

GBD PROFILE: UGANDA

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.

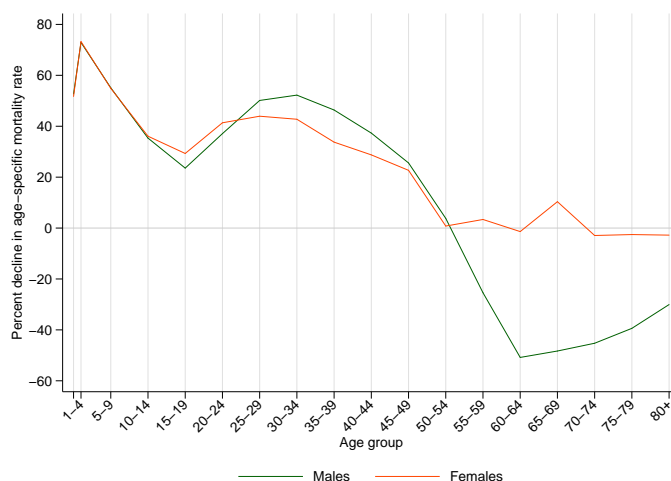
PROFILE OVERVIEW

- In terms of the number of years of life lost (YLLs) due to premature death in Uganda, HIV/AIDS, malaria, 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 71% from 1990 to 2010.
- The leading risk factor in Uganda is alcohol use.

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 (73%). Males aged 60-64 saw the largest increase in mortality rate (51%).

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



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, Uganda

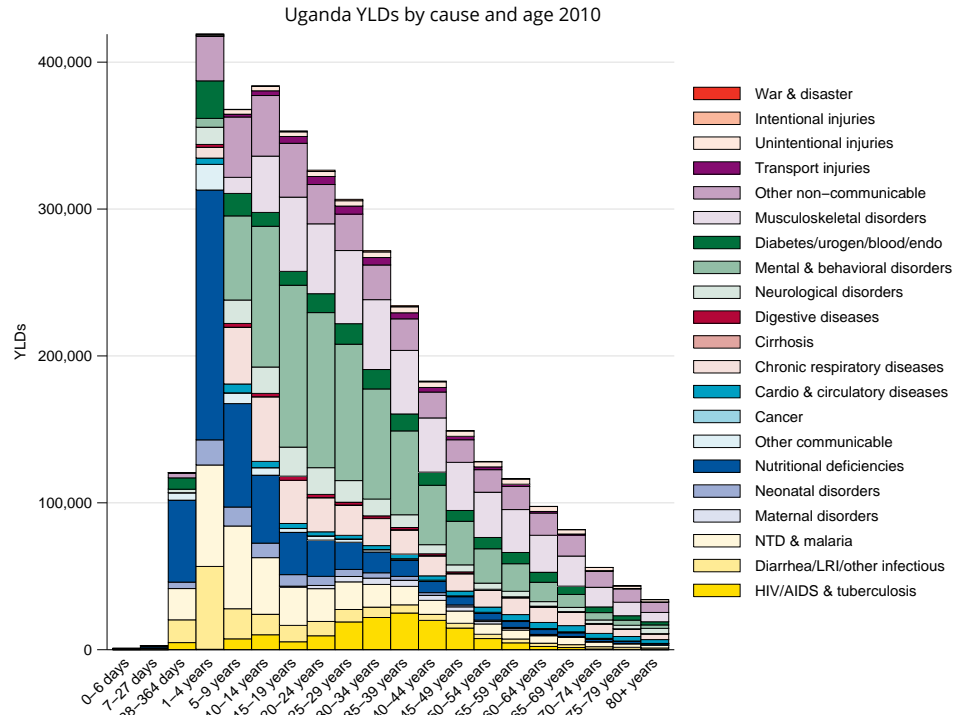
# YLLs in thousands (% of total)	Rank and disorder 1990	Rank and disorder 2010	# YLLs in thousands (% of total)	% change
2,897 (16.3%)	1 HIV/AIDS	1 HIV/AIDS	2,733 (17.3%)	-6
2,111 (11.9%)	2 Lower respiratory infections	2 Malaria	2,257 (14.2%)	37
2,029 (11.4%)	3 Diarrheal diseases	3 Lower respiratory infections	1,004 (6.4%)	-53
1,634 (9.2%)	4 Malaria	4 Meningitis	838 (5.3%)	-8
903 (5.1%)	5 Meningitis	5 Tuberculosis	706 (4.5%)	-1
834 (4.7%)	6 Protein-energy malnutrition	6 Preterm birth complications	684 (4.3%)	40
714 (4.0%)	7 Tuberculosis	7 Neonatal encephalopathy	692 (4.4%)	45
489 (2.8%)	8 Preterm birth complications	8 Neonatal sepsis	685 (4.3%)	52
477 (2.7%)	9 Neonatal encephalopathy	9 Diarrheal diseases	537 (3.4%)	-74
466 (2.6%)	10 Neonatal sepsis	10 Protein-energy malnutrition	383 (2.4%)	-55
496 (2.8%)	11 Measles	11 Road injury	372 (2.4%)	98
477 (2.7%)	12 Trypanosomiasis	12 Syphilis	347 (2.2%)	2
342 (1.9%)	13 Syphilis	13 Maternal disorders	222 (1.4%)	16
263 (1.5%)	14 Tetanus	14 Stroke	222 (1.4%)	36
228 (1.3%)	15 Congenital anomalies	15 Interpersonal violence	201 (1.3%)	148
212 (1.2%)	16 Fire	16 Fire	206 (1.3%)	-6
191 (1.1%)	17 Maternal disorders	17 Congenital anomalies	210 (1.3%)	-9
188 (1.1%)	18 Road injury	18 Cirrhosis	166 (1.1%)	54
162 (0.9%)	19 Stroke	19 Ischemic heart disease	147 (0.9%)	39
105 (0.6%)	20 Ischemic heart disease	20 Drowning	133 (0.8%)	36
110 (0.6%)	21 Cirrhosis	21 Falls	133 (0.8%)	50
102 (0.6%)	22 Drowning	22 Epilepsy	132 (0.8%)	71
100 (0.6%)	23 Poisonings	23 Self-harm	97 (0.6%)	102
88 (0.5%)	24 Falls	24 Measles	112 (0.7%)	-78
82 (0.5%)	25 Interpersonal violence	25 Diabetes	88 (0.6%)	108
	26 Epilepsy	26 Tetanus		
	29 Self-harm	29 Poisonings		
	31 Diabetes	58 Trypanosomiasis		

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 Uganda are iron-deficiency anemia, major depressive disorder, low back pain, HIV/AIDS, and malaria.

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.

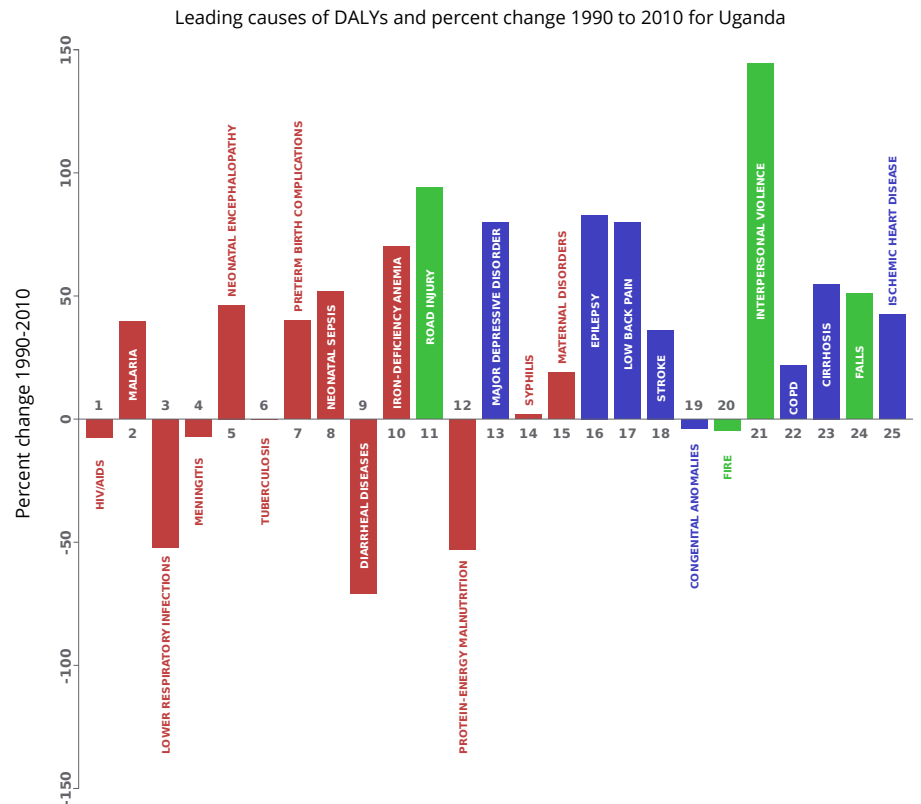


DISABILITY-ADJUSTED LIFE YEARS (DALYs)

Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Uganda, the top three causes of DALYs in 2010 were HIV/AIDS, malaria, and lower respiratory infections. The only cause to appear in the 10 leading causes of DALYs in 2010 and not 1990 was iron-deficiency anemia.

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

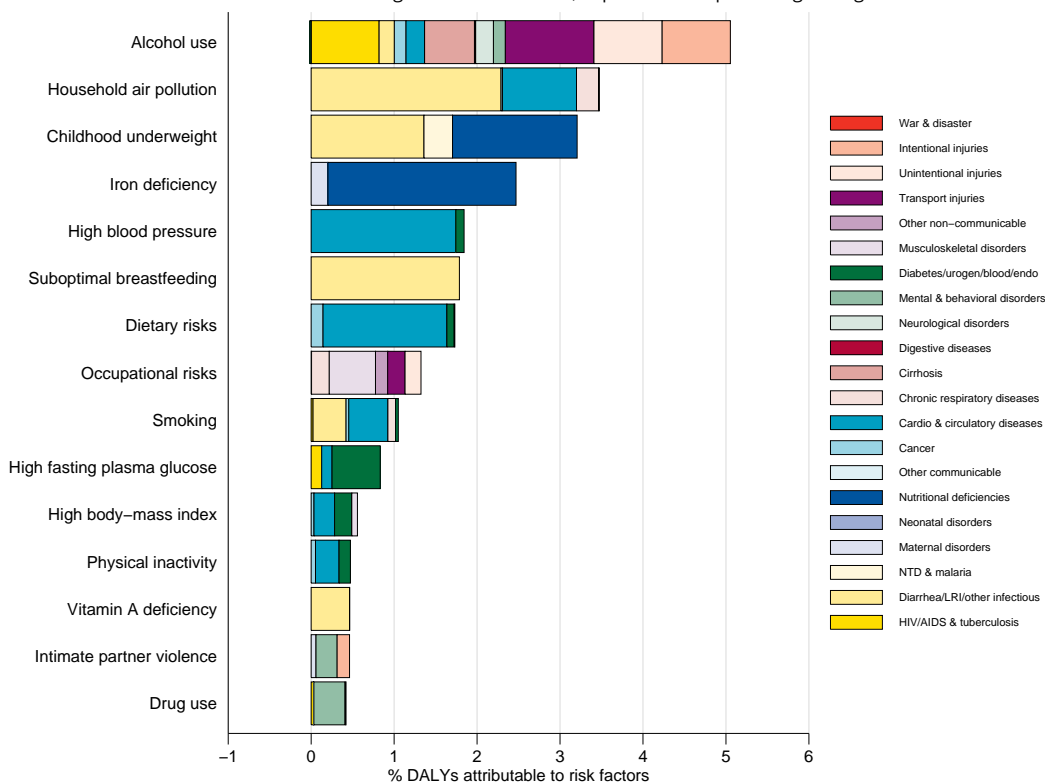


RISK FACTORS

Overall, the three risk factors that account for the most disease burden in Uganda are alcohol use, household air pollution from solid fuels, and childhood underweight. 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 Uganda. 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 Uganda DALYs



COUNTRY BENCHMARKING OF BURDEN OF DISEASE

Understanding the relative performance of Uganda against other comparator countries provides key insight into public health successes and areas where Uganda might be falling behind. The table identifies Uganda'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, Uganda ranked 7th for age-standardized YLD rate and 9th for age-standardized death 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
Zambia	1,722	12	1,533	13	73,053	12	57,620	13	15,030	11	13,732	6	50.6	12	55.8	13	42.7	11	47.8	12
North Korea	895	1	832	2	25,915	1	21,755	1	10,569	1	10,347	1	68.9	1	70.8	1	60.7	1	62.4	1
Haiti	1,717	11	3,321	15	61,823	7	137,295	15	15,059	12	16,428	14	54.1	7	37.2	15	45.7	7	31.8	15
Tanzania	1,357	3	1,137	4	55,603	5	43,461	7	14,553	6	14,177	12	56.6	4	61.7	7	47.8	5	52.2	7
Nepal	1,285	2	832	1	49,745	2	26,361	2	13,660	4	12,959	4	58.8	2	69.2	2	49.8	2	58.8	2
Comoros	1,439	4	1,223	7	52,340	3	38,959	6	13,050	2	12,879	3	57.5	3	62.8	6	49.5	3	54	5
Burkina Faso	1,521	7	1,396	12	68,852	8	59,507	14	14,862	10	13,409	5	52.1	8	55.2	14	43.8	8	47.1	14
Uganda	1,658	10	1,290	9	75,253	13	45,587	8	15,596	14	13,882	7	50.4	13	60.3	8	42.2	14	51.5	8
Mali	1,726	13	1,331	10	78,963	15	53,703	11	14,609	7	13,991	9	48.7	15	57.3	11	41.1	15	48.6	10
Guinea	1,508	6	1,233	8	69,094	10	48,350	9	14,811	9	14,194	13	52.1	9	59.4	9	43.7	9	50.2	9
Myanmar	1,640	9	1,185	6	55,134	4	36,251	4	13,542	3	11,974	2	56.5	5	63.9	4	48.6	4	55.6	3
Rwanda	2,000	15	1,062	3	76,083	14	35,591	3	15,064	13	13,895	8	49.7	14	64.6	3	42.3	13	54.8	4
Guinea-Bissau	1,603	8	1,391	11	72,398	11	55,214	12	14,670	8	14,148	11	50.8	11	56.6	12	42.8	10	48	11
Afghanistan	1,931	14	1,668	14	68,958	9	52,078	10	17,727	15	17,252	15	51.9	10	57.7	10	42.4	12	47.3	13
Madagascar	1,451	5	1,156	5	56,586	6	37,200	5	14,116	5	14,145	10	56.1	6	63.6	5	47.6	6	53.8	6

COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of Uganda 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 Uganda 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	HIV/AIDS	Lower respiratory infections	Diarrheal diseases	Malaria	Meningitis	Protein-energy malnutrition	Tuberculosis	Neonatal encephalopathy	Preterm birth complications	Neonatal sepsis	Measles	Trypanosomiasis	Syphilis	Iron-deficiency anemia	Tetanus	Congenital anomalies	Fire	Maternal disorders	Road injury	Major depressive disorder	Stroke	COPD	Epilepsy	Low back pain	Ischemic heart disease		
Zambia	14	7	3	12	10	14	11	8	1	5	4	12	11	3	1	3	15	4	10	13	6	3	11	4	7		
North Korea	1	1	1	1	1	1	1	1	2	1	1	1	1	1	2	15	1	1	4	2	9	14	1	6	9		
Haiti	10	2	14	3	9	3	13	7	6	12	2	1	13	15	12	5	3	8	3	9	15	1	5	3	14		
Tanzania	11	9	5	14	3	7	6	5	3	6	7	13	7	10	3	2	5	6	6	3	3	2	7	13	2		
Nepal	3	10	8	2	2	4	9	15	10	4	8	1	6	9	13	12	4	2	2	1	2	15	4	15	4		
Comoros	2	5	2	6	4	8	3	9	14	10	10	1	14	7	6	10	11	11	13	10	11	8	10	7	11		
Burkina Faso	12	13	15	10	12	6	4	4	5	11	9	11	3	12	9	6	8	5	11	11	1	7	12	5	1		
Uganda	15	8	7	8	11	9	14	11	4	9	11	15	8	8	10	4	14	9	7	12	4	4	6	10	3		
Mali	9	4	13	15	13	15	10	12	15	15	15	1	12	14	8	1	13	15	8	7	8	12	15	1	8		
Guinea	8	15	6	11	14	10	5	14	11	13	13	14	10	11	14	7	9	14	5	5	5	5	13	9	5		
Myanmar	4	3	11	7	5	2	15	13	8	2	6	1	4	5	7	13	2	3	1	8	10	13	3	2	10		
Rwanda	13	11	9	9	7	11	12	6	9	7	3	1	5	2	4	8	12	13	15	14	12	11	8	12	12		
Guinea-Bissau	6	12	12	13	15	12	8	10	13	14	14	1	9	13	11	9	7	12	12	6	7	10	14	8	6		
Afghanistan	5	14	4	4	8	5	7	2	7	3	5	1	2	4	15	14	10	10	14	15	14	6	2	14	15		
Madagascar	7	6	10	5	6	13	2	3	12	8	12	1	15	6	5	11	6	7	9	4	13	9	9	11	13		
Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to comparator countries in 2010																											
Country	HIV/AIDS	Malaria	Lower respiratory infections	Meningitis	Neonatal encephalopathy	Tuberculosis	Preterm birth complications	Neonatal sepsis	Diarrheal diseases	Iron-deficiency anemia	Road injury	Protein-energy malnutrition	Major depressive disorder	Syphilis	Maternal disorders	Epilepsy	Low back pain	Stroke	Congenital anomalies	Fire	Interpersonal violence	COPD	Cirrhosis	Falls	Ischemic heart disease		
Zambia	15	11	10	11	9	14	2	6	7	5	9	14	10	15	6	10	4	9	6	14	10	3	13	15	7		
North Korea	2	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	6	10	14	1	2	14	6	6	11		
Haiti	5	4	5	8	6	10	6	12	11	15	3	5	6	11	5	3	14	10	9	15	1	1	8	14			
Tanzania	14	9	9	3	7	5	3	5	4	10	7	8	12	12	11	7	12	1	2	6	8	2	2	1	1		
Nepal	4	2	2	2	13	4	5	4	6	6	1	3	2	5	2	3	15	2	4	3	1	15	5	4	9		
Comoros	1	6	11	7	10	9	12	10	5	9	12	9	11	13	10	11	7	11	8	12	7	9	3	5	4		
Burkina Faso	9	15	15	15	4	3	9	11	15	13	14	11	4	4	7	13	5	4	12	15	5	8	12	14	5		
Uganda	13	10	3	10	8	15	4	8	2	7	11	6	13	10	8	9	13	3	3	11	11	6	14	12	2		
Mali	10	14	6	12	14	7	15	15	13	14	8	15	9	9	12	14	1	6	1	13	4	12	9	9	10		
Guinea	7	12	14	13	15	6	11	13	9	11	6	10	5	8	14	12	8	5	9	8	3	5	8	7	8		
Myanmar	8	5	8	4	12	13	7	2	10	1	5	2	8	3	3	4	2	12	15	2	12	13	15	13	6		
Rwanda	11	8	4	6	5	12	8	7	3	3	10	7	14	6	4	6	10	7	5	5	13	4	4	3	3		
Guinea-Bissau	12	13	12	14	11	11	13	14	14	12	13	13	3	7	13	15	9	8	11	7	6	7	10	11	12		
Afghanistan	3	3	13	9	2	8	14	3	8	4	15	4	15	2	15	2	14	15	13	10	14	11	11	10	15		
Madagascar	6	7	7	5	3	2	10	9	12	8	4	12	7	14	9	8	11	13	7	4	9	10	7	2	13		
Ranking Legend	1 - 3			4 - 7			8 - 11			12 - 15																	