

GBD PROFILE: BELIZE

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.

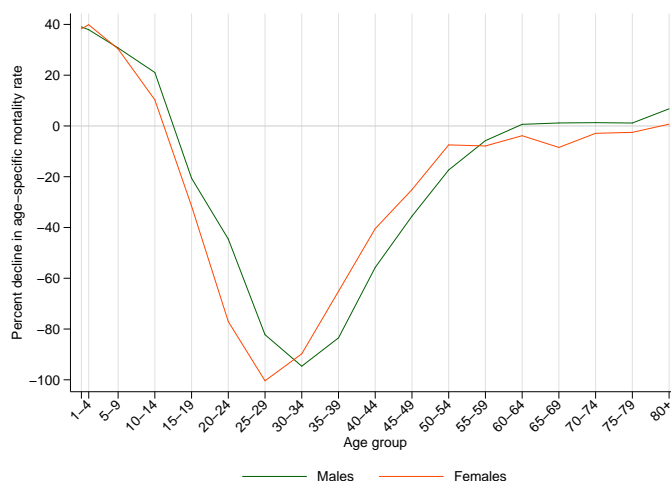
PROFILE OVERVIEW

- In terms of the number of years of life lost (YLLs) due to premature death in Belize, HIV/AIDS, ischemic heart disease, and road injury 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 51% from 1990 to 2010.
- The leading risk factor in Belize is high body-mass index.

ALL-CAUSE MORTALITY RATE

- This chart shows the change in mortality rate at every age range. The points above 0 on the chart indicate positive declines in the all-cause mortality rate, while points below 0 indicate an increase in mortality rate between 1990 and 2010.
- The greatest reductions in all-cause mortality rate were experienced by females aged 1-4 years (40%). Females aged 25-29 years saw the largest increase in mortality rate (100%).

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



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, Belize

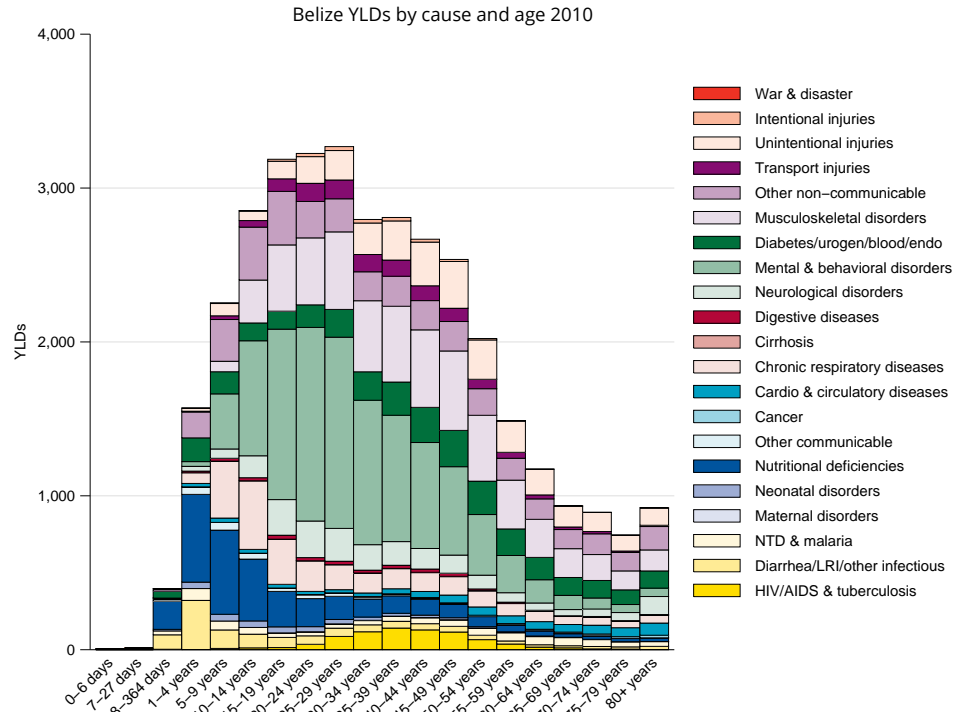
# YLLs in hundreds (% of total)	Rank and disorder 1990	Rank and disorder 2010	# YLLs in hundreds (% of total)	% change
41 (10.8%)	1 Lower respiratory infections	1 HIV/AIDS	91 (16.1%)	721
34 (9.0%)	2 Preterm birth complications	2 Ischemic heart disease	32 (5.6%)	35
23 (6.0%)	3 Ischemic heart disease	3 Road injury	31 (5.4%)	197
22 (5.8%)	4 Diarrheal diseases	4 Lower respiratory infections	28 (4.9%)	-32
16 (4.1%)	5 Stroke	5 Interpersonal violence	29 (5.0%)	1,692
16 (4.1%)	6 Neonatal encephalopathy	6 Diabetes	24 (4.2%)	288
15 (3.8%)	7 Congenital anomalies	7 Preterm birth complications	23 (4.1%)	-31
12 (3.2%)	8 Iron-deficiency anemia	8 Congenital anomalies	19 (3.4%)	41
11 (2.8%)	9 Road injury	9 Stroke	18 (3.3%)	14
10 (2.7%)	10 Other cardio & circulatory	10 Drowning	12 (2.2%)	119
7 (1.7%)	11 Meningitis	11 Neonatal encephalopathy	12 (2.2%)	-22
7 (1.8%)	12 Neonatal sepsis	12 Self-harm	11 (2.0%)	401
6 (1.7%)	13 Diabetes	13 Chronic kidney disease	10 (1.8%)	246
6 (1.6%)	14 Mechanical forces	14 Cirrhosis	9 (1.7%)	271
6 (1.6%)	15 Drowning	15 Mechanical forces	8 (1.5%)	42
4 (1.0%)	16 Liver cancer	16 Other cardio & circulatory	8 (1.5%)	-20
4 (1.0%)	17 Protein-energy malnutrition	17 Diarrheal diseases	8 (1.4%)	-65
3 (0.8%)	18 Chronic kidney disease	18 Liver cancer	8 (1.3%)	89
3 (0.8%)	19 Tuberculosis	19 Neonatal sepsis	6 (1.1%)	-9
13 (3.4%)	20 HIV/AIDS	20 Drug use disorders	6 (1.1%)	307
3 (0.8%)	21 Poisonings	21 Hypertensive heart disease	5 (0.9%)	92
3 (0.8%)	22 Adverse medical treatment	22 Iron-deficiency anemia	5 (0.9%)	-59
3 (0.7%)	23 Hypertensive heart disease	23 Pancreatic cancer	5 (0.8%)	72
3 (0.7%)	24 Cirrhosis	24 Lung cancer	4 (0.8%)	117
3 (0.7%)	25 COPD	25 Cervical cancer	4 (0.8%)	89
	26 Self-harm	26 COPD		
	28 Pancreatic cancer	27 Meningitis		
	29 Interpersonal violence	29 Tuberculosis		
	32 Cervical cancer	37 Protein-energy malnutrition		
	38 Lung cancer	52 Poisonings		
	44 Drug use disorders	57 Adverse medical treatment		

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 Belize are major depressive disorder, iron-deficiency anemia, low back pain, neck pain, 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.

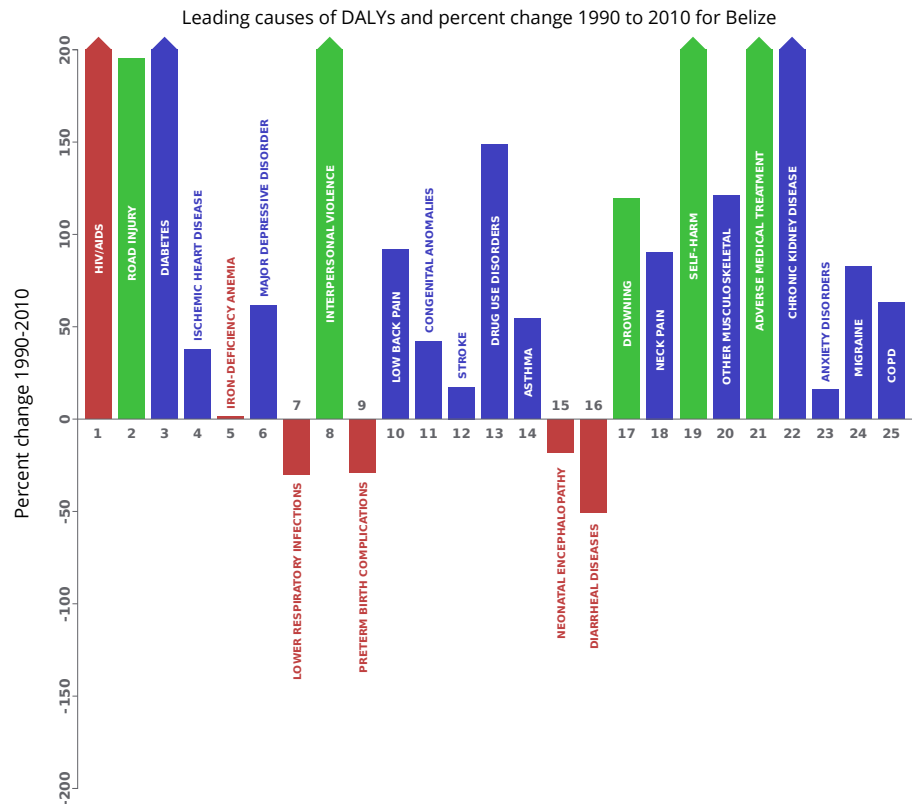


DISABILITY-ADJUSTED LIFE YEARS (DALYs)

Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Belize, the top three causes of DALYs in 2010 were HIV/AIDS, road injury, and diabetes mellitus. The causes that were in the 10 leading causes of DALYs in 2010 and not 1990 were HIV/AIDS, diabetes mellitus, interpersonal violence, and low back pain.

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.

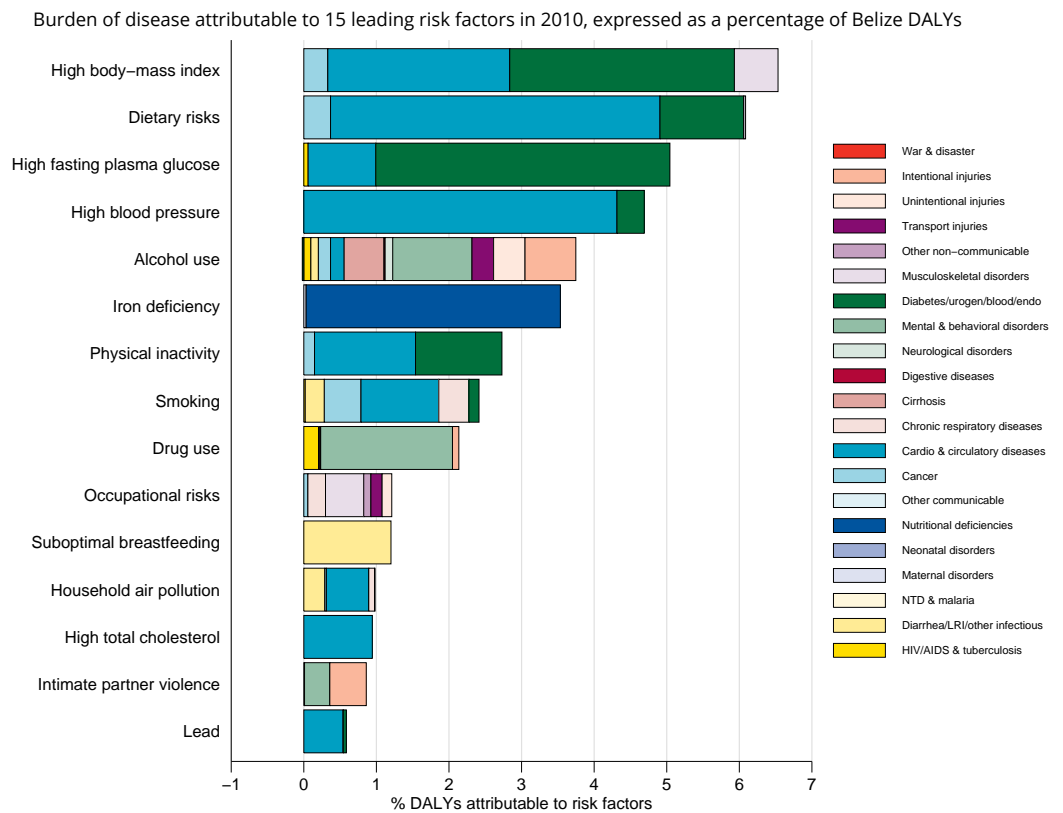
- Communicable, maternal, neonatal, and nutritional
- Non-communicable
- Injuries



RISK FACTORS

Overall, the three risk factors that account for the most disease burden in Belize are high body-mass index, dietary risks, and high fasting plasma glucose. 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 Belize. 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 Belize against other comparator countries provides key insight into public health successes and areas where Belize might be falling behind. The table identifies Belize'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, Belize ranked 15th for age-standardized death rate and 15th 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
Suriname	922	14	693	12	27,022	13	20,892	14	12,827	12	12,945	12	68.5	14	72.6	12	58.6	12	60.7	13
Jamaica	676	1	610	6	18,618	1	16,417	8	12,075	4	12,909	11	73.6	1	75.3	6	63.2	1	62.8	9
Macedonia	873	12	682	10	21,414	6	13,939	3	11,940	3	11,694	8	70.9	8	75	8	61.2	7	64.8	6
Saint Vincent and the Grenadines	890	13	753	14	26,567	12	20,602	13	13,233	15	13,056	14	68.7	13	72	14	58.5	14	60.2	14
Dominican Republic	765	8	683	11	23,701	10	18,385	10	12,154	6	12,232	10	70.8	10	73.7	11	60.9	9	62.2	11
Colombia	760	5	617	7	23,157	8	16,372	7	12,110	5	11,643	6	71.1	7	75	7	61.1	8	64.7	7
Dominica	831	10	669	9	24,475	11	19,240	11	12,486	11	13,022	13	70.3	11	73.8	10	60.2	11	61.5	12
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	8	20,676	4	17,227	9	11,069	1	10,369	1	72.4	2	74.1	9	63.2	2	65.3	5
Peru	803	9	551	3	27,953	14	14,679	4	12,854	13	11,692	7	68.9	12	76.4	4	58.6	13	65.7	4
Azerbaijan	961	15	695	13	31,387	15	20,272	12	12,212	8	11,620	5	66.7	15	72.5	13	57.4	15	62.5	10
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	11	584	5	19,064	2	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	6	12,395	10	12,215	9	70.9	9	75.5	5	60.3	10	64.2	8

COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

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