

GBD PROFILE: PERU

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.

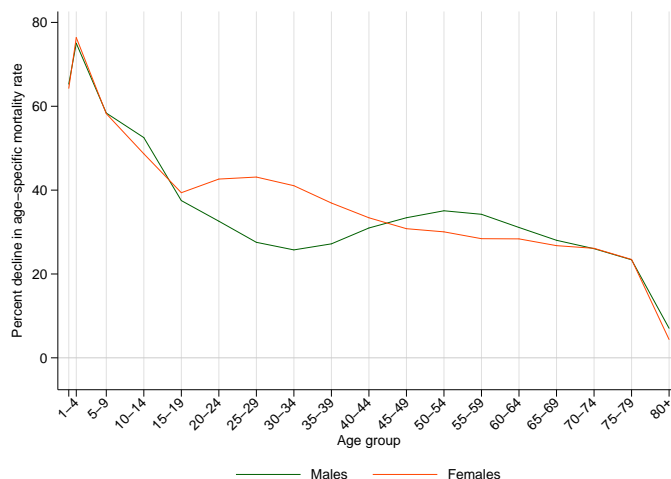
PROFILE OVERVIEW

- In terms of the number of years of life lost (YLLs) due to premature death in Peru, lower respiratory infections, ischemic heart disease, and preterm birth complications were the highest ranking causes in 2010.
- Of the 25 most important causes of burden, as measured by disability-adjusted life years (DALYs), diarrheal diseases showed the largest decrease, falling by 89% from 1990 to 2010.
- The leading risk factor in Peru 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 females aged 1-4 years (76%). Females aged 80+ years saw the smallest decrease in mortality rate (4%).

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



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, Peru

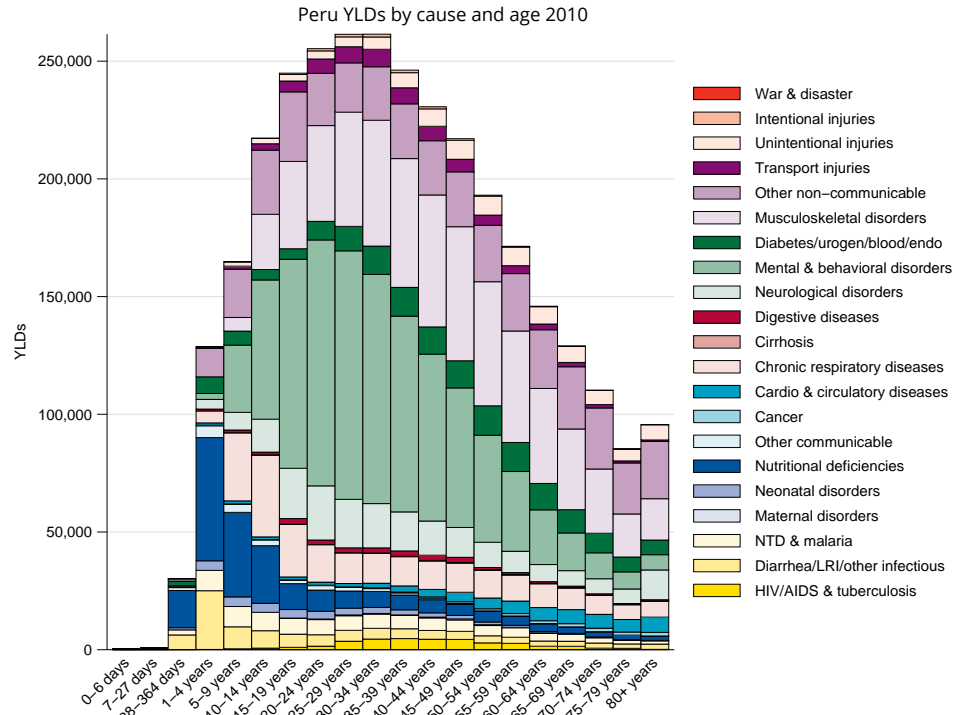
# YLLs in thousands (% of total)	Rank and disorder 1990	Rank and disorder 2010	# YLLs in thousands (% of total)	% change
1,391 (20.8%)	1 Lower respiratory infections	1 Lower respiratory infections	467 (11.8%)	-67
849 (12.7%)	2 Diarrheal diseases	2 Ischemic heart disease	223 (5.6%)	42
442 (6.6%)	3 Preterm birth complications	3 Preterm birth complications	192 (4.9%)	-55
322 (4.8%)	4 Neonatal encephalopathy	4 Road injury	172 (4.4%)	20
247 (3.7%)	5 Tuberculosis	5 Neonatal encephalopathy	172 (4.4%)	-47
232 (3.5%)	6 Protein-energy malnutrition	6 Stroke	155 (3.9%)	-9
204 (3.1%)	7 Neonatal sepsis	7 Neonatal sepsis	132 (3.3%)	-36
169 (2.5%)	8 Stroke	8 Congenital anomalies	123 (3.1%)	-7
166 (2.5%)	9 Syphilis	9 HIV/AIDS	125 (3.1%)	357
158 (2.4%)	10 Ischemic heart disease	10 Cirrhosis	111 (2.8%)	87
148 (2.2%)	11 Road injury	11 Interpersonal violence	86 (2.2%)	-47
150 (2.2%)	12 Congenital anomalies	12 Stomach cancer	80 (2.0%)	6
120 (1.8%)	13 Interpersonal violence	13 Tuberculosis	79 (2.0%)	-69
107 (1.6%)	14 Iron-deficiency anemia	14 Chronic kidney disease	70 (1.8%)	20
95 (1.4%)	15 Mechanical forces	15 Diabetes	58 (1.5%)	-1
75 (1.1%)	16 Stomach cancer	16 Diarrheal diseases	54 (1.4%)	-94
69 (1.0%)	17 Drowning	17 Other cardio & circulatory	50 (1.3%)	22
67 (1.0%)	18 Meningitis	18 Drowning	50 (1.3%)	-28
63 (0.9%)	19 Cirrhosis	19 Leukemia	50 (1.3%)	12
59 (0.9%)	20 Chronic kidney disease	20 Cervical cancer	49 (1.2%)	11
57 (0.9%)	21 Diabetes	21 COPD	43 (1.1%)	17
56 (0.8%)	22 Maternal disorders	22 Protein-energy malnutrition	44 (1.1%)	-81
55 (0.8%)	23 War & legal intervention	23 Self-harm	41 (1.0%)	57
44 (0.7%)	24 Leukemia	24 Meningitis	41 (1.0%)	-35
41 (0.6%)	25 Other cardio & circulatory	25 Lung cancer	40 (1.0%)	13
	26 Cervical cancer	26 Mechanical forces		
	28 COPD	35 Maternal disorders		
	29 Lung cancer	36 Syphilis		
	32 Self-harm	38 Iron-deficiency anemia		
	34 HIV/AIDS			

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 Peru are major depressive disorder, low back pain, iron-deficiency anemia, anxiety disorders, and asthma.

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.

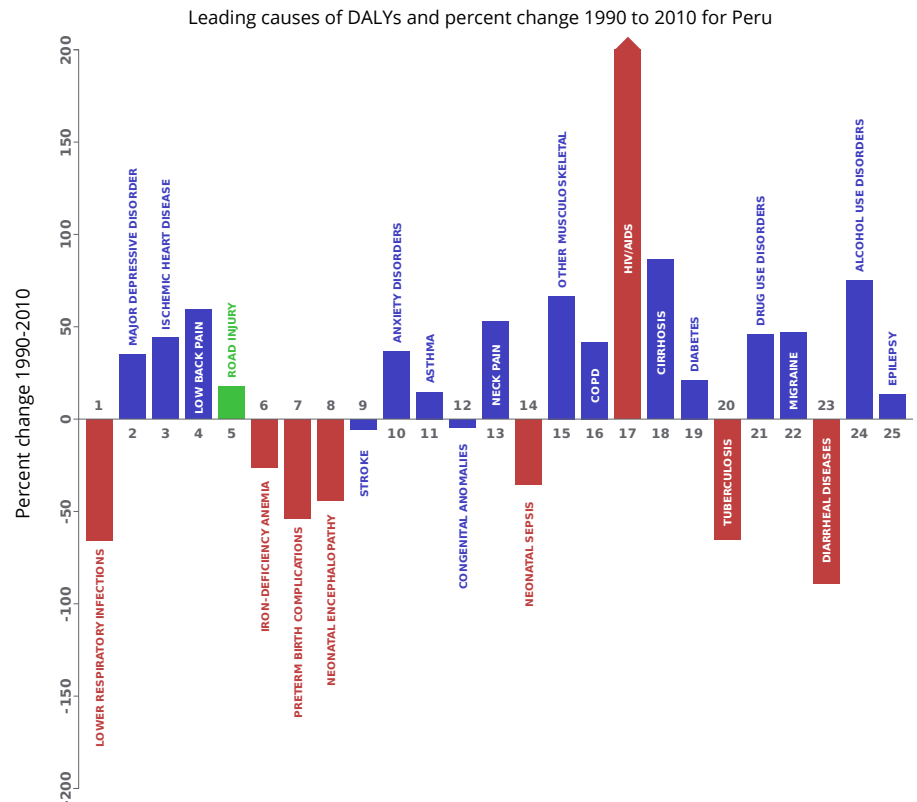


DISABILITY-ADJUSTED LIFE YEARS (DALYs)

Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Peru, the top three causes of DALYs in 2010 were lower respiratory infections, major depressive disorder, and ischemic heart disease. The causes that were in the 10 leading causes of DALYs in 2010 and not 1990 were ischemic heart disease, low back pain, cerebrovascular disease, 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.

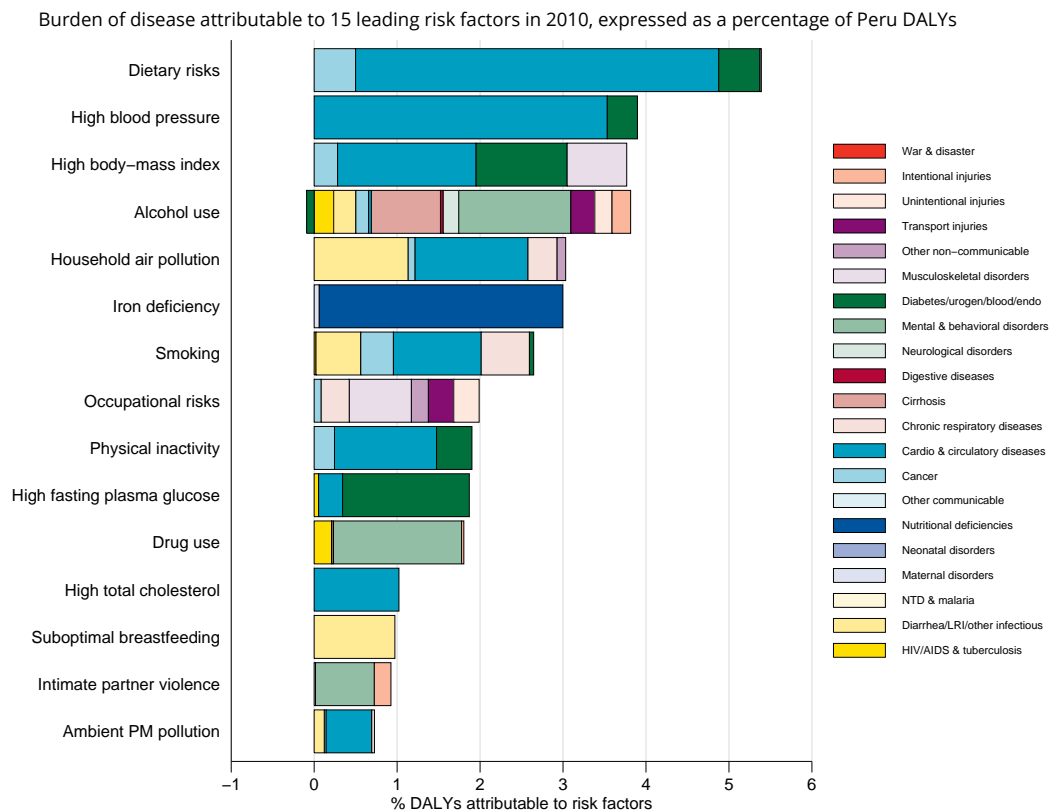
- Communicable, maternal, neonatal, and nutritional
- Non-communicable
- Injuries



RISK FACTORS

Overall, the three risk factors that account for the most disease burden in Peru 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 Peru. 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 Peru against other comparator countries provides key insight into public health successes and areas where Peru might be falling behind. The table identifies Peru'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, Peru ranked 3rd for age-standardized death rate and 8th 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
Macedonia	873	13	682	11	21,414	6	13,939	3	11,940	4	11,694	9	70.9	8	75	7	61.2	7	64.8	6
Saint Vincent and the Grenadines	890	14	753	14	26,567	12	20,602	14	13,233	15	13,056	14	68.7	14	72	14	58.5	14	60.2	14
Dominican Republic	765	8	683	12	23,701	10	18,385	10	12,154	6	12,232	12	70.8	10	73.7	12	60.9	9	62.2	12
Colombia	760	5	617	6	23,157	8	16,372	8	12,110	5	11,643	7	71.1	7	75	6	61.1	8	64.7	7
Dominica	831	11	669	10	24,475	11	19,240	12	12,486	11	13,022	13	70.3	11	73.8	11	60.2	11	61.5	13
Belize	765	7	805	15	20,556	3	21,887	15	12,951	14	13,377	15	72	3	71.2	15	61.2	6	59.4	15
Thailand	712	4	663	9	20,676	4	17,227	9	11,069	1	10,369	1	72.4	2	74.1	10	63.2	1	65.3	5
Peru	803	9	551	3	27,953	14	14,679	4	12,854	13	11,692	8	68.9	13	76.4	4	58.6	13	65.7	4
Azerbaijan	961	15	695	13	31,387	15	20,272	13	12,212	8	11,620	5	66.7	15	72.5	13	57.4	15	62.5	11
Tunisia	698	2	541	2	21,287	5	13,716	2	11,328	2	11,199	3	72	4	76.4	3	62.2	3	66	3
Ecuador	700	3	522	1	22,420	7	14,956	5	12,265	9	11,404	4	72	5	77	1	61.7	5	66.4	1
Bosnia and Herzegovina	834	12	584	5	19,064	1	12,248	1	12,186	7	11,057	2	71.9	6	76.5	2	61.8	4	66.3	2
Algeria	762	6	584	4	23,346	9	15,484	7	12,395	10	12,215	11	70.9	9	75.5	5	60.3	10	64.2	9
El Salvador	809	10	661	8	26,931	13	18,474	11	12,585	12	11,781	10	69.6	12	74.2	9	59.5	12	63.9	10
Albania	666	1	653	7	19,166	2	15,110	6	11,609	3	11,628	6	73.1	1	74.9	8	63	2	64.6	8

COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of Peru 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 Peru 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	Diarrheal diseases	Preterm birth complications	Neonatal encephalopathy	Tuberculosis	Iron-deficiency anemia	Protein-energy malnutrition	Major depressive disorder	Road injury	Neonatal sepsis	Stroke	Ischemic heart disease	Low back pain	Syphilis	Congenital anomalies	Asthma	Interpersonal violence	Mechanical forces	Anxiety disorders	Diabetes	COPD	Epilepsy	Neck pain	Stomach cancer	Other musculoskeletal		
Macedonia	2	8	11	3	2	1	1	9	3	2	15	13	14	1	12	7	3	2	13	8	9	4	12	10	9		
Saint Vincent and the Grenadines	9	5	15	13	3	15	10	15	2	13	10	5	3	9	8	14	9	7	15	15	2	10	11	6	12		
Dominican Republic	6	13	12	11	12	14	8	12	8	14	9	11	1	2	11	10	10	8	9	12	4	6	9	4	4		
Colombia	5	7	3	9	8	9	9	11	10	5	5	9	10	10	7	8	15	5	10	2	11	12	4	12	14		
Dominica	8	2	14	12	6	10	3	7	7	15	6	3	4	6	5	13	6	6	4	14	1	11	10	11	7		
Belize	11	6	6	7	9	13	6	10	4	8	7	8	5	5	1	12	5	11	12	11	3	7	5	5	5		
Thailand	4	4	4	2	13	5	5	2	12	6	4	7	2	12	9	5	12	3	1	4	14	2	3	1	1		
Peru	14	14	9	14	15	11	14	5	6	12	1	1	8	15	3	11	11	13	11	3	5	13	6	13	13		
Azerbaijan	15	11	7	15	11	8	7	3	11	3	11	15	11	11	13	2	8	15	6	6	13	9	15	15	10		
Tunisia	3	10	8	4	4	4	15	6	15	7	8	12	7	13	14	9	2	14	5	5	8	1	2	2	2		
Ecuador	12	12	2	6	14	12	13	4	13	9	2	2	6	8	6	4	13	12	8	9	15	14	8	14	11		
Bosnia and Herzegovina	1	1	5	5	7	2	2	8	1	4	14	14	12	3	4	3	1	1	14	10	12	5	13	8	8		
Algeria	7	9	13	8	10	6	12	14	9	10	13	10	13	14	15	6	4	4	3	13	6	3	1	3	3		
El Salvador	10	15	10	10	5	7	11	13	14	11	3	4	9	7	10	15	14	10	7	7	10	15	7	9	15		
Albania	13	3	1	1	1	3	4	1	5	1	12	6	15	4	2	1	7	9	2	1	7	8	14	7	6		
Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to comparator countries in 2010																											
Country	Lower respiratory infections	Major depressive disorder	Ischemic heart disease	Low back pain	Road injury	Iron-deficiency anemia	Preterm birth complications	Neonatal encephalopathy	Stroke	Anxiety disorders	Asthma	Congenital anomalies	Neck pain	Neonatal sepsis	Other musculoskeletal	COPD	HIV/AIDS	Cirrhosis	Diabetes	Tuberculosis	Drug use disorders	Migraine	Diarrheal diseases	Alcohol use disorders	Epilepsy		
Macedonia	1	7	13	15	2	1	4	1	15	11	5	3	14	1	5	9	4	3	8	3	2	13	3	4	2		
Saint Vincent and the Grenadines	5	9	8	3	3	14	14	11	9	3	12	7	5	13	13	1	13	8	14	2	13	7	6	14	9		
Dominican Republic	8	4	12	1	13	13	13	12	10	8	10	15	7	14	3	3	11	9	11	9	10	9	15	6	6		
Colombia	6	13	5	11	7	10	8	9	4	14	7	13	4	6	14	14	12	5	3	8	6	4	11	7	14		
Dominica	7	11	3	5	9	11	12	14	5	4	15	10	8	15	10	2	8	6	13	7	14	10	4	12	11		
Belize	10	10	9	4	11	15	7	8	7	2	13	6	6	7	11	5	15	12	15	10	15	8	12	10	8		
Thailand	12	8	4	2	15	4	3	4	6	1	8	4	3	5	4	15	14	10	6	14	1	11	5	5	4		
Peru	14	5	2	9	5	9	13	2	12	11	5	9	11	12	7	7	13	2	15	11	5	8	9	13			
Azerbaijan	15	2	15	10	4	8	11	15	12	7	2	12	12	4	8	12	3	15	7	13	12	12	10	8	10		
Tunisia	3	14	11	7	14	6	10	6	8	5	9	14	2	8	1	11	6	4	9	5	5	1	7	1	1		
Ecuador	13	3	1	6	12	12	6	7	3	13	3	8	11	10	9	8	10	11	5	11	7	3	13	11	12		
Bosnia and Herzegovina	2	1	10	12	1	2	2	13	6	4	1	15	3	7	13	1	7	4	6	3	14	1	13	5	5		
Algeria	4	15	7	13	6	7	15	10	11	15	6	9	1	12	2	6	5	2	12	12	9	2	9	2	3		
El Salvador	9	12	6	8	10	5	5	5	1	9	14	11	10	9	15	4	9	14	10	4	4	6	14	15	15		
Albania	11	6	14	14	8	3	1	3	14	10	1	2	13	2	6	10	2	1	1	1	8	15	2	3	7		
Ranking Legend	1 - 3			4 - 7			8 - 11			12 - 15																	