentina	5	4	4	6	5	8	15	15	7	11	8	7	13	4	10	10	7	11	12	13	2	7	10	8	12
Botswana	1	6	5	14	9	4	12	5	4	9	13	11	10	1	8	2	1	8	6	3	14	13	15	1	11
Lebanon	9	8	3	7	4	2	4	3	1	6	5	12	5	15	1	9	2	7	2	4	5	11	7	6	9
Turkey	11	9	13	11	1	1	2	2	6	14	12	9	8	5	3	15	11	4	9	2	11	15	4	15	13
Uruguay	3	3	6	4	2	6	13	14	10	7	10	8	7	3	6	7	9	9	8	15	4	9	6	11	7
Ranking Legend	1 - 3			4 - 7				8 - 11				12 - 15													