

GBD PROFILE: NIGERIA

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.

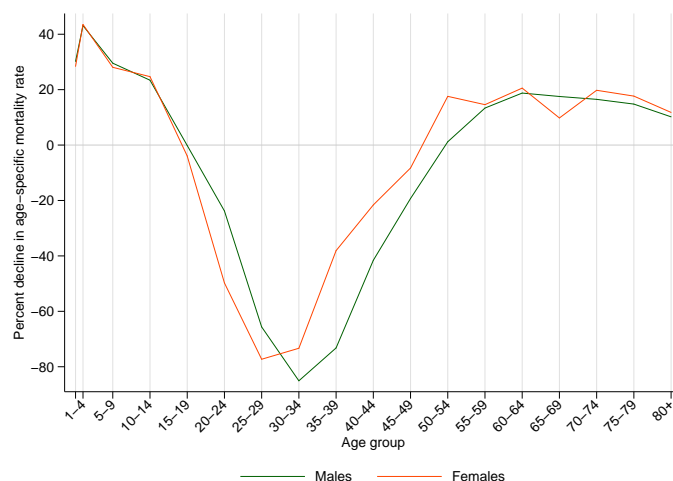
PROFILE OVERVIEW

- In terms of the number of years of life lost (YLLs) due to premature death in Nigeria, malaria, HIV/AIDS, and lower respiratory infections 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 52% from 1990 to 2010.
- The leading risk factor in Nigeria is childhood underweight.

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 (44%). Males aged 30-34 years saw the largest increase in mortality rate (85%).

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



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, Nigeria

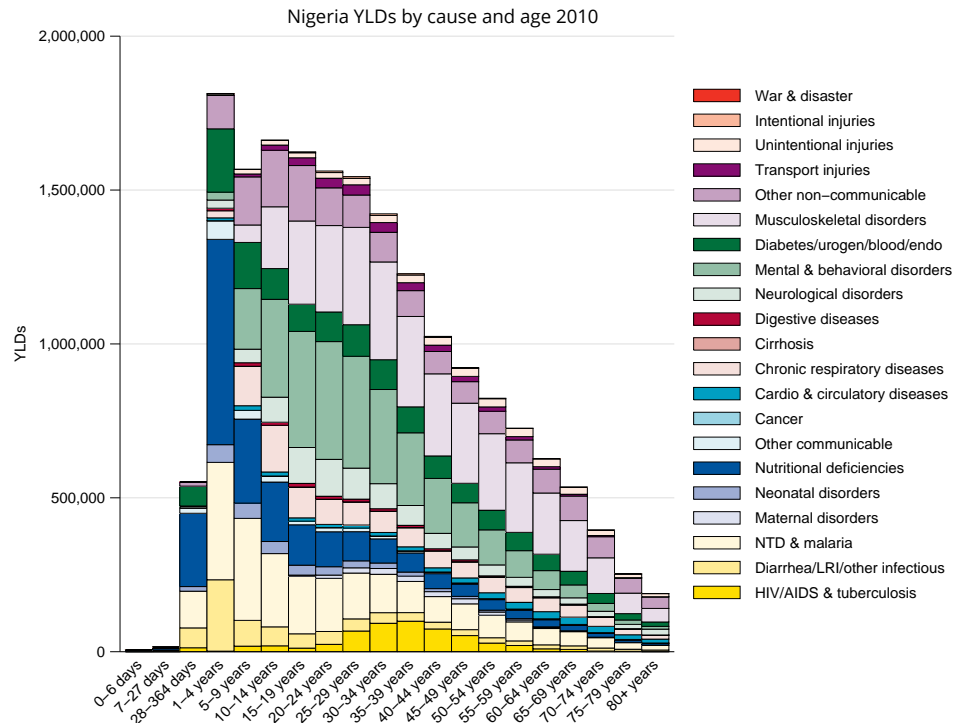
# YLLs in thousands (% of total)	Rank and disorder 1990	Rank and disorder 2010	# YLLs in thousands (% of total)	% change
14,276 (15.7%)	1 Malaria	1 Malaria	24,149 (23.2%)	70
12,481 (13.8%)	2 Diarrheal diseases	2 HIV/AIDS	8,598 (8.3%)	2,807
9,841 (10.8%)	3 Lower respiratory infections	3 Lower respiratory infections	8,034 (7.8%)	-19
6,350 (6.9%)	4 Measles	4 Neonatal sepsis	6,596 (6.4%)	32
5,401 (6.0%)	5 Protein-energy malnutrition	5 Diarrheal diseases	5,854 (5.7%)	-54
5,021 (5.5%)	6 Neonatal sepsis	6 Road injury	4,488 (4.3%)	134
3,368 (3.7%)	7 Meningitis	7 Preterm birth complications	4,396 (4.3%)	27
3,337 (3.7%)	8 Preterm birth complications	8 Protein-energy malnutrition	4,353 (4.2%)	-20
2,670 (2.9%)	9 Neonatal encephalopathy	9 Meningitis	3,674 (3.6%)	8
2,002 (2.2%)	10 Tuberculosis	10 Neonatal encephalopathy	3,164 (3.1%)	18
1,916 (2.1%)	11 Road injury	11 Fire	1,958 (1.9%)	28
1,533 (1.7%)	12 Fire	12 Tuberculosis	1,809 (1.8%)	-11
1,116 (1.2%)	13 Stroke	13 Maternal disorders	1,391 (1.3%)	66
1,027 (1.1%)	14 Congenital anomalies	14 Congenital anomalies	1,229 (1.2%)	20
1,149 (1.3%)	15 Tetanus	15 Stroke	1,189 (1.2%)	6
1,011 (1.1%)	16 Falls	16 Falls	1,022 (1.0%)	6
834 (0.9%)	17 Maternal disorders	17 Interpersonal violence	961 (0.9%)	46
838 (0.9%)	18 Iron-deficiency anemia	18 Syphilis	949 (0.9%)	17
813 (0.9%)	19 Syphilis	19 Epilepsy	1,104 (1.1%)	41
695 (0.8%)	20 Ischemic heart disease	20 Ischemic heart disease	853 (0.8%)	23
831 (0.9%)	21 Epilepsy	21 Cirrhosis	817 (0.8%)	60
648 (0.7%)	22 Interpersonal violence	22 Measles	674 (0.7%)	-90
496 (0.5%)	23 Cirrhosis	23 Diabetes	549 (0.5%)	73
416 (0.5%)	24 COPD	24 Iron-deficiency anemia	527 (0.5%)	-38
384 (0.4%)	25 Asthma	25 Drowning	432 (0.4%)	38
	26 Diabetes	27 Tetanus		
	27 HIV/AIDS	31 COPD		
	29 Drowning	34 Asthma		

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 Nigeria are low back pain, iron-deficiency anemia, major depressive disorder, malaria, and schistosomiasis.

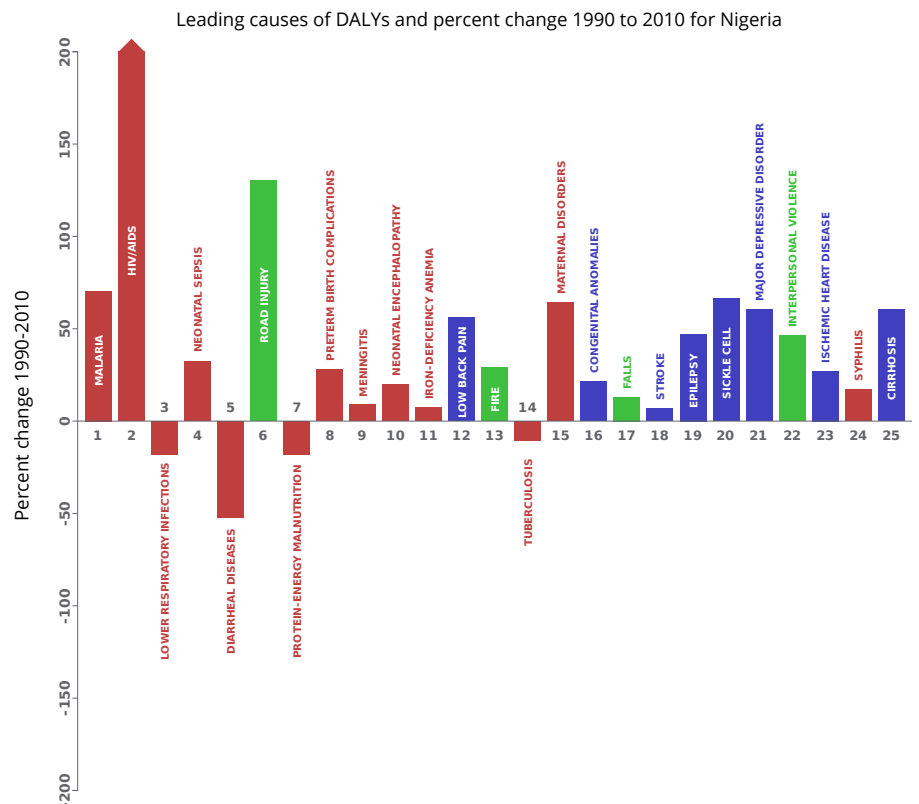
The size of the colored portion in each bar represents the number of YLDs attributable to each cause. The height of each bar shows which age groups had the most YLDs in 2010. The causes are aggregated. For example, musculoskeletal disorders include low back pain and neck pain.



DISABILITY-ADJUSTED LIFE YEARS (DALYs)

Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Nigeria, the top three causes of DALYs in 2010 were malaria, HIV/AIDS, and lower respiratory infections. Two causes that appeared in the 10 leading causes of DALYs in 2010 and not 1990 were HIV/AIDS and road injury.

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.

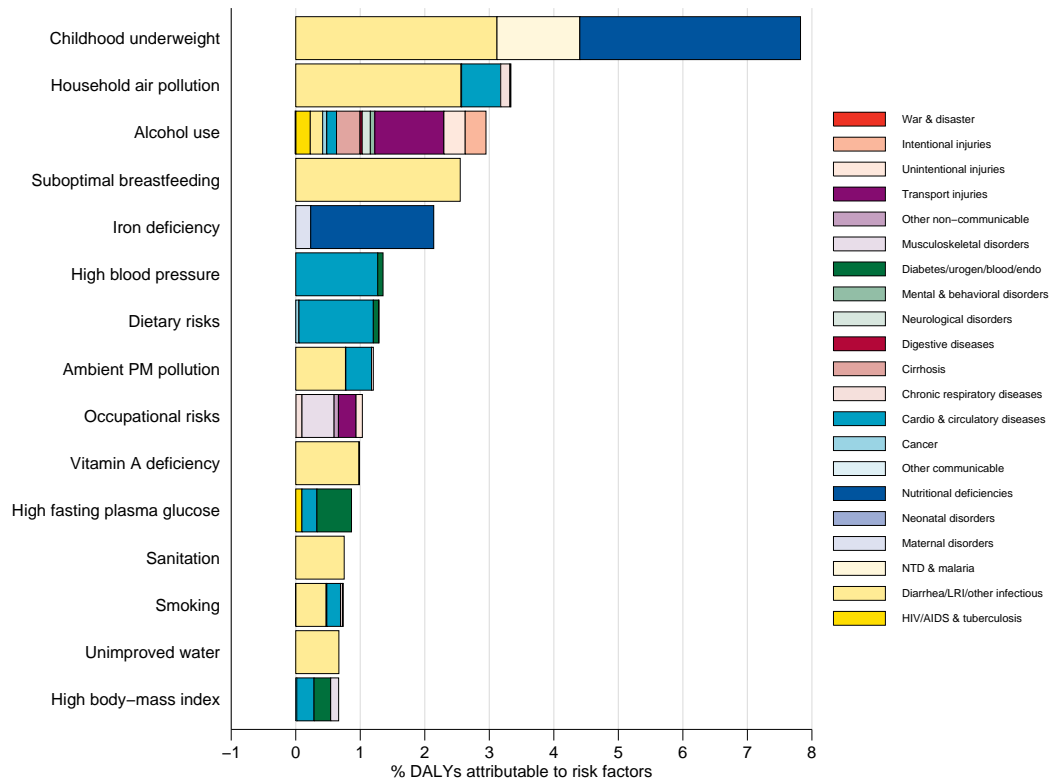


RISK FACTORS

Overall, the three risk factors that account for the most disease burden in Nigeria are childhood underweight, household air pollution from solid fuels, and alcohol use. The leading risk factors for children under 5 and adults aged 15-49 years were childhood underweight and alcohol use, respectively, in 2010.

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



COUNTRY BENCHMARKING OF BURDEN OF DISEASE

Understanding the relative performance of Nigeria against other comparator countries provides key insight into public health successes and areas where Nigeria might be falling behind. The table identifies Nigeria'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, Nigeria ranked 10th for age-standardized YLD rate and 13th for health-adjusted life expectancy.

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
Solomon Islands	1,707	14	1,510	14	47,851	8	40,489	10	13,520	5	12,482	4	59.4	7	62	11	51.2	6	54	9
Papua New Guinea	1,990	15	1,700	15	64,195	15	49,553	14	14,891	13	13,793	9	53.8	15	58.7	14	45.7	15	50.4	12
Djibouti	1,180	5	1,129	10	45,440	5	38,655	9	13,493	4	14,182	13	60.6	5	63.2	9	51.6	4	53.5	10
Laos	1,532	13	1,094	8	56,031	12	34,746	7	13,297	3	12,323	2	56.2	12	64.7	7	48.3	12	55.9	6
Kyrgyzstan	1,047	2	999	5	33,446	1	30,037	5	12,606	2	12,336	3	65.5	1	66.9	5	56.2	1	57.6	4
Sudan	1,110	4	799	2	41,735	4	28,295	3	15,584	15	14,781	15	62.1	4	68.8	2	51.4	5	57	5
Cameroon	1,296	8	1,277	12	51,072	10	49,262	12	14,617	11	13,891	11	58.3	10	59.1	13	49.1	10	50.2	14
Nigeria	1,343	10	1,159	11	60,604	14	49,276	13	14,273	8	13,842	10	55.1	14	59.6	12	46.4	14	50.4	13
Mauritania	1,244	6	1,031	7	45,799	6	36,003	8	15,248	14	14,307	14	60.2	6	64.5	8	50.3	7	54.3	8
Cambodia	1,355	11	957	4	47,844	7	28,770	4	14,501	10	12,603	5	59.2	8	67.5	4	50.1	8	58	3
Tajikistan	1,067	3	911	3	38,138	2	27,409	2	12,331	1	12,296	1	63.8	2	68.3	3	54.8	2	58.7	2
Senegal	1,278	7	1,009	6	49,632	9	33,824	6	13,914	7	13,379	8	58.8	9	65.3	6	49.9	9	55.6	7
São Tomé and Príncipe	1,044	1	794	1	39,144	3	24,592	1	13,532	6	13,252	6	63.5	3	70.2	1	53.9	3	59.6	1
Côte d'Ivoire	1,400	12	1,457	13	58,331	13	56,879	15	14,774	12	13,910	12	55.7	13	56	15	46.8	13	47.7	15
The Gambia	1,315	9	1,109	9	54,039	11	41,302	11	14,365	9	13,291	7	57.2	11	62.2	10	48.4	11	53.2	11

COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of Nigeria 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 Nigeria 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	Malaria	Diarrheal diseases	Lower respiratory infections	Protein-energy malnutrition	Measles	Neonatal sepsis	Meningitis	Preterm birth complications	Neonatal encephalopathy	Iron-deficiency anemia	Tuberculosis	Road injury	Fire	Low back pain	Stroke	Falls	Congenital anomalies	Tetanus	Maternal disorders	Epilepsy	Syphilis	Ischemic heart disease	COPD	Interpersonal violence	Asthma	
Solomon Islands	6	2	1	5	3	5	6	1	1	1	12	5	12	8	15	13	1	7	3	5	15	11	13	12	14	
Papua New Guinea	9	3	15	9	4	6	9	2	2	4	15	6	14	6	1	14	6	11	12	6	9	8	12	9	15	
Djibouti	3	5	9	14	10	7	10	12	11	5	4	15	13	13	9	2	11	5	10	11	5	10	5	7	4	
Laos	5	11	12	6	8	3	5	10	4	7	14	4	4	3	13	4	15	15	8	2	6	13	14	13	13	
Kyrgyzstan	1	1	7	1	1	1	1	5	15	2	2	10	1	5	14	6	12	1	1	3	1	14	15	14	1	
Sudan	7	8	3	13	5	8	7	7	9	6	8	11	15	4	1	7	4	9	7	13	4	2	1	3	3	
Cameroon	13	10	4	10	12	10	11	8	7	8	5	14	9	11	5	12	5	6	11	15	14	7	6	3	5	
Nigeria	15	13	11	15	15	15	14	13	14	13	10	13	15	14	3	15	4	12	7	10	10	2	1	15	6	
Mauritania	4	12	5	7	14	12	8	9	10	15	8	11	6	10	6	5	3	10	15	9	12	5	4	5	11	
Cambodia	8	4	8	4	9	4	3	11	6	12	13	3	2	2	12	3	14	14	5	1	8	12	9	4	12	
Tajikistan	2	9	13	2	2	2	2	15	13	3	1	7	3	7	11	7	10	2	2	4	2	15	3	6	2	
Senegal	12	14	10	3	13	9	12	3	3	11	11	1	5	1	2	9	2	8	13	14	4	1	8	2	9	
São Tomé and Príncipe	10	6	2	11	6	11	4	6	8	10	3	2	7	9	8	8	13	3	4	8	3	3	11	8	7	
Côte d'Ivoire	14	15	6	8	7	13	13	14	12	6	7	12	8	4	7	11	8	9	6	13	7	6	7	11	8	
The Gambia	11	7	14	12	11	14	15	4	5	14	9	9	10	12	10	10	9	13	14	12	11	9	10	10	10	
Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to comparator countries in 2010																										
Country	Malaria	HIV/AIDS	Lower respiratory infections	Neonatal sepsis	Diarrheal diseases	Road injury	Protein-energy malnutrition	Preterm birth complications	Meningitis	Neonatal encephalopathy	Iron-deficiency anemia	Low back pain	Fire	Tuberculosis	Maternal disorders	Congenital anomalies	Falls	Stroke	Epilepsy	Sickle cell	Major depressive disorder	Interpersonal violence	Ischemic heart disease	Syphilis	Cirrhosis	
Solomon Islands	5	1	2	5	5	4	6	1	6	1	1	11	7	13	5	2	8	15	3	6	1	11	11	12	10	
Papua New Guinea	7	7	15	6	6	5	8	2	8	2	3	12	11	15	8	7	11	4	5	3	8	9	9	9	14	
Djibouti	6	13	6	7	9	14	13	7	9	9	11	13	14	10	12	9	3	8	11	7	14	12	5	3	5	
Laos	3	2	8	3	8	7	5	11	5	5	5	3	14	6	15	6	15	6	12	1	1	12	13	12	7	7
Kyrgyzstan	1	5	5	1	1	8	1	10	1	15	2	6	2	3	2	12	7	14	4	5	5	14	15	1	15	
Sudan	8	10	3	8	10	9	11	5	7	8	10	15	9	4	7	3	1	1	8	8	15	2	1	15	1	
Cameroon	12	15	12	11	13	13	12	8	14	10	7	9	12	5	14	8	14	5	15	14	3	4	8	14	12	
Nigeria	15	12	11	15	11	15	15	14	13	13	12	14	15	8	13	4	15	3	9	15	2	15	4	13	9	
Mauritania	9	8	10	12	12	11	9	12	11	11	15	8	10	7	15	6	9	6	13	9	7	6	6	11	8	
Cambodia	4	4	4	4	2	6	4	13	2	6	9	2	1	11	3	13	2	11	2	2	6	8	13	5	3	
Tajikistan	2	3	7	2	4	3	2	9	3	12	4	5	4	2	1	14	4	13	6	4	9	5	14	6	11	
Senegal	11	6	9	10	14	1	3	4	10	3	14	1	5	9	9	1	10	2	12	10	4	1	2	4	4	
São Tomé and Príncipe	10	9	1	9	3	2	7	3	4	4	6	7	6	1	4	5	5	7	7	11	13	3	3	2	2	
Côte d'Ivoire	14	14	14	14	15	12	14	15	15	14	8	4	13	12	11	10	13	10	14	13	10	10	10	8	13	
The Gambia	13	11	13	13	7	10	10	6	12	7	13	10	8	6	10	11	12	9	10	12	11	7	7	10	6	
Ranking Legend	1 - 3		4 - 7			8 - 11			12 - 15																	