

GBD PROFILE: MEXICO

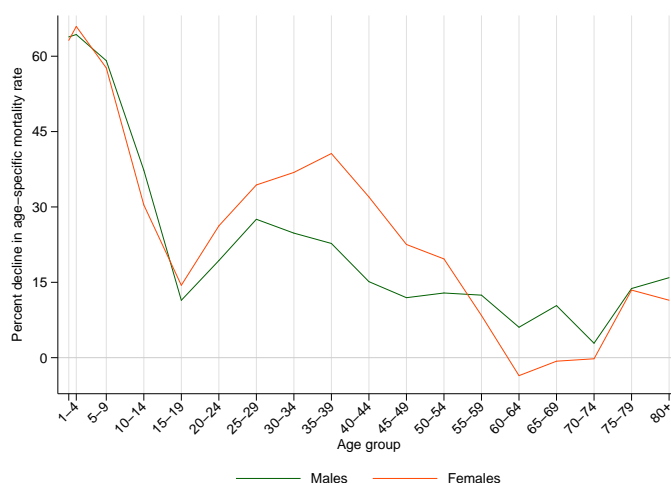
GLOBAL BURDEN OF DISEASES, INJURIES, AND RISK FACTORS STUDY 2010

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 Mexico, ischemic heart disease, diabetes mellitus, and chronic kidney diseases 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 84% from 1990 to 2010.
- The leading risk factor in Mexico is high body-mass index.

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



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 (66%). Females aged 60-64 years saw the largest increase in mortality rate (4%).

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, Mexico

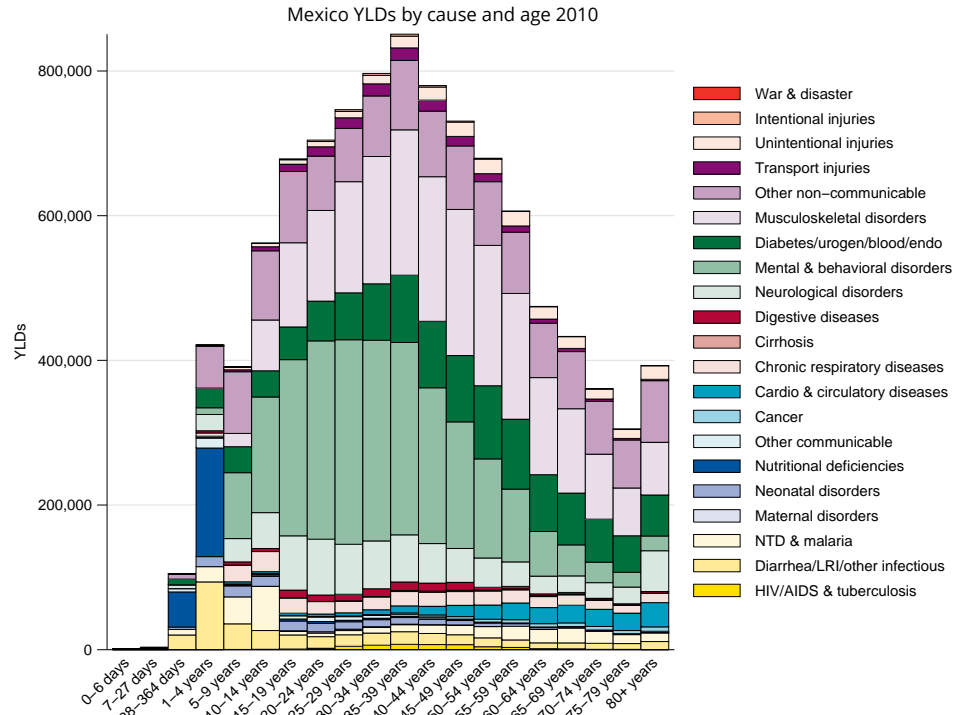
# YLLs in thousands (% of total)	Rank and disorder 1990	Rank and disorder 2010	# YLLs in thousands (% of total)	% change
2,075 (11.2%)	1 Diarrheal diseases	1 Ischemic heart disease	1,321 (8.2%)	87
2,024 (10.9%)	2 Lower respiratory infections	2 Diabetes	1,085 (6.7%)	76
1,236 (6.6%)	3 Preterm birth complications	3 Chronic kidney disease	1,041 (6.4%)	364
1,080 (5.8%)	4 Congenital anomalies	4 Interpersonal violence	1,030 (6.4%)	14
863 (4.6%)	5 Interpersonal violence	5 Cirrhosis	1,015 (6.3%)	54
833 (4.5%)	6 Road injury	6 Road injury	930 (5.7%)	14
711 (3.8%)	7 Ischemic heart disease	7 Congenital anomalies	723 (4.5%)	-28
713 (3.8%)	8 Neonatal encephalopathy	8 Lower respiratory infections	687 (4.2%)	-66
657 (3.5%)	9 Cirrhosis	9 Stroke	627 (3.9%)	40
606 (3.3%)	10 Diabetes	10 Preterm birth complications	569 (3.5%)	-54
464 (2.5%)	11 Protein-energy malnutrition	11 COPD	314 (1.9%)	0
452 (2.4%)	12 Stroke	12 Neonatal encephalopathy	295 (1.8%)	-59
342 (1.8%)	13 Neonatal sepsis	13 Self-harm	241 (1.5%)	129
314 (1.7%)	14 COPD	14 Drowning	217 (1.3%)	-24
283 (1.5%)	15 Drowning	15 Neonatal sepsis	225 (1.4%)	-34
294 (1.6%)	16 HIV/AIDS	16 Diarrheal diseases	208 (1.3%)	-90
248 (1.3%)	17 Chronic kidney disease	17 Leukemia	189 (1.2%)	13
226 (1.2%)	18 Tuberculosis	18 HIV/AIDS	233 (1.4%)	-29
168 (0.9%)	19 Leukemia	19 Lung cancer	164 (1.0%)	44
164 (0.9%)	20 Meningitis	20 Alcohol use disorders	184 (1.1%)	-3
157 (0.8%)	21 Mechanical forces	21 Other cardio & circulatory	152 (0.9%)	24
149 (0.8%)	22 Alcohol use disorders	22 Hypertensive heart disease	151 (0.9%)	75
134 (0.7%)	23 Cervical cancer	23 Breast cancer	149 (0.9%)	110
123 (0.7%)	24 Other cardio & circulatory	24 Protein-energy malnutrition	149 (0.9%)	-67
123 (0.7%)	25 Self-harm	25 Cervical cancer	150 (0.9%)	2
	26 Lung cancer	31 Tuberculosis		
	32 Hypertensive heart disease	34 Mechanical forces		
	36 Breast cancer	36 Meningitis		

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 Mexico are low back pain, major depressive disorder, diabetes mellitus, neck pain, and other musculoskeletal disorders.

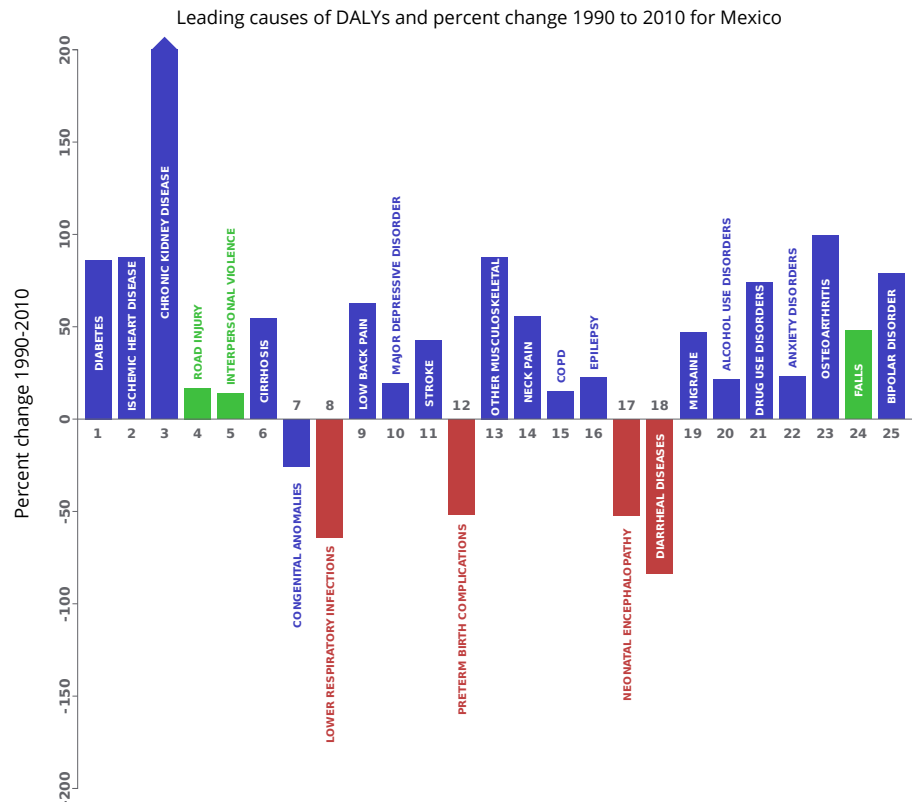
The size of the colored portion in each bar represents the number of YLDs attributable to each cause. The height of each bar shows which age groups had the most YLDs in 2010. The causes are aggregated. For example, musculoskeletal disorders include low back pain and neck pain.



DISABILITY-ADJUSTED LIFE YEARS (DALYs)

Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Mexico, the top three causes of DALYs in 2010 were diabetes mellitus, ischemic heart disease, and chronic kidney diseases. The causes that were in the 10 leading causes of DALYs in 2010 and not 1990 were chronic kidney diseases, low back pain, and major depressive disorder.

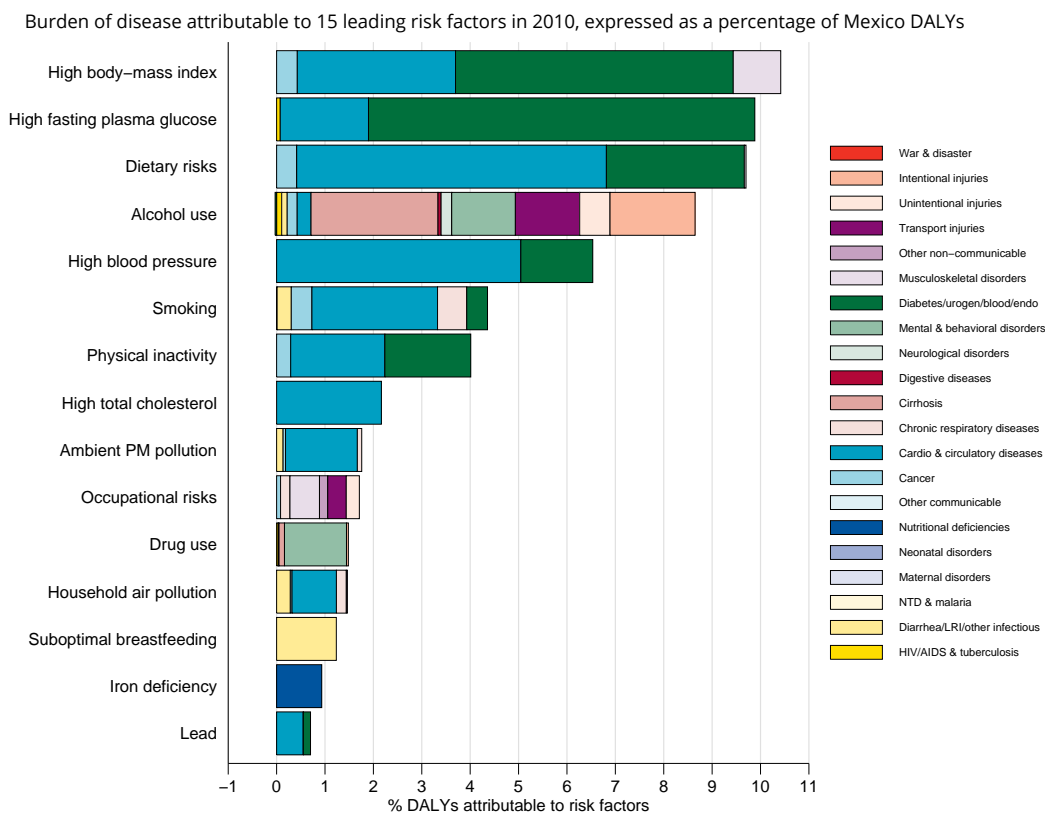
The top 25 causes of DALYs are ranked from left to right in order of the number of DALYs they contributed in 2010. Bars going up show the percent by which DALYs have increased since 1990. Bars going down show the percent by which DALYs have decreased. Globally, non-communicable diseases and injuries 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 Mexico are high body-mass index, high fasting plasma glucose, and dietary risks. 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 Mexico. 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 Mexico against other comparator countries provides key insight into public health successes and areas where Mexico might be falling behind. The table identifies Mexico'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, Mexico ranked 1st for age-standardized YLD rate and 7th 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
Antigua and Barbuda	728	2	593	5	19,168	2	13,919	5	12,425	11	13,535	13	73.1	1	76.5	4	62.7	4	63.3	11
Croatia	830	8	585	3	19,273	3	11,918	3	12,083	10	11,620	9	71.9	5	76.7	3	61.8	6	66	6
Libya	693	1	645	9	19,723	5	15,897	8	13,033	13	13,106	12	72.7	3	74.7	8	61.3	10	62.9	12
Poland	872	10	589	4	21,136	8	13,059	4	11,652	6	11,401	7	70.9	10	76.3	5	61.5	8	66.1	5
Lithuania	833	9	678	10	21,127	7	16,608	10	11,684	7	11,302	6	71.3	8	74.1	10	61.7	7	64.3	8
Latvia	914	11	703	11	23,599	11	16,613	11	11,911	8	11,751	10	69.8	11	73.9	11	60.4	11	63.8	10
Russia	953	14	952	14	25,715	12	25,387	13	11,536	4	11,444	8	68.7	12	68.9	14	59.7	12	59.9	13
Mexico	740	4	604	7	22,775	10	15,658	7	10,092	1	9,364	1	71.5	7	75.5	7	63	3	66.9	2
Chile	760	5	490	1	18,210	1	11,136	1	11,185	3	10,407	2	72.9	2	78.5	1	63.4	1	68.6	1
Gabon	1,312	15	1,432	15	46,033	15	49,393	15	14,356	15	14,462	14	60	15	58.7	15	50.8	15	49.8	15
Malaysia	825	7	726	13	19,850	6	16,000	9	11,926	9	11,186	5	71.6	6	73.7	12	62.1	5	64.4	7
Argentina	731	3	597	6	19,400	4	14,343	6	11,154	2	10,843	3	72.5	4	76	6	63.2	2	66.1	4
Botswana	951	13	715	12	31,563	14	26,692	14	13,528	14	14,557	15	66.7	14	71	13	56.6	14	59.2	14
Lebanon	775	6	514	2	21,908	9	11,877	2	11,630	5	11,150	4	71.2	9	77.5	2	61.4	9	66.7	3
Turkey	942	12	628	8	30,025	13	16,760	12	12,442	12	11,885	11	67.1	13	74.4	9	57.6	13	63.9	9

COUNTRY BENCHMARKING OF BURDEN OF DISEASE, CONTINUED

This figure shows the rank of Mexico 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 Mexico 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	Diarrheal diseases	Lower respiratory infections	Preterm birth complications	Congenital anomalies	Road injury	Interpersonal violence	Diabetes	Neonatal encephalopathy	Ischemic heart disease	Cirrhosis	Major depressive disorder	Protein-energy malnutrition	Stroke	Iron-deficiency anemia	Low back pain	COPD	Chronic kidney disease	Neonatal sepsis	Neck pain	Epilepsy	Other musculoskeletal	HIV/AIDS	Drowning	Alcohol use disorders	Anxiety disorders
Antigua and Barbuda	8	6	14	1	1	5	14	10	4	9	7	7	9	14	3	1	12	13	6	11	6	12	10	13	7
Croatia	1	2	3	4	11	4	5	1	8	12	14	1	11	2	14	4	6	1	8	5	8	3	7	7	15
Libya	11	9	11	15	10	2	13	6	9	5	15	10	7	4	10	7	7	8	1	1	1	7	5	2	14
Poland	2	4	7	8	9	3	9	3	10	10	2	5	13	3	15	10	8	6	7	4	5	5	8	11	10
Lithuania	3	1	1	9	13	9	1	4	14	7	8	2	4	6	12	9	5	3	10	9	10	4	14	15	2
Latvia	4	3	4	10	14	12	3	11	15	2	10	3	12	5	13	2	3	2	9	7	13	6	15	14	3
Russia	7	7	6	11	12	14	2	12	12	8	12	4	14	7	11	11	2	7	11	6	9	1	13	12	4
Mexico	13	12	8	6	8	15	15	13	2	15	1	14	1	8	1	5	15	12	5	12	12	13	11	9	1
Chile	6	11	5	5	3	10	4	2	3	14	3	6	2	1	4	3	11	4	15	13	14	9	1	10	9
Gabon	15	15	15	14	15	11	11	15	5	13	13	15	10	13	7	15	10	15	13	14	11	14	12	4	13
Malaysia	5	10	2	3	5	1	8	5	7	6	9	9	8	11	2	13	14	5	3	8	2	11	9	6	8
Argentina	9	5	12	7	2	8	6	8	6	11	4	13	6	9	5	6	13	10	14	2	15	10	6	8	11
Botswana	14	13	9	2	4	13	12	14	1	3	5	12	5	15	6	14	9	11	12	15	7	15	4	5	5
Lebanon	10	8	10	13	7	7	10	7	11	1	6	8	3	10	8	8	4	9	4	3	4	8	3	1	6
Turkey	12	14	13	12	6	6	7	9	13	4	11	11	15	12	9	12	1	14	2	10	3	2	2	3	12
Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to comparator countries in 2010																									
Country	Diabetes	Ischemic heart disease	Chronic kidney disease	Road injury	Interpersonal violence	Cirrhosis	Congenital anomalies	Lower respiratory infections	Low back pain	Major depressive disorder	Stroke	Preterm birth complications	Other musculoskeletal	Neck pain	COPD	Epilepsy	Neonatal encephalopathy	Diarrheal diseases	Migraine	Alcohol use disorders	Drug use disorders	Anxiety disorders	Osteoarthritis	Falls	Bipolar disorder
Antigua and Barbuda	14	4	11	1	6	6	5	6	3	11	5	11	10	5	1	11	9	10	11	11	15	13	10	7	13
Croatia	6	7	3	8	1	10	3	1	14	12	8	4	7	10	7	3	2	2	14	6	5	9	11	13	2
Libya	15	12	13	14	3	5	13	9	10	15	11	14	1	1	11	1	11	12	3	2	7	15	15	6	4
Poland	5	8	5	10	2	9	4	2	15	2	9	5	6	11	8	5	1	1	15	12	4	11	12	14	1
Lithuania	2	13	2	12	11	13	6	4	13	4	7	1	9	7	3	8	4	3	12	15	13	3	5	12	11
Latvia	4	14	1	6	9	7	7	3	12	8	12	2	8	9	2	7	10	4	13	13	10	2	7	10	12
Russia	3	15	6	13	13	12	11	12	11	9	15	7	11	8	10	6	13	8	10	14	14	4	6	9	9
Mexico	13	3	15	11	14	14	12	11	1	1	9	12	6	5	12	12	13	7	8	3	1	14	2	15	
Chile	1	2	9	3	8	11	8	7	5	3	2	6	14	14	4	13	3	5	1	10	9	7	3	5	6
Gabon	12	6	14	15	12	15	14	15	7	13	14	15	13	12	15	15	15	15	5	4	12	12	9	11	7
Malaysia	9	10	12	7	5	3	1	14	2	7	10	3	4	3	14	9	5	6	9	5	1	5	2	8	14
Argentina	7	5	10	5	10	8	10	13	4	5	4	12	15	15	9	2	8	7	2	9	11	10	4	3	5
Botswana	10	1	8	9	15	4	2	10	6	14	6	10	5	13	13	14	14	14	6	7	6	8	8	1	3
Lebanon	11	9	7	4	7	2	9	5	8	6	3	8	3	4	6	4	6	9	4	1	2	6	1	15	10
Turkey	8	11	4	2	4	1	15	8	9	10	13	13	2	2	12	10	7	11	8	3	8	14	13	4	8
Ranking Legend	1 - 3			4 - 7				8 - 11				12 - 15													