

GBD PROFILE: TAJIKISTAN

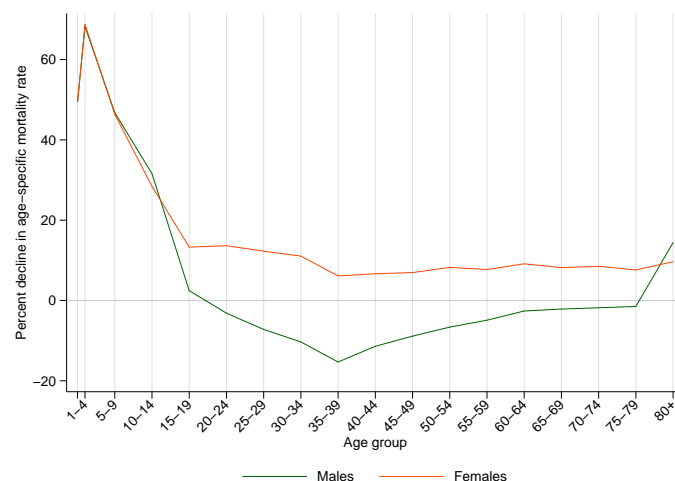
GLOBAL BURDEN OF DISEASES, INJURIES, AND RISK FACTORS STUDY 2010

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 Tajikistan, 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 75% from 1990 to 2010.
- The leading risk factor in Tajikistan is dietary risks.

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



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 (69%). Males aged 35-39 years saw the largest increase in mortality rate (15%).

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, Tajikistan

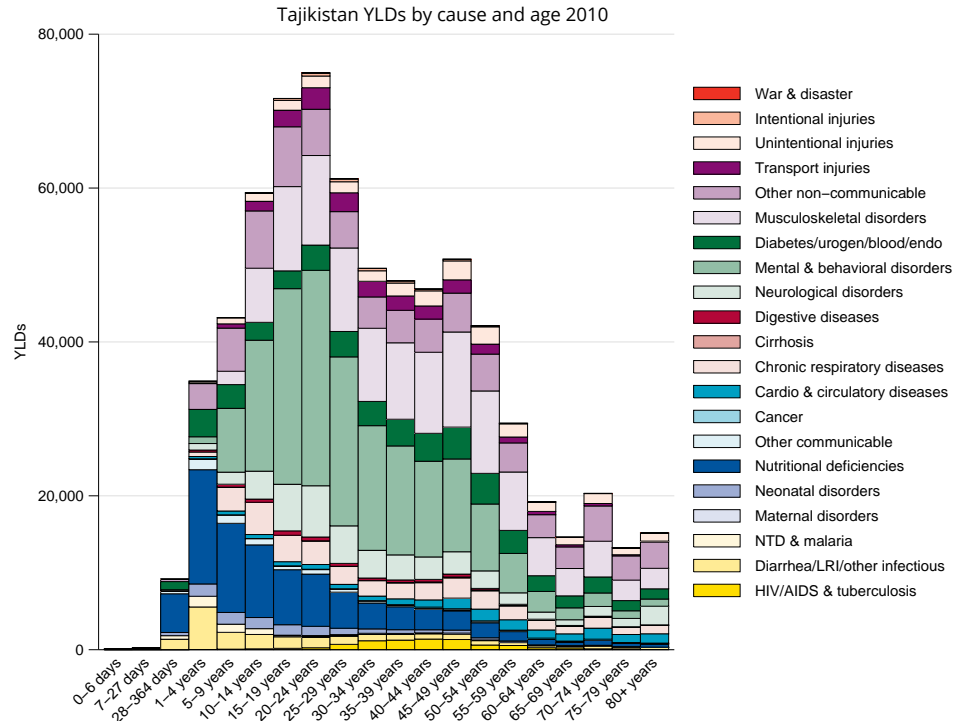
# YLLs in thousands (% of total)	Rank and disorder 1990	Rank and disorder 2010	# YLLs in thousands (% of total)	% change
821 (31.2%)	1 Lower respiratory infections	1 Lower respiratory infections	296 (17.1%)	-64
456 (17.3%)	2 Diarrheal diseases	2 Ischemic heart disease	168 (9.8%)	29
179 (6.8%)	3 Preterm birth complications	3 Preterm birth complications	123 (7.1%)	-31
131 (5.0%)	4 Ischemic heart disease	4 Diarrheal diseases	110 (6.4%)	-76
124 (4.7%)	5 Neonatal encephalopathy	5 Congenital anomalies	104 (6.0%)	50
79 (3.0%)	6 Stroke	6 Stroke	97 (5.6%)	26
78 (3.0%)	7 Congenital anomalies	7 Neonatal encephalopathy	87 (5.1%)	-30
71 (2.7%)	8 Meningitis	8 Cirrhosis	44 (2.5%)	86
45 (1.7%)	9 Road injury	9 Meningitis	38 (2.2%)	-48
43 (1.6%)	10 Drowning	10 Drowning	35 (2.0%)	-19
33 (1.3%)	11 Mechanical forces	11 Road injury	33 (1.9%)	-31
24 (0.9%)	12 Cirrhosis	12 Tuberculosis	32 (1.9%)	143
24 (0.9%)	13 COPD	13 Mechanical forces	31 (1.8%)	-6
20 (0.8%)	14 Stomach cancer	14 Epilepsy	28 (1.6%)	95
16 (0.6%)	15 Encephalitis	15 HIV/AIDS	27 (1.5%)	1,233
15 (0.6%)	16 Self-harm	16 COPD	24 (1.4%)	-3
17 (0.6%)	17 Protein-energy malnutrition	17 Self-harm	20 (1.1%)	31
15 (0.6%)	18 Epilepsy	18 Chronic kidney disease	19 (1.1%)	40
14 (0.6%)	19 Fire	19 Diabetes	18 (1.0%)	56
15 (0.6%)	20 Tuberculosis	20 Stomach cancer	16 (1.0%)	-19
14 (0.5%)	21 Interpersonal violence	21 Interpersonal violence	16 (0.9%)	-8
14 (0.5%)	22 Chronic kidney disease	22 Neonatal sepsis	15 (0.9%)	4
15 (0.6%)	23 Neonatal sepsis	23 Fire	14 (0.8%)	-9
14 (0.5%)	24 Rheumatic heart disease	24 Rheumatic heart disease	13 (0.8%)	-4
13 (0.5%)	25 Leukemia	25 Leukemia	11 (0.7%)	-15
	26 Diabetes	30 Encephalitis		
	60 HIV/AIDS	32 Protein-energy malnutrition		

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

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.

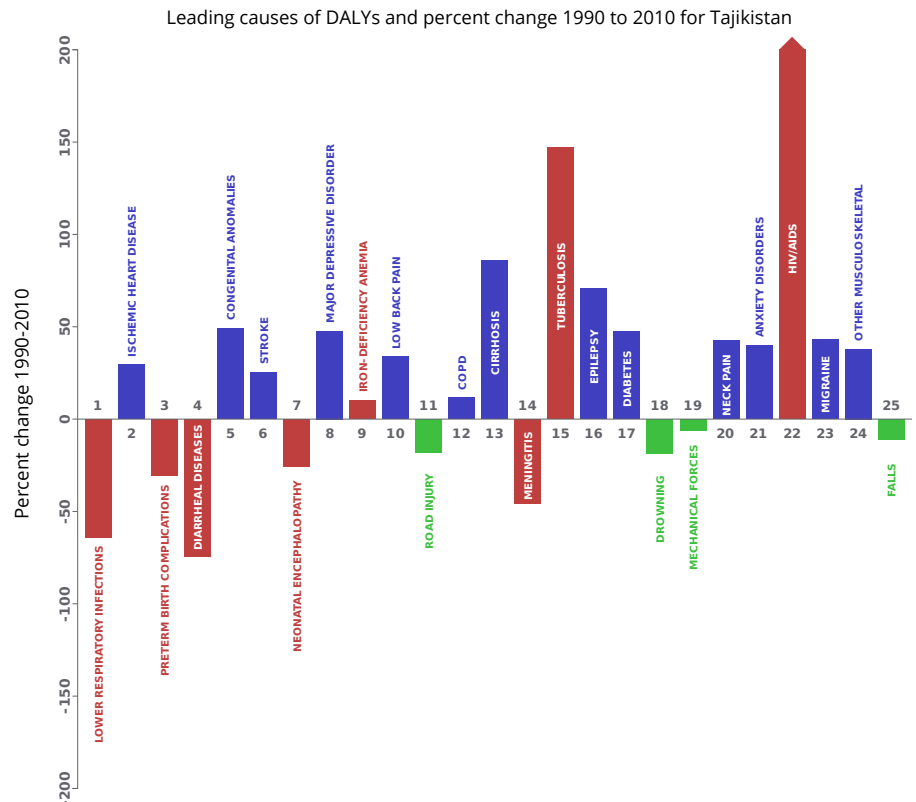


DISABILITY-ADJUSTED LIFE YEARS (DALYs)

Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Tajikistan, the top three causes of DALYs in 2010 were lower respiratory infections, ischemic heart disease, and preterm birth complications. Two causes that appeared in the 10 leading causes of DALYs in 2010 and not 1990 were major depressive disorder 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

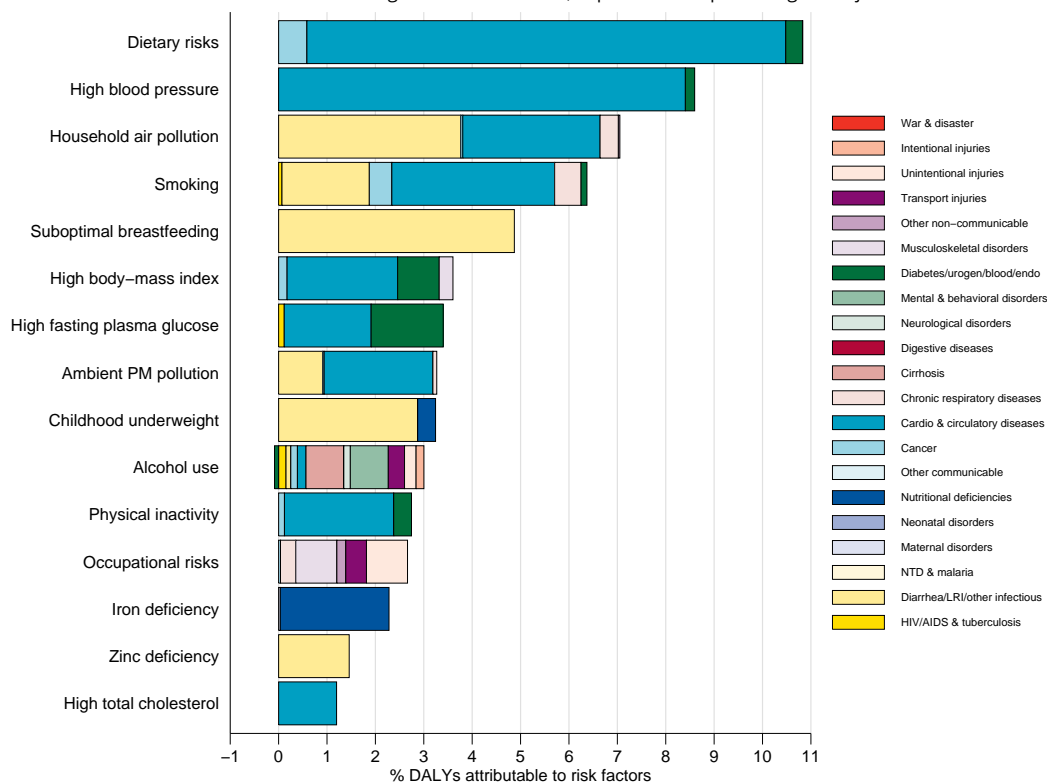


RISK FACTORS

Overall, the three risk factors that account for the most disease burden in Tajikistan are dietary risks, high blood pressure, and household air pollution from solid fuels. The leading risk factors for children under 5 and adults aged 15-49 years were household air pollution from solid fuels and dietary risks, respectively, in 2010.

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



COUNTRY BENCHMARKING OF BURDEN OF DISEASE

Understanding the relative performance of Tajikistan against other comparator countries provides key insight into public health successes and areas where Tajikistan might be falling behind. The table identifies Tajikistan'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, Tajikistan ranked 1st for age-standardized YLD rate and 4th for 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
Laos	1,532	15	1,094	10	56,031	12	34,746	8	13,297	4	12,323	2	56.2	12	64.7	9	48.3	12	55.9	7
Kyrgyzstan	1,047	2	999	6	33,446	1	30,037	6	12,606	2	12,336	3	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	10	13,891	11	58.3	10	59.1	13	49.1	10	50.2	13
Nigeria	1,343	11	1,159	12	60,604	14	49,276	13	14,273	7	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	9	15,248	14	14,307	13	60.2	7	64.5	10	50.3	7	54.3	10
Cambodia	1,355	12	957	5	47,844	8	28,770	5	14,501	9	12,603	4	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	6	13,379	8	58.8	9	65.3	7	49.9	9	55.6	8
São Tomé and Príncipe	1,044	1	794	1	39,144	3	24,592	1	13,532	5	13,252	6	63.5	3	70.2	1	53.9	3	59.6	1
Côte d'Ivoire	1,400	13	1,457	15	58,331	13	56,879	14	14,774	12	13,910	12	55.7	13	56	14	46.8	13	47.7	14
The Gambia	1,315	10	1,109	11	54,039	11	41,302	11	14,365	8	13,291	7	57.2	11	62.2	11	48.4	11	53.2	11
Kenya	1,092	4	1,013	8	39,731	4	36,153	10	13,184	3	12,884	5	63	4	64.8	8	53.8	4	55.5	9
Timor-Leste	1,223	6	872	3	45,244	6	26,770	2	14,698	11	13,715	9	60.5	6	68.7	3	50.7	6	58	4
Chad	1,508	14	1,389	14	67,610	15	58,839	15	15,080	13	14,364	14	52.5	15	55.5	15	43.9	15	46.8	15

COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of Tajikistan 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 Tajikistan 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	Ischemic heart disease	Neonatal encephalopathy	Stroke	Congenital anomalies	Meningitis	Road injury	Iron-deficiency anemia	Drowning	Major depressive disorder	COPD	Low back pain	Mechanical forces	Cirrhosis	Falls	Diabetes	Epilepsy	Stomach cancer	Neck pain	Protein-energy malnutrition	Anxiety disorders	Tuberculosis	Migraine
Laos	12	10	11	13	3	14	15	6	5	6	14	6	14	5	15	12	5	15	3	13	3	6	2	14	3
Kyrgyzstan	6	1	4	14	15	15	11	1	11	1	15	3	15	7	11	14	7	1	4	15	4	1	14	2	10
Sudan	2	7	6	6	9	4	7	7	9	8	10	14	3	15	8	2	2	3	7	6	9	13	15	5	1
Cameroon	3	9	7	9	7	6	6	10	15	7	4	9	8	11	2	15	14	9	15	4	12	9	3	4	14
Nigeria	11	12	13	2	14	2	5	13	14	12	7	1	2	14	5	9	15	7	10	2	6	14	1	10	4
Mauritania	4	11	9	7	10	7	2	9	12	14	1	10	6	10	9	8	6	13	9	10	10	7	6	8	13
Cambodia	8	3	12	12	6	13	13	3	4	11	11	8	11	3	13	4	4	6	1	12	2	5	8	13	6
Tajikistan	13	8	15	15	13	12	10	2	8	2	13	2	5	8	14	10	8	12	5	14	5	2	12	1	7
Senegal	10	13	2	1	2	1	1	11	1	10	5	5	10	1	7	6	10	14	14	9	14	3	4	11	12
São Tomé and Príncipe	1	4	5	4	8	10	12	4	3	9	2	13	13	9	4	5	9	2	8	5	13	10	13	3	15
Côte d'Ivoire	5	14	14	8	12	8	8	12	13	5	6	11	9	6	6	13	13	11	13	1	7	8	11	6	8
The Gambia	14	6	3	10	4	11	9	14	10	13	9	15	12	12	3	11	12	8	12	3	8	12	7	9	11
Kenya	7	2	1	3	5	3	3	8	7	4	8	4	1	2	1	1	1	5	6	8	15	11	5	7	2
Timor-Leste	9	5	10	11	1	9	14	5	2	3	12	12	7	4	12	3	3	10	2	11	1	4	10	15	5
Chad	15	15	8	5	11	5	4	15	6	15	3	7	4	13	10	7	11	4	11	7	11	15	9	12	9
Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to comparator countries in 2010																									
Country	Lower respiratory infections	Ischemic heart disease	Preterm birth complications	Diarrheal diseases	Congenital anomalies	Stroke	Neonatal encephalopathy	Major depressive disorder	Iron-deficiency anemia	Low back pain	Road injury	COPD	Cirrhosis	Meningitis	Tuberculosis	Epilepsy	Diabetes	Drowning	Mechanical forces	Neck pain	Anxiety disorders	HIV/AIDS	Migraine	Other musculoskeletal	Falls
Laos	8	12	10	7	15	13	5	12	3	5	6	13	8	6	13	2	11	13	14	2	1	2	6	1	7
Kyrgyzstan	5	15	9	1	11	15	15	4	1	8	8	15	15	1	3	4	1	15	9	4	12	5	14	10	8
Sudan	3	1	4	9	3	1	8	15	10	15	9	3	1	7	4	8	2	9	10	13	15	9	2	14	3
Cameroon	12	9	7	12	8	6	9	2	7	11	14	6	13	13	5	15	14	5	5	11	9	15	11	13	14
Nigeria	11	5	14	10	4	3	13	1	11	14	15	1	10	12	8	9	6	6	4	6	4	12	3	6	15
Mauritania	10	7	11	11	6	7	10	6	14	10	12	4	9	10	7	12	12	2	7	10	6	7	9	7	9
Cambodia	4	13	12	2	12	12	6	5	9	4	5	12	5	3	10	3	5	12	11	3	3	4	5	3	4
Tajikistan	6	14	8	4	13	14	11	7	2	7	4	10	12	4	2	5	10	14	15	5	13	3	15	5	5
Senegal	9	2	2	13	1	2	1	3	13	1	1	7	6	9	9	11	13	3	3	12	11	6	12	11	10
São Tomé and Príncipe	1	4	1	3	5	8	3	14	5	9	2	14	4	5	1	7	3	1	2	14	14	8	8	12	6
Côte d'Ivoire	14	10	15	14	9	11	14	8	8	6	13	11	14	14	12	14	15	8	8	8	7	13	7	8	13
The Gambia	13	8	5	6	10	9	7	9	12	12	10	5	7	11	6	10	9	7	1	9	2	10	13	9	11
Kenya	7	3	3	8	2	4	4	11	6	2	7	2	3	8	11	6	4	10	6	15	8	14	1	15	2
Timor-Leste	2	11	6	5	14	10	2	13	4	3	3	9	2	2	15	1	7	11	12	1	5	1	4	2	1
Chad	15	6	13	15	7	5	12	10	15	13	11	8	11	15	14	13	8	4	13	7	10	11	10	4	12
Ranking Legend	1 - 3			4 - 7			8 - 11			12 - 15															