GBD PROFILE: SENEGAL

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 Senegal, malaria, diarrheal diseases, 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), measles showed the largest decrease, falling by 64% from 1990 to 2010.
- The leading risk factor in Senegal is childhood underweight.

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 1-4 years (65%). Males aged 35-39 years saw the smallest decrease in mortality rate (8%).





CAUSES OF PREMATURE DEATH

Years of life lost (YLLs) quantify premature mortality by weighting younger deaths more than older deaths.

(% of total) Rank and disorder 1990 Rank and disorder 2010 (% of total) % change	# YLLs in thou	sands	S OF YELS 1990-2010,	Senegal	# YLLs in thous	ands
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Ranks for top 25 causes of YLLs 1990-2010, Senegal

is chart shows the ange in the top 25 uses of YLLs due to emature mortality om 1990 to 2010. lid lines indicate a use has moved up in nk or stayed the me. Broken lines dicate a cause has oved down in rank. e causes are color ded by blue for n-communicable seases, green for uries, and red for mmunicable, aternal, neonatal, and tritional causes of ath.

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 Senegal are iron-deficiency anemia, major depressive disorder, low back pain, neck pain, and chronic obstructive pulmonary disease.





DISABILITY-ADJUSTED LIFE YEARS (DALYs)

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

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



Leading causes of DALYs and percent change 1990 to 2010 for Senegal

RISK FACTORS

Overall, the three risk factors that account for the most disease burden in Senegal are childhood underweight, iron deficiency, and suboptimal breastfeeding. The leading risk factors for children under 5 and adults aged 15-49 years were childhood underweight and iron deficiency, respectively, in 2010.



Burden of disease attributable to 15 leading risk factors in 2010, expressed as a percentage of Senegal DALYs

COUNTRY BENCHMARKING OF BURDEN OF DISEASE

Understanding the relative performance of Senegal against other comparator countries provides key insight into public health successes and areas where Senegal might be falling behind. The table identifies Senegal'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, Senegal ranked 7th for age-standardized death rate and 7th for age-standardized YLL rate.

Age-st	andardize	d death	rates, YLI	. rates, Y	LD rates,	and life	expectan	cy at birt	h and hea	alth-adju	sted life e	xpectan	cy at birtl	n for 199	0 and 20	10, both	sexes co	mbined		
	Age-standardized death rate (per 100,000)				Age-standardized YLL rate (per 100,000)				Age		lized YLD 0,000)	rate	Life	e expecta	incy at bi	rth	Health-adjusted life expectancy at birth			
Country	19	90	2010		19	1990		2010		1990		2010		90	2010		1990		20	10
	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	LE	Rank	LE	Rank	HALE	Rank	HALE	Rank
Kyrgyzstan	1,047	2	999	6	33,446	1	30,037	6	12,606	2	12,336	2	65.5	1	66.9	6	56.2	1	57.6	5
Sudan	1,110	5	799	2	41,735	5	28,295	4	15,584	15	14,781	15	62.1	5	68.8	2	51.4	5	57	6
Cameroon	1,296	9	1,277	13	51,072	10	49,262	12	14,617	9	13,891	11	58.3	10	59.1	13	49.1	10	50.2	13
Nigeria	1,343	12	1,159	12	60,604	14	49,276	13	14,273	6	13,842	10	55.1	14	59.6	12	46.4	14	50.4	12
Mauritania	1,244	7	1,031	9	45,799	7	36,003	8	15,248	14	14,307	13	60.2	7	64.5	9	50.3	7	54.3	9
Cambodia	1,355	13	957	5	47,844	8	28,770	5	14,501	8	12,603	3	59.2	8	67.5	5	50.1	8	58	3
Tajikistan	1,067	3	911	4	38,138	2	27,409	3	12,331	1	12,296	1	63.8	2	68.3	4	54.8	2	58.7	2
Senegal	1,278	8	1,009	7	49,632	9	33,824	7	13,914	5	13,379	7	58.8	9	65.3	7	49.9	9	55.6	7
São Tomé and Príncipe	1,044	1	794	1	39,144	3	24,592	1	13,532	4	13,252	5	63.5	3	70.2	1	53.9	3	59.6	1
Côte d'Ivoire	1,400	14	1,457	15	58,331	12	56,879	14	14,774	11	13,910	12	55.7	13	56	14	46.8	12	47.7	14
The Gambia	1,315	11	1,109	11	54,039	11	41,302	11	14,365	7	13,291	6	57.2	11	62.2	11	48.4	11	53.2	11
Kenya	1,092	4	1,013	8	39,731	4	36,153	9	13,184	3	12,884	4	63	4	64.8	8	53.8	4	55.5	8
Timor-Leste	1,223	6	872	3	45,244	6	26,770	2	14,698	10	13,715	8	60.5	6	68.7	3	50.7	6	58	4
Chad	1,508	15	1,389	14	67,610	15	58,839	15	15,080	12	14,364	14	52.5	15	55.5	15	43.9	15	46.8	15
Benin	1,312	10	1,080	10	58,713	13	38,726	10	15,237	13	13,830	9	55.9	12	63.4	10	46.6	13	53.7	10

COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of Senegal 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 Senegal 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	e-stan	dard	ized r	ates	of dis	sabili	ty-ad	juste	a lite	year	5 (DA	LYS) r	elati	ve to	comp	arati	or cou	intrie	s in 1	990					
Country	Diarrheal diseases	Lower respiratory infections	Malaria	Measles	Meningitis	Preterm birth complications	Neonatal sepsis	Tuberculosis	Iron-deficiency anemia	Neonatal encephalopathy	Maternal disorders	Protein-energy malnutrition	Epilepsy	Major depressive disorder	СОРD	Stroke	Congenital anomalies	Asthma	Tetanus	Ischemic heart disease	Falls	Low back pain	Diabetes	Sickle cell	Liver cancer
Kyrgyzstan	1	6	1	1	1	4	1	2	1	15	1	1	3	3	15	15	12	1	1	14	6	6	1	4	4
Sudan	7	2	4	3	6	6	5	5	7	8	9	12	6	14	3	4	7	4	5	7	2	15	3	5	3
Cameroon	10	3	12	9	9	7	8	4	6	6	10	8	15	9	9	7	6	5	6	10	14	11	10	12	14
Nigeria	12	11	15	14	12	12	15	11	11	14	7	13	9	1	2	2	5	6	11	2	15	14	8	15	9
Mauritania	11	4	3	11	8	9	11	9	13	9	15	6	8	10	7	8	2	13	10	8	5	10	14	7	12
Cambodia	3	8	6	7	3	11	4	14	10	5	5	5	1	8	12	14	14	15	14	13	4	3	7	1	8
Tajikistan	8	13	2	2	2	15	2	1	2	13	2	2	4	2	6	13	11	2	2	15	7	7	13	3	2
Senegal	13	10	11	10	10	2	7	12	9	2	11	3	13	6	11	1	1	11	7	1	9	1	15	10	13
São Tomé and Príncipe	4	1	9	5	4	5	9	3	8	7	3	9	7	13	14	11	13	7	4	4	8	9	2	13	5
Côte d'Ivoire	14	5	13	6	11	14	13	7	5	11	6	7	12	11	10	9	8	9	9	9	13	5	12	9	6
The Gambia	6	14	10	8	13	3	14	10	12	3	12	11	11	15	13	12	10	12	12	11	12	12	9	11	15
Kenya	2	7	8	4	7	1	6	8	4	4	4	10	5	4	1	3	3	3	3	3	1	2	5	6	1
Timor-Leste	5	9	5	12	5	10	3	15	3	1	8	4	2	12	8	10	15	14	13	12	3	4	11	2	7
Chad	15	15	7	13	15	8	10	13	15	10	13	15	10	7	5	5	4	10	15	5	11	13	4	8	11
Benin Ranking of leading age	9	12	14	15	14	13	12	6	14	12	14	14	14	5	4	6	9	8	8	6	10	8	6	14	10
Country	Malaria	Diarrheal diseases	Lower respiratory infections	Neonatal sepsis	Preterm birth complications	Iron-deficiency anemia	gitis	Neonatal encephalopathy	sis			Major depressive disorder	disorders		k pain				heart disease		al anomalies		cell	pain	Protein-energy malnutrition
Kurauratan			Ľ	ž	Pret	Iron-6	Meningitis	Neonata	Tuberculos	HIV/AIDS	Epilepsy	Major dep	Maternal	Measles	Low back	Stroke	Diabetes	сорр	Ischemic heart	Falls	Congenital	Asthma	Sickle c	Neck p	Proteii
Kyrgyzstan	1	1	ت 5	ž 1	01	lron-d	L Menin	Neonata 12	u Tuberculo	HIV/AIDS	u Epilepsy	<mark>и</mark> Major der		ц Measles	7 Low bac	Stroke	L Diabetes	ОРD 12	lschemic 15	<mark>v</mark> Falls	Congenit	ы Asthma	A Sickle c	w Neck p	L Proteii
Sudan	1 5												Maternal		Low								Sickle	Neck	
		1	5	1	10	1	1	15	3	4	3	5	A Maternal	1	No Fo	15	1	15	15	7	12	1	4 Sickle	w Neck	1
Sudan	5	1 9	5 3	1 5	10 4	1	1 6	15 7	3	4 9	3 7	5 15	G Maternal	1 3	No 7 15	15 1	1 2	15 3	15 1	7 3	12 4	1 6	 4 5 	Neck 3 13	1 9
Sudan Cameroon	5 11	1 9 12	5 3 12	1 5 10	10 4 8	1 9 6	1 6 13	15 7 8	3 4 5	4 9 15	3 7 15	5 15 3	2 Maternal	1 3 7	7 15 10	15 1 6	1 2 14	15 3 7	15 1 10	7 3 14	12 4 9	1 6 4	4 Sickle	Neck 3 13 11	1 9 10
Sudan Cameroon Nigeria	5 11 15	1 9 12 10	5 3 12 11	1 5 10 15	10 4 8 14	1 9 6 10	1 6 13 12	15 7 8 13	3 4 5 9	4 9 15 12	3 7 15 8	5 15 3 1	2 Janual Maternal	1 3 7 10	×oj 7 15 10 14	15 1 6 3	1 2 14 6	15 3 7 1	15 1 10 5	7 3 14 15	12 4 9 5	1 6 4 5	elsickle	Neck 3 13 11 5	1 9 10 14
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Sudan Cameroon Nigeria Mauritania Cambodia Tajikistan	5 11 15 6 3 2	1 9 12 10 11 2 4	5 3 12 11 10 4 6	1 5 10 15 11 4 2	10 4 8 14 11 12 9	1 9 6 10 13 8 2	1 6 13 12 9 3 4	15 7 8 13 10 5 11	3 4 5 9 8 11 2	4 9 15 12 6 3 2	3 7 15 8 12 2 4	5 15 3 1 7 6 8	2 5 13 12 14 3 1	1 3 7 10 15 8 5	Non- 7 15 10 14 9 4 6	15 1 6 3 8 13 14	1 2 14 6 12 5 11	15 3 7 1 4 13 11	15 10 5 7 13 14	7 3 14 15 9 4 5	12 4 9 5 7 13 14	1 6 4 5 13 15 2	4 5 14 15 7 2 3	хуу 3 13 11 5 9 2 4	1 9 10 14 7 4 2
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