Health Profile of the ECO Member States

The Statement of
The Health Minister of I.R. Iran

The Economic Cooperation Organization (ECO) is a unique opportunity to reach the shared goals of the member states. “Population Health” as a main component of the sustainable development is one of the important shared goals. Drawing on the numerous existing publications, “Health” has a considerable impact on the economic growth of the countries, and might relief the human pains in terms of physical, mental, and social aspects. The present meeting of the ECO Ministries of health provides an opportunity to discuss the serious health challenges including the poverty diseases, international health regulation, strengthening the health systems, Non-Communicable Diseases, health technology, blood transfusion, vaccine as well as preparedness against the natural disasters, and to reach a reliable Plan of Action at the end of the meeting.

The present report aims to provide a general overview about the health status of the ECO member states, based on the most reliable health studies around the globe. I hope that during the meeting this report would act as a proper reference to supply the agreeable information for preparing a shared Plan of Action, based on the current health status of the member states.

I would like to thank the Non-Communicable Diseases Research Center, Endocrinology and Metabolism Research Institute, Tehran University of Medical Sciences, and the International relations office of Iranian ministry of health, which prepared the present report in a short period of time. Also I would like to acknowledge the entire ministers, experts, and members of the ECO member states, participating in the present meeting.

Dr. Seyed Hassan Ghazizade Hashemi
Tehran, November 2014

Acknowledgements

We would like to acknowledge the efforts of Dr. Farshad Farzadfar (Chair of Non-Communicable Diseases Research Center), who scientifically managed and supervised all processes of the report production and would like to thank assistance provided by professor Bagher Larijani (Chair of the Endocrinology and Metabolism Research Institute), Dr. Mohsen Asadi Lari (), Dr. Amir Hosein Takian (). We also would like to thank Babak Moazen (scientific publication manager of NCDRC), Sahar Saeedi Moghaddam (statistician) whose their scientific collaborations and efforts made a significant improvement in the present report. Eco secretariat also thanks the Non-Communicable Diseases Research Center (NCDRC), Institute for Health Metrics and Evaluation (IHME) for providing data. Also we would like to thank Dr. Niloufar Peykari, Dr. Shirin Jalalinia, Dr. Shohreh Nadredimagham, Alireza Khajavi, Sara Khademi, Ali Sheidaei, Rasoul Dashti, Amin Mohammadi, and Fereydoun Hadian for their helps and supports.

ECO secretariat

Tehran, November 2014

Health Profile of the ECO Member States

1. A Brief Introduction to the ECO

1.1. Background

As an intergovernmental regional organization, Economic Cooperation Organization (ECO) was established in 1985 by three countries including: Iran, Pakistan and Turkey for the purpose of promoting economic, technical and cultural cooperation among the Member States. The ECO is the successor organization of Regional Cooperation for Development (RCD), which remained in existence since 1964 up to 1979. In 1992, the Organization was expanded to include seven new members, namely: Islamic Republic of Afghanistan, Republic of Azerbaijan, Republic of Kazakhstan, Kyrgyz Republic, Republic of Tajikistan, Turkmenistan and Republic of Uzbekistan. The date of the Organization's expansion to its present strength, 28th November, is being observed as the ECO Day.[1]

The ECO region is full of bright trading prospects. Despite its young age, ECO has developed into a thriving regional organization. Its international stature is growing. Nevertheless, the organization faces daunting challenges with respect to realization of its objectives and goals. Most importantly, the region is lacking in appropriate infrastructure and institutions which the Organization is seeking to develop, on priority basis, to make full use of the available resources in the region. Over the past 12 years the member states have been collaborating to accelerate the pace of regional development through their common endeavors. Besides shared cultural and historic affinities, they have been able to use the existing infrastructural and business links to further fortify their resolve to transfer their hopes and aspirations into a tangible reality. ECO has embarked on several projects in priority sectors of its cooperation including energy, trade, transportation, agriculture and drug control.[1]

1.2. Organizational Structure

The Council of Ministers (COM) is the highest policy and decision-making body and is composed of Ministers of Foreign Affairs or such other representatives of the Ministerial rank as may be designated by the Government. The council of Ministers meets at least once a year by rotation among the Member States. The Council of Permanent Representatives (CPR) is consisting of the Permanent Representatives/Ambassadors of the Member States accredited to the Islamic Republic of Iran as well as to the ECO and the Director General for ECO Affairs of the Ministry of Foreign Affairs of the Islamic Republic of Iran. The Regional Planning Council (RPC) is composed of the Head of the Planning Organization of the Member States or such other representatives of corresponding authorities. The General Secretariat consists of six Directorates under the

supervision of the Secretary General and his Deputies. Two Specialized Agencies and six Regional Institutes are acting under the supervision of the General Secretariat.[1]

1.3. Objectives

The main objectives of ECO are categorized as following:

- Sustainable economic development of Member States;
- Progressive removal of trade barriers and promotion of intra- regional trade; Greater role of ECO region in the growth of world trade; Gradual integration of the economies of the Member States with the world economy;
- Development of transport & communications infrastructure linking the Member States with each other and with the outside world;
- Economic liberalization and privatization;
- Mobilization and utilization of ECO region's material resources;
- Effective utilization of the agricultural and industrial potentials of ECO region;
- Regional cooperation for drug abuse control, ecological and environmental protection and strengthening of historical and cultural ties among the peoples of the ECO region; and
- Mutually beneficial cooperation with regional and international organizations.[1]

1.4. Main activities

Activities of ECO are conducted through Directorates under the supervision of Secretary General and his Deputies, which considered and evolve projects and programs of mutual benefit in the fields of:

- Trade and Investment
- Transport and Telecommunications
- Energy, Minerals and Environment
- Agriculture, Industry and Tourism
- Human Resources & Sustainable Development
- Project & Economic Research and Statistics
- International Relations[1]

1.5. The First ECO Health Ministerial Meeting

The first ECO Health Ministerial Meeting was held on 5th February 2010 in Baku, the Republic of Azerbaijan. It was attended by Ministers and Representatives of the Islamic Republic of Afghanistan, the Republic of Azerbaijan, the Islamic Republic of Iran, the Republic of Kazakhstan, the Islamic Republic of Pakistan, the Republic of

Tajikistan and the Republic of Turkey. The representatives of international organizations such as UNFPA, WHO, UNICEF, World Bank, Global Fund and International Red Cross also participated in the meeting. Deliberation on Health related Millennium Development Goals (MDGs), cooperation in the field of Blood Transfusion, cooperation in the field of Pharmaceuticals, exchange of academic and technical experiences and allocating of academic seats on major health topics for ECO member states, as well as considering the preparation of a plan of action for health cooperation among member states, were among the most important topics of discussion in this meeting.[2]

Islamic Republic of Afghanistan

General View

Afghanistan is located in southern Asia and shares a border with 6 countries including: China, Iran, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan. Landlocked, with an area of 652,000 square kilometers (251,737 square miles), Afghanistan is a mountainous country dominated by the Hindu Kush and the Himalayan mountain ranges to the north and arid desert to the south. This country has a population of around 31 million people, making it the 42nd most populous country in the world. The capital of Afghanistan is Kabul [3,4]

History

This country has a history and culture that goes back over 5000 years. Throughout its long, splendid, and sometimes chaotic history, this area of the world has been known by various names. In ancient times, its inhabitants called the land Aryana. In the medieval era, it was called Khorasan, and in modern times, its people have decided to call it Afghanistan. [5]

Culture

The Afghan culture has been around for over two millennia, tracing back to at least the time of the Achaemenid Empire in 500 BCE. It is mostly a nomadic and tribal society, with different regions of the country having their own traditions, reflecting the multi-cultural and multi-lingual character of the nation. In the southern and eastern region the people live according to the Pashtun culture by following Pashtunwali, which is an ancient way of life that is still preserved. Millions of Afghans who have been living in Pakistan and Iran over the last 30 years have been influenced by the cultures of those neighboring nations. [6]

Political System

The Afghan government consists of a popularly elected President, two Vice Presidents, and a National Assembly consisting of two Houses: the House of People (Wolesi Jirga), and the House of Elders (Meshrano Jirga). Afghanistan’s president is the head of state. The president is directly elected to a five-year term. There is also an independent Judiciary branch consisting of the Supreme Court (Stera Mahkama), High Courts and Appeal Courts. The President appoints the members of the Supreme Court with the approval of the Wolesi Jirga. [7,8]

Economy

Based on the World Bank reports, as of 2013, the nation's Gross Domestic Product (GDP) stands at about $45.3 billion with an exchange rate of $20.65 billion, and the GDP per capita is $1,100. The country's exports totaled $2.6 billion in 2010. Its unemployment

rate is about 35% and roughly the same percentage of its citizens live below the poverty line. According to a 2009 report, about 42% of the population lives on less than $1 a day. The nation has less than $1.5 billion in external debt and is recovering with the assistance of the world community. The Afghan economy has been growing at about 10% per year in the last decade, which is due to the infusion of over $50 billion in international aid and remittances from Afghan expats. It is also due to improvements made to the transportation system and agricultural production, which is the backbone of the nation's economy. [9]

Health System

The system is evolving towards a split purchaser/provider model, with the MoH assuming a stewardship role and running secondary and tertiary hospitals. PHC is sub-contracted to NGOs, which account for over 80% of total health services. Under Performance-based Partnership Agreements (PPAs), the government contracts NGOs to provide a Basic Package of Health Services (BPHS) within geographically defined areas and under a national policy framework. Health expenditure is 0.5% of the GDP and represents 6.1% of the current expenditure, for a public health expenditure of $1 per capita. There are one doctor and one nurse per 6,000 and 2,500 people respectively, and the population per hospital bed ranges between 1,100 and 16,000. [10]

Components of health system in the ECO member states at a glance *

	Total expenditure on health as % of gross domestic product (2010)	General government expenditure on health as % of total expenditure on health (2010)	Out-of-pocket expenditure as % of private expenditure on health (2010)	Per capita total expenditure on health at average exchange rate (US$)	Physicians per 100,000 population (2005-12)	Hospital beds per 100,000 population (2005-12)	Antiretroviral therapy coverage among people with advanced HIV infection (%) 2011	Unmet need for family planning (%) 2005-2012	Population without access to improved drinking-water sources (%)	Population without access to improved sanitation (%)
Afghanistan	**10.4**	**22.5**	**94**	**44**	**1.9**	**4**	**6**	**N/A**	**39**	**72**
Azerbaijan	5.3	21.9	88.6	307	33.8	46	28	15	20	18
Iran	5.3	40.2	97	302	8.9	17	7	N/A	5	<2
Kazakhstan	4.3	59.1	98.8	395	38.4	76	27	N/A	5	3
Kyrgyzstan	6.7	55.7	87.3	60	24.7	48	23	N/A	11	7
Pakistan	1	76.6	N/A	10	8.1	6	10	25	9	53
Tajikistan	6	26.7	90.7	40	19	55	22	N/A	34	5
Turkey	6.7	74.8	64.4	668	17.1	25	50	6	<2	9
Turkmenistan	2.5	60.4	100	105	N/A	41	N/A	N/A	29	<2
Uzbekistan	5.6	49	90.2	80	25.4	45	N/A	N/A	13	<2

* Source: The World Health Statistics 2013, World Health Organization

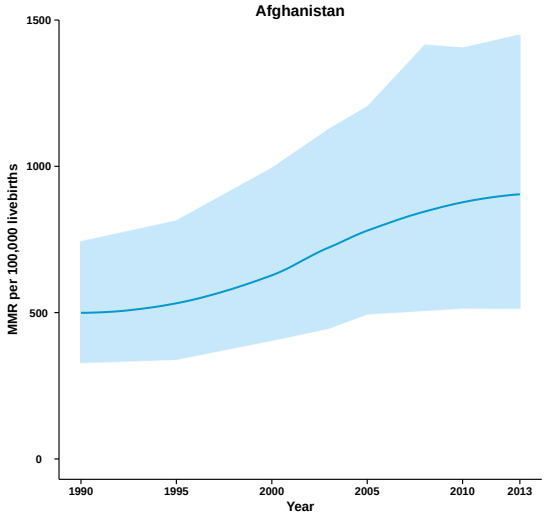
Health Status *

Profile Overview:

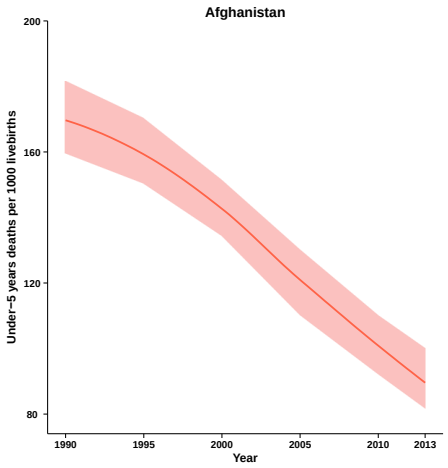
- In terms of the number of years of life lost (YLLs) due to premature death in Afghanistan, lower respiratory infections, diarrheal diseases, and preterm birth complications were the highest-ranking causes in 2010.
- Of the 25 most important causes of burden, as measured by disability-adjusted life years (DALYs), tetanus showed the largest decrease, falling by 37% from 1990 to 2010.
- The leading risk factor in Afghanistan is household air pollution from solid fuels.

Maternal and Under-five Mortality Rates

As indicated in the figures below, Under-5 mortality rate per 100,000 was decreasing from 3743.33 in 1990 to 1829.34 in 2010. However, Maternal Mortality Rate per 100,000 is increasing among women in, and highlights the need for more attention to this vulnerable group in Afghanistan.

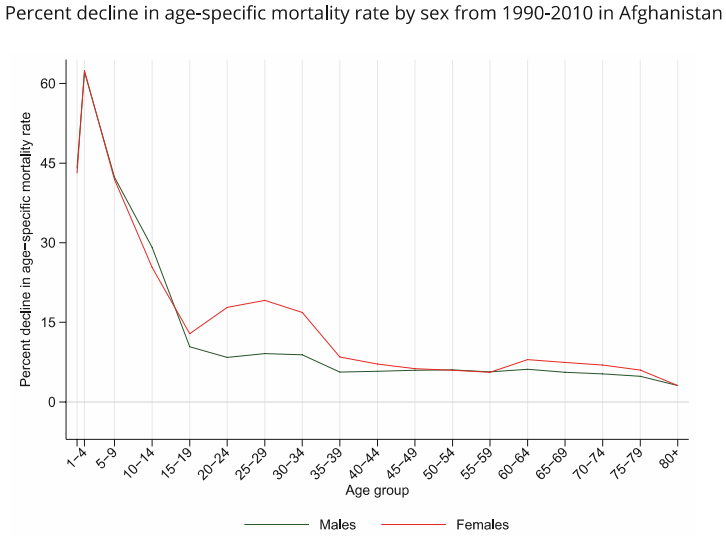


* The entire data demonstrating health status of all countries have been obtained from Institute for Health Metrics and Evaluation (IHME) official website, and processed by the Non-Communicable Diseases Research Center (NCDRC), as the collaborator of IHME.



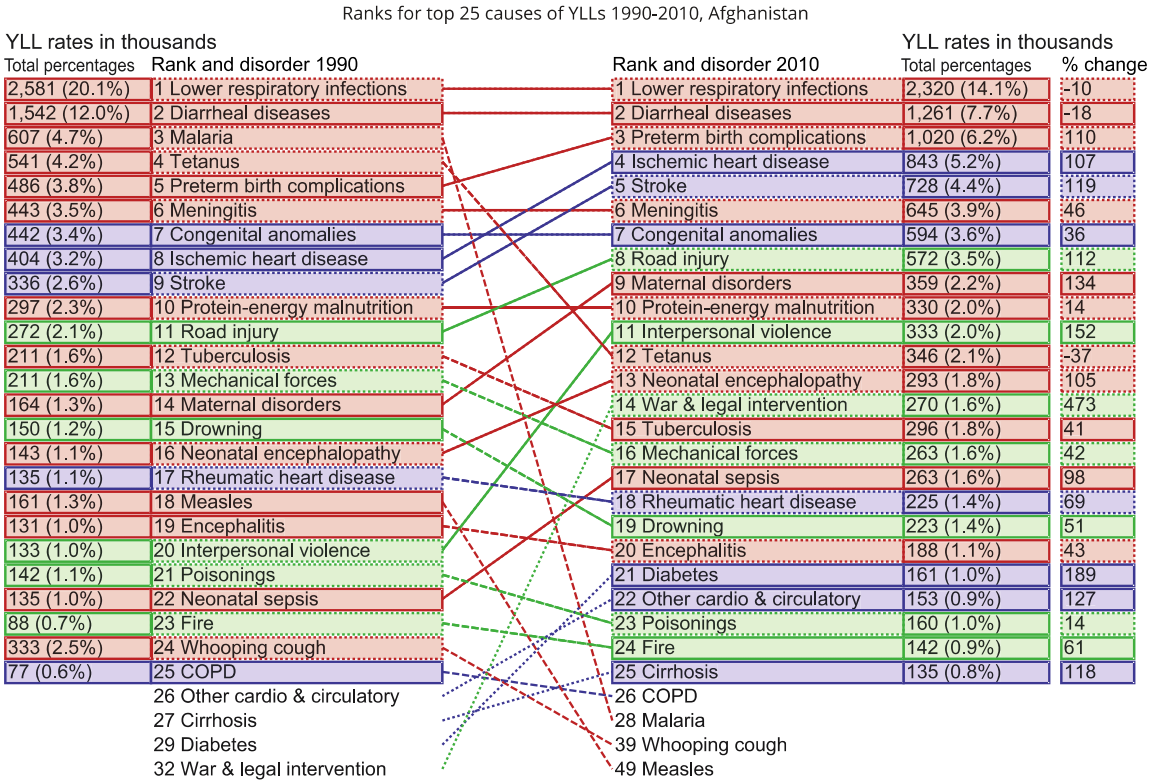
All-cause Mortality Rates

- 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 females aged 1-4 years (62%). Males aged 80+ years saw the smallest decrease in mortality rate (3%).



Cause of Premature Death

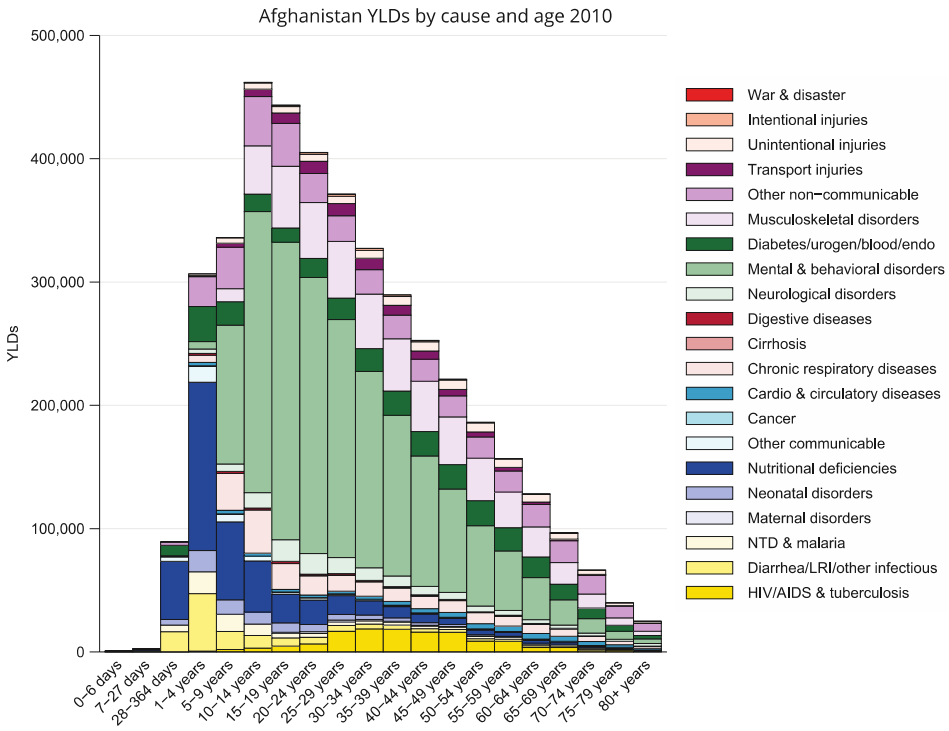
Years of life lost (YLLs) quantify premature mortality by weighting younger deaths more than older deaths.



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)

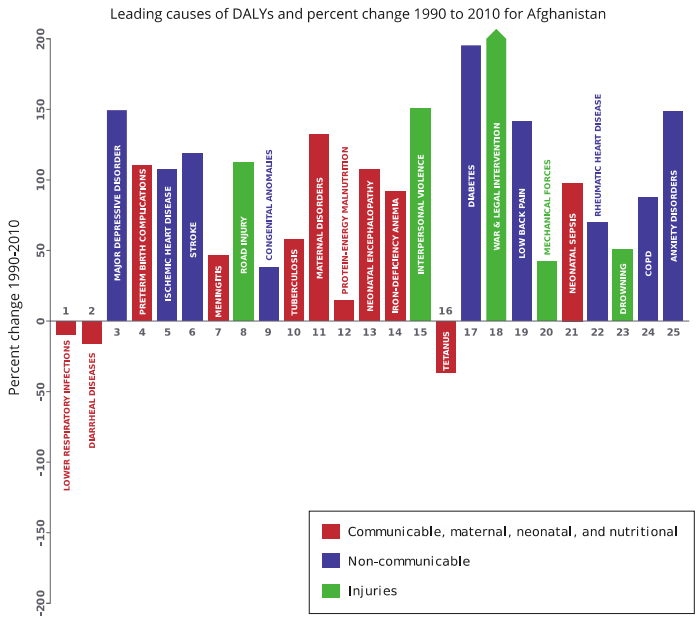
Years lived with disability (YLDs) are estimated by weighting the prevalence of different conditions based on severity. The top five leading causes of YLDs in Afghanistan are major depressive disorder, iron-deficiency anemia, low back pain, anxiety disorders, and tuberculosis.



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)

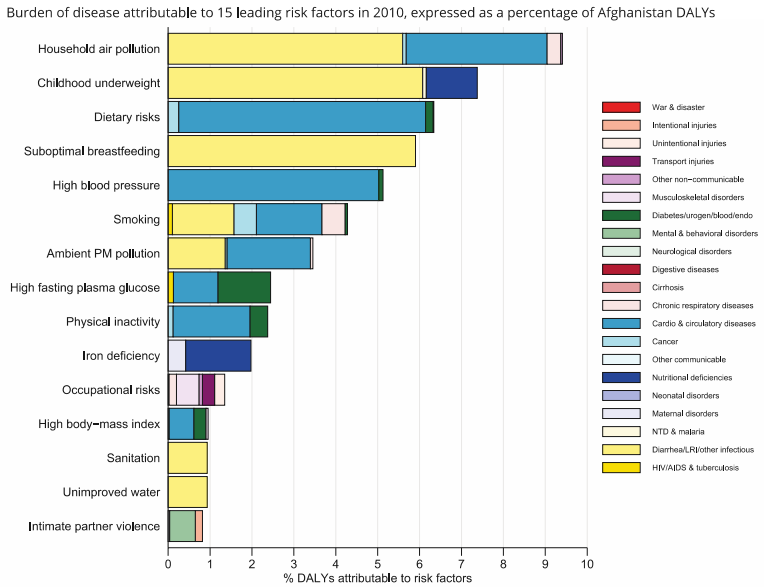
Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Afghanistan, the top three causes of DALYs in 2010 were lower respiratory infections, diarrheal diseases, and major depressive disorder. Two causes that appeared in the 10 leading causes of DALYs in 2010 and not 1990 were road injury and tuberculosis.



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 Factor

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



The graph shows the top 15 risk factors for Afghanistan. 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 Afghanistan against other ECO countries provides key insight into public health successes and areas where Afghanistan might be falling behind. The table identifies Afghanistan's rank across 10 countries, with 1 indicating the best rank and 10 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.

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
Afghanistan	**1,931**	**10**	**1,668**	**10**	**68,958**	**10**	**52,078**	**10**	**17,727**	**10**	**17,252**	**10**	**51.9**	**10**	**57.7**	**10**	**42.4**	**10**	**47.3**	**10**
Azerbaijan	961	3	695	3	31,387	4	20,272	3	12,212	3	11,620	2	66.7	4	72.5	3	57.4	3	62.5	3
Iran	934	1	640	2	29,033	1	16,780	2	13,288	9	12,619	9	67.5	1	74.4	1	57.2	5	63.2	2
Kazakhstan	1,043	5	1,043	9	31,524	5	29,881	7	11,955	2	11,587	1	66.2	5	66.7	8	57.3	4	58.2	7
Kyrgyzstan	1,047	6	999	8	33,446	6	30,037	8	12,606	7	12,336	8	65.5	6	66.9	7	56.2	6	57.6	8
Pakistan	1,120	8	982	7	41,231	9	33,518	9	12,877	8	12,323	7	62.3	9	65.7	9	53.3	9	56.5	9
Tajikistan	1,067	7	911	4	38,138	7	27,409	6	12,331	4	12,296	6	63.8	7	68.3	6	54.8	7	58.7	6
Turkey	942	2	628	1	30,025	3	16,760	1	12,442	6	11,885	3	67.1	3	74.4	1	57.6	2	63.9	1
Turkmenistan	1,144	9	919	6	39,780	8	24,522	4	11,911	1	11,933	4	62.8	8	69.3	4	54.4	8	60	4
Uzbekistan	972	4	911	5	29,477	2	26,063	5	12,381	5	12,150	5	67.3	2	68.8	5	57.8	1	59.3	5

This figure shows the rank of Afghanistan relative to the other ECO member states as the 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 Afghanistan 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 10 as the worst.

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 1990										
Country	Lower respiratory infections	Diarrheal diseases	Malaria	Tetanus	Preterm birth complications	Major depressive disorder	Meningitis	Congenital anomalies	Ischemic heart disease	Stroke
Afghanistan	**10**	**10**	**10**	**10**	**7**	**10**	**10**	**9**	**10**	**10**
Azerbaijan	7	5	5	6	4	3	3	5	8	3
Iran	1	1	2	8	2	**9**	2	10	3	4
Kazakhstan	3	2	1	2	3	7	1	8	4	6
Kyrgyzstan	6	6	6	3	6	6	4	4	2	9
Pakistan	4	8	9	9	10	1	**7**	7	1	1
Tajikistan	9	9	8	4	9	2	8	2	5	5
Turkey	2	4	3	7	8	8	9	6	6	8
Turkmenistan	8	7	7	5	5	4	6	3	9	2
Uzbekistan	5	3	4	1	1	5	5	1	7	7

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 2010										
Country	Lower respiratory infections	Diarrheal diseases	Major depressive disorder	Preterm birth complications	Ischemic heart disease	Stroke	Meningitis	Road injury	Congenital anomalies	Tuberculosis
Afghanistan	**10**	**9**	**10**	**9**	**9**	**10**	**10**	**10**	**5**	**10**
Azerbaijan	5	5	2	6	4	4	4	2	3	3
Iran	1	1	9	4	3	2	1	9	7	1
Kazakhstan	3	4	1	5	8	7	3	8	10	8
Kyrgyzstan	6	6	3	8	6	9	6	7	4	7
Pakistan	7	10	4	10	1	1	9	3	8	9
Tajikistan	8	8	5	7	5	6	8	4	9	6
Turkey	2	2	8	3	2	5	7	1	6	2
Turkmenistan	4	7	7	2	10	3	2	5	1	4
Uzbekistan	9	3	6	1	7	8	5	6	2	5

Ranking legend		1-3		4-7		8-10

Republic of Azerbaijan

General View

Azerbaijan is bordered by the Caspian Sea in east, by Iran in south, by Armenia in west, and Georgia and Russia in the north. The population of the country has been estimated as about 9.5 million to the end of 2014. The Azeri autonomous republic of Naxçivan forms an enclave within the Republic of Armenia; in a small part in west it borders Turkey. With an area of 86,600 km² it is slightly bigger than Austria or slightly smaller than the U.S. state of Maine. Azerbaijan has a population of almost 8.4 million people; capital city is Baku. Spoken languages are Azeri 90% (official), Russian 2%. The capital of Azerbaijan is Baku. [11]

History

The historical territories of Azerbaijan, bordered on the Great Caucasus from the North, the Alagoz chain, the basin of the lake Goycha and the Eastern Anatoly from the west, the Caspian Sea from the East and Sultaniye-Zanjan-Hamadan from the south, is a place of the primary cultures which gave the start to modern civilization. In those territories historically belonged to Azerbaijan people they established rich distinctive culture and the state system. Sounding of 'Azerbaijan' regularly changed along the history. Historical sources reflect former names of Azerbaijan as Andirpatian, Atropatena, Adirbijan and Azirbijan. [12]

Culture

One of the world's most ancient nations - the nation of Azerbaijan - has the right to feel proud for its history, material and cultural monuments, literature, arts and music heritage. In spite of a long and difficult way undergone by different types of arts in Azerbaijan, they still represent a unity and provide outstanding opportunities for the creation of a full idea of fine arts of Azerbaijan. The folk arts of Azerbaijan are multi-colored, complete and rich, as its natural resources. The folk art is connected with daily life of people and daily life occupies a very special life in the fine arts as well. [13]

Political System

The government of the Republic of Azerbaijan is organized at the base of principles of separation of power. According to the traditional concept of the separation of power, the Constitution determines that the executive power is held by the President of the Republic of Azerbaijan, the legislative power is carried out by the Parliament of the Republic of Azerbaijan - Milli Majlis of the Republic of Azerbaijan, and the judicial power is held by the independent courts. The legislative power of the Republic of Azerbaijan is held by the Milli Majlis of the Republic of Azerbaijan. [14]

Economy

After restoration of independence in 1991, the Republic of Azerbaijan began to realize its sovereign rights in economic field and to implement independent policy. The main directions of this policy are organization of the economic system based on different types of property, transition to market economy and integration into the global economy. Economically, the years after the independence can be divided into two main periods. The period of 1991-1995 was characterized by economic chaos and regression. The period after 1996 is known for an increase in macroeconomic stability and dynamic economic development. [15]

Health System

Government health expenditure as a share of gross domestic product (GDP) was only around 4%. The main sources of funding for health care in Azerbaijan are out of pocket payments (61.5% in 2007) and general government expenditure (31.5% in 2007); the role of voluntary health insurance and donor funding is small. In 2008, the share of budgetary allocation for health controlled by the Ministry of Health represented around 63% of all expenditure. The remaining 37% went to the 65 local government administrations, which fund primary and secondary state facilities within their district boundaries. [16]

Components of health system in the ECO member states at a glance *

	Total expenditure on health as % of gross domestic product (2010)	General government expenditure on health as % of total expenditure on health (2010)	Out-of-pocket expenditure as % of private expenditure on health (2010)	Per capita total expenditure on health at average exchange rate (US$)	Physicians per 100,000 population (2005-12)	Hospital beds per 100,000 population (2005-12)	Antiretroviral therapy coverage among people with advanced HIV infection (%) 2011	Unmet need for family planning (%) 2005-2012	Population without access to improved drinking-water sources (%)	Population without access to improved sanitation (%)
Afghanistan	10.4	22.5	94	44	1.9	4	6	N/A	39	72
Azerbaijan	**5.3**	**21.9**	**88.6**	**307**	**33.8**	**46**	**28**	**15**	**20**	**18**
Iran	5.3	40.2	97	302	8.9	17	7	N/A	5	<2
Kazakhstan	4.3	59.1	98.8	395	38.4	76	27	N/A	5	3
Kyrgyzstan	6.7	55.7	87.3	60	24.7	48	23	N/A	11	7
Pakistan	1	76.6	N/A	10	8.1	6	10	25	9	53
Tajikistan	6	26.7	90.7	40	19	55	22	N/A	34	5
Turkey	6.7	74.8	64.4	668	17.1	25	50	6	<2	9
Turkmenistan	2.5	60.4	100	105	N/A	41	N/A	N/A	29	<2
Uzbekistan	5.6	49	90.2	80	25.4	45	N/A	N/A	13	<2

* Source: The World Health Statistics 2013, World Health Organization

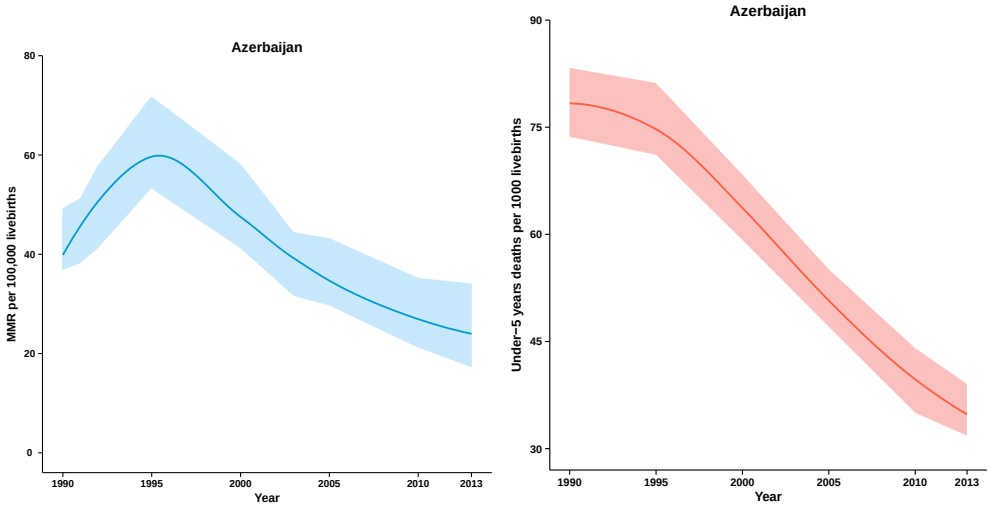
Health Status

Profile Overview

- In terms of the number of years of life lost (YLLs) due to premature death in Azerbaijan, ischemic heart disease, lower respiratory infections, and cerebrovascular disease 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 77% from 1990 to 2010.
- The leading risk factor in Azerbaijan is dietary risks.

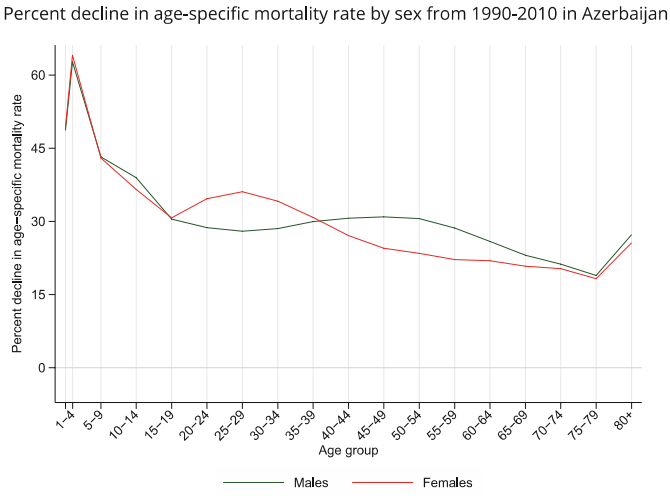
Maternal and Under-five Mortality Rates

Drawing on the graphs, Under-5 mortality rate per 100,000 was decreasing during the above-mentioned period of the time, as it decreased from 1699.18 in 1990 to 828.679 in 2010. Despite the increasing trend during the first 5 years, Maternal Mortality Rate per 100,000 live births was decreasing among women in Azerbaijan from 1995 to 2013.



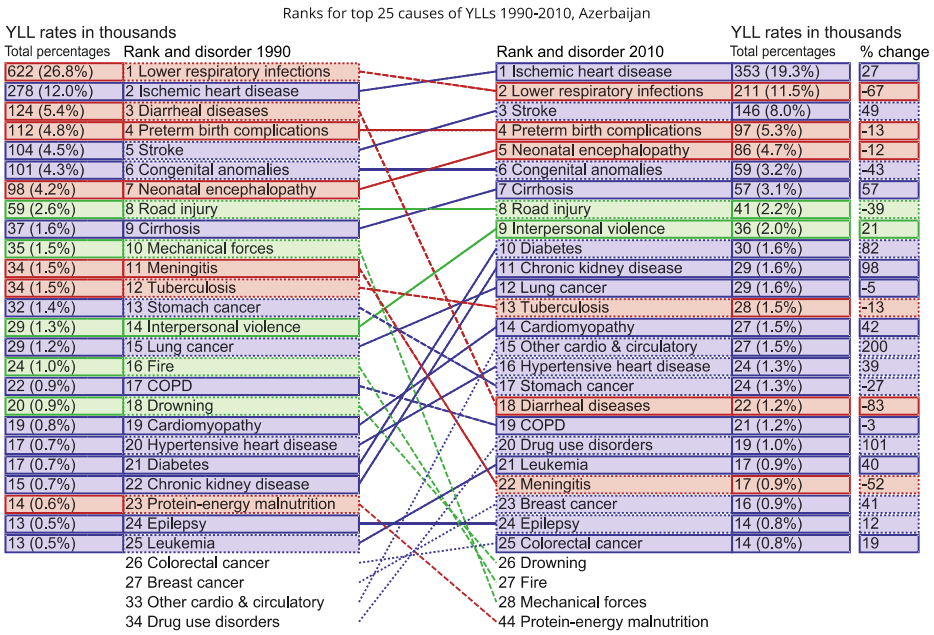
All-Cause Mortality Rate

- 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 females aged 1-4 years (64%). Females aged 75-79 years saw the smallest decrease in mortality rate (18%).



Causes of Premature Death

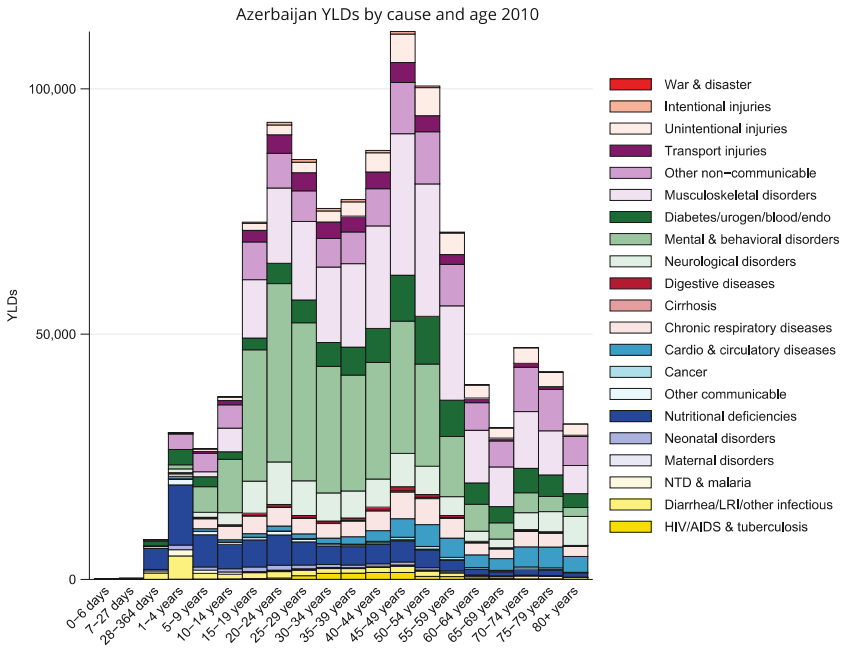
Years of life lost (YLLs) quantify premature mortality by weighting younger deaths more than older deaths.



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)

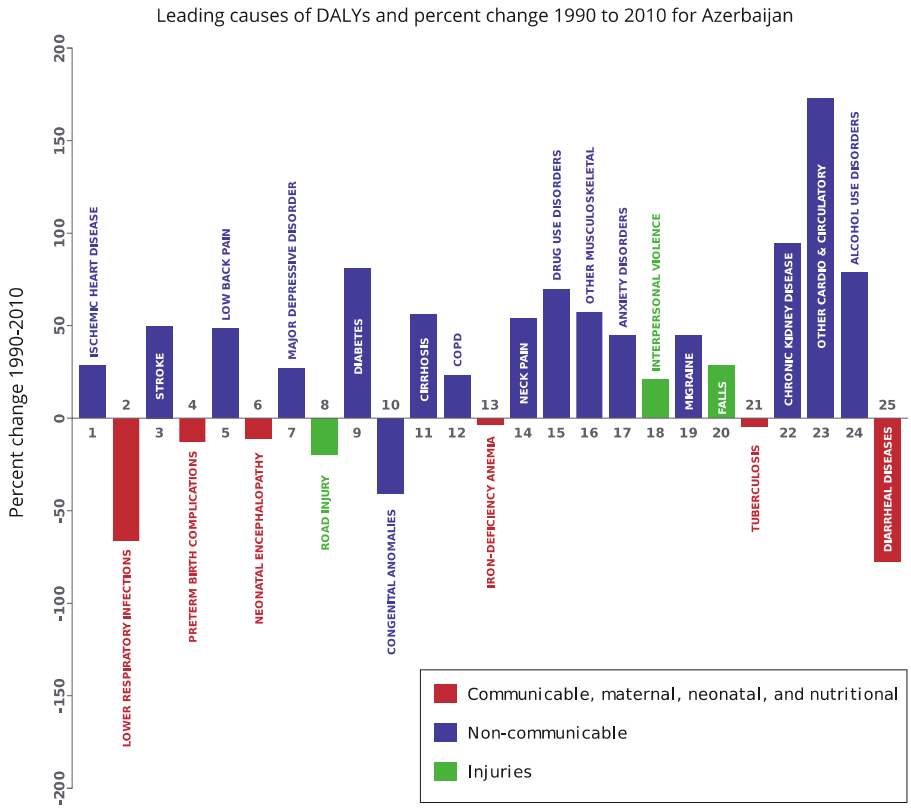
Years lived with disability (YLDs) are estimated by weighting the prevalence of different conditions based on severity. The top five leading causes of YLDs in Azerbaijan are low back pain, major depressive disorder, iron-deficiency anemia, neck pain, and other musculoskeletal disorders.



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 Azerbaijan, the top three causes of DALYs in 2010 were ischemic heart disease, lower respiratory infections, and cerebrovascular disease. The only cause to appear in the 10 leading causes of DALYs in 2010 and not 1990 was diabetes mellitus.

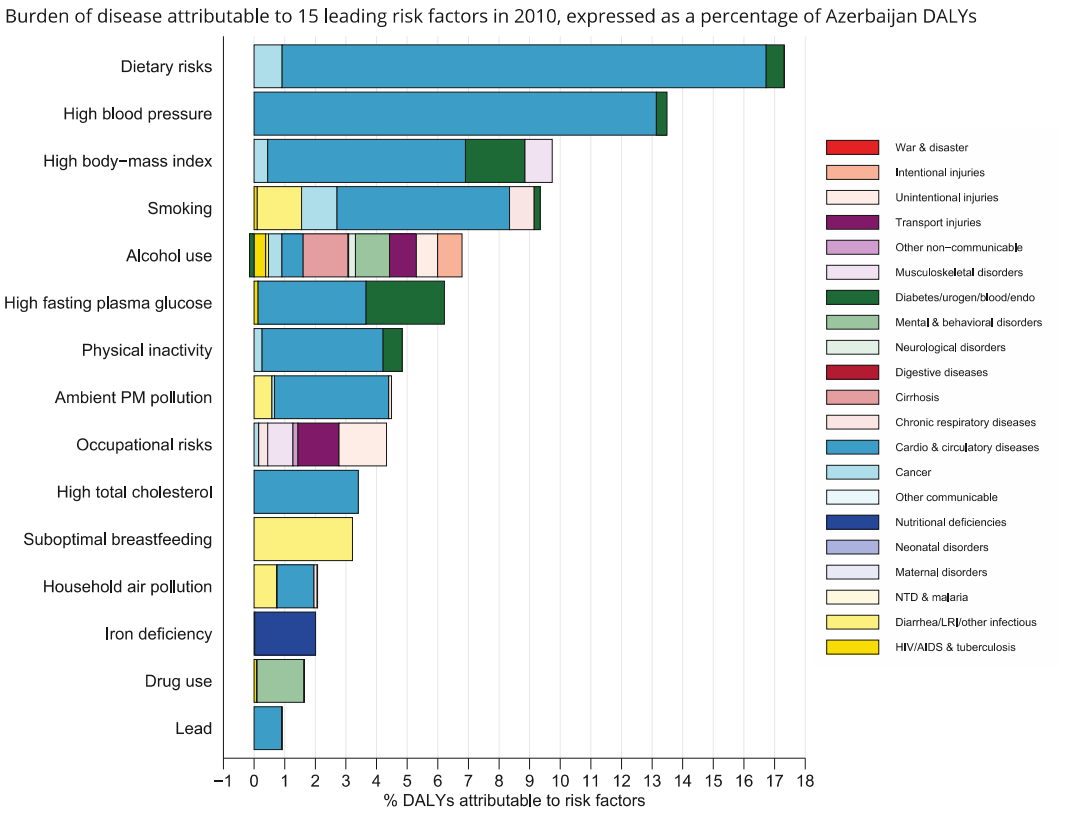


The top 25 causes of DALYs are ranked from left to right in order of the number of DALYs they contributed in 2010. Bars going up show the percent by which DALYs have increased since 1990. Bars going down show the percent by which DALYs have decreased. Globally, non-communicable diseases and injuries 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 Azerbaijan are dietary risks, high blood pressure, and high body-mass index. The leading risk factors for children under 5 and adults aged 15-49 years were suboptimal breastfeeding and occupational risks, respectively, in 2010. The graph shows the top 15 risk factors for Azerbaijan. 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 Azerbaijan against other ECO countries provides key insight into public health successes and areas where Azerbaijan might be falling behind. The table identifies Azerbaijan's rank across 9 other ECO countries as comparator countries, for five metrics of interest, with 1 indicating the best rank and 10 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.

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
Afghanistan	1,931	10	1,668	10	68,958	10	52,078	10	17,727	10	17,252	10	51.9	10	57.7	10	42.4	10	47.3	10
Azerbaijan	**961**	**3**	**695**	**3**	**31,387**	**4**	**20,272**	**3**	**12,212**	**3**	**11,620**	**2**	**66.7**	**4**	**72.5**	**3**	**57.4**	**3**	**62.5**	**3**
Iran	934	1	640	2	29,033	1	16,780	2	13,288	9	12,619	9	67.5	1	74.4	1	57.2	5	63.2	2
Kazakhstan	1,043	5	1,043	9	31,524	5	29,881	7	11,955	2	11,587	1	66.2	5	66.7	8	57.3	4	58.2	7
Kyrgyzstan	1,047	6	999	8	33,446	6	30,037	8	12,606	7	12,336	8	65.5	6	66.9	7	56.2	6	57.6	8
Pakistan	1,120	8	982	7	41,231	9	33,518	9	12,877	8	12,323	7	62.3	9	65.7	9	53.3	9	56.5	9
Tajikistan	1,067	7	911	4	38,138	7	27,409	6	12,331	4	12,296	6	63.8	7	68.3	6	54.8	7	58.7	6
Turkey	942	2	628	1	30,025	3	16,760	1	12,442	6	11,885	3	67.1	3	74.4	1	57.6	2	63.9	1
Turkmenistan	1,144	9	919	6	39,780	8	24,522	4	11,911	1	11,933	4	62.8	8	69.3	4	54.4	8	60	4
Uzbekistan	972	4	911	5	29,477	2	26,063	5	12,381	5	12,150	5	67.3	2	68.8	5	57.8	1	59.3	5

This figure shows the rank of Azerbaijan 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 Azerbaijan 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 10 as the worst.

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 1990										
Country	Lower respiratory infections	Ischemic heart disease	Diarrheal diseases	Preterm birth complications	Stroke	Congenital anomalies	Neonatal encephalopathy	Road injury	Major depressive disorder	Low back pain
Afghanistan	10	10	10	7	10	9	3	10	10	7
Azerbaijan	**7**	**8**	**5**	**4**	**3**	**5**	**4**	**3**	**3**	**4**
Iran	1	3	1	2	4	10	1	9	9	10
Kazakhstan	3	4	2	3	6	8	6	7	7	8
Kyrgyzstan	6	2	6	6	9	4	7	8	6	2
Pakistan	4	1	8	10	1	7	10	1	1	1
Tajikistan	9	5	9	9	5	2	5	4	2	5
Turkey	2	6	4	8	8	6	2	2	8	9
Turkmenistan	8	9	7	5	2	3	9	6	4	6
Uzbekistan	5	7	3	1	7	1	8	5	5	3

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 2010										
Country	Ischemic heart disease	Lower respiratory infections	Stroke	Preterm birth complications	Low back pain	Neonatal encephalopathy	Major depressive disorder	Road injury	Diabetes	Congenital anomalies

Afghanistan	9	10	10	9	7	3	10	10	10	5
Azerbaijan	**4**	**5**	**4**	**6**	**2**	**5**	**2**	**2**	**5**	**3**
Iran	3	1	2	4	10	2	9	9	4	7
Kazakhstan	8	3	7	5	8	7	1	8	2	10
Kyrgyzstan	6	6	9	8	4	8	3	7	1	4
Pakistan	1	7	1	10	1	10	4	3	9	8
Tajikistan	5	8	6	7	3	6	5	4	7	9
Turkey	2	2	5	3	9	1	8	1	3	6
Turkmenistan	10	4	3	2	5	4	7	5	6	1
Uzbekistan	7	9	8	1	6	9	6	6	8	2

Ranking legend		1-3		4-7		8-10

Islamic Republic of Iran

General View

Iran, a country slightly larger than Alaska, is located in the Middle East, bordering the Gulf of Oman and the Persian Gulf in the south and the Caspian Sea in the north. It covers an area of 1.648 million square kilometers. Its neighbors are Turkmenistan, Azerbaijan and Armenia on the north, Afghanistan and Pakistan on the east, and Turkey and Iraq on the west. Tehran is the capital, the country's largest city. The population of Iran has been estimated as more than 77 million in 2013. Tehran is the capital of Iran. [17]

History

Recent archaeological studies indicate that as early as 10,000 BC, people lived on the southern shores of the Caspian, one of the few regions of the world, which according to scientists escaped the Ice Age. They were probably the first men in the history of mankind to engage in agriculture and animal husbandry. [17]

Culture

Iranian culture has long been a predominant culture of the Middle East and Central Asia, with Persian considered the language of intellectuals during much of the 2nd millennium, and the language of religion and the populace before that. The Sassanid influence carried forward to the Islamic world. Much of what later became known as Islamic learning, such as philology, literature, jurisprudence, philosophy, medicine, architecture and the sciences were based on some of the practices taken from the Sassanid Persians to the broader Muslim world. [17]

Political System

The existing political system of the Islamic Republic is based on the 1979 Constitution. The Supreme Leader is Commander-in-Chief of the armed forces, controls the military intelligence and security operations; and has sole power to declare war or peace. The Assembly of Experts elects and dismisses the Supreme Leader on the basis of qualifications and popular esteem. After the Supreme Leader, the Constitution defines the President of Iran as the highest state authority, elected by universal suffrage for a term of four. The legislature of Iran is a unicameral body. The Majlis of Iran comprises 290 members elected for four-year terms. The Majlis drafts legislation, ratifies international treaties, and approves the national budget. All Majlis candidates and all legislation from the assembly must be approved by the Guardian Council. [18,19]

Economy

Iran is the second largest economy in the Middle East and North Africa (MENA) region after Saudi Arabia, with an estimated Gross Domestic Product (GDP) of USD 366 billion in 2013-14. It also has the second largest population of the region after Egypt, with an

estimated 77.3 million individuals in 2013. Its economy is characterized by a large hydrocarbon sector, small scale agriculture and services sectors, and a noticeable state presence in manufacturing and financial services. Iran ranks second in the world in natural gas reserves and fourth in proven crude oil reserves. Aggregate GDP and government revenues still depend to a large extent on oil revenues and are therefore intrinsically volatile.[20]

Health System

The Ministry of Health and Medical Education delegates its implementation to medical universities across the country. There is at least one medical university in every province. The president of a medical university is the highest health authority in the province, who reports to the Minister of Health and Medical Education. The president of the medical university is in charge of public health, health care provision in public facilities, and medical education. Health care and public health services are provided through a nation-wide network. This network consists of a referral system, starting at primary care centers in the periphery going through secondary-level hospitals in the provincial capital and tertiary hospitals in major cities. [21]

Components of health system in the ECO member states at a glance *

	Total expenditure on health as % of gross domestic product (2010)	General government expenditure on health as % of total expenditure on health (2010)	Out-of-pocket expenditure as % of private expenditure on health (2010)	Per capita total expenditure on health at average exchange rate (US$)	Physicians per 100,000 population (2005-12)	Hospital beds per 100,000 population (2005-12)	Antiretroviral therapy coverage among people with advanced HIV infection (%) 2011	Unmet need for family planning (%) 2005-2012	Population without access to improved drinking-water sources (%)	Population without access to improved sanitation (%)
Afghanistan	10.4	22.5	94	44	1.9	4	6	N/A	39	72
Azerbaijan	5.3	21.9	88.6	307	33.8	46	28	15	20	18
Iran	**5.3**	**40.2**	**97**	**302**	**8.9**	**17**	**7**	**N/A**	**5**	**<2**
Kazakhstan	4.3	59.1	98.8	395	38.4	76	27	N/A	5	3
Kyrgyzstan	6.7	55.7	87.3	60	24.7	48	23	N/A	11	7
Pakistan	1	76.6	N/A	10	8.1	6	10	25	9	53
Tajikistan	6	26.7	90.7	40	19	55	22	N/A	34	5
Turkey	6.7	74.8	64.4	668	17.1	25	50	6	<2	9
Turkmenistan	2.5	60.4	100	105	N/A	41	N/A	N/A	29	<2
Uzbekistan	5.6	49	90.2	80	25.4	45	N/A	N/A	13	<2

* Source: The World Health Statistics 2013, World Health Organization

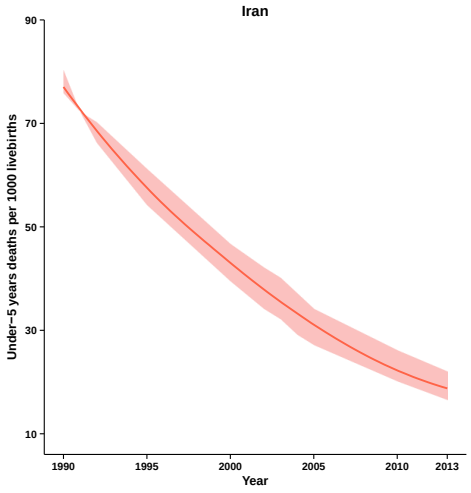
Health status

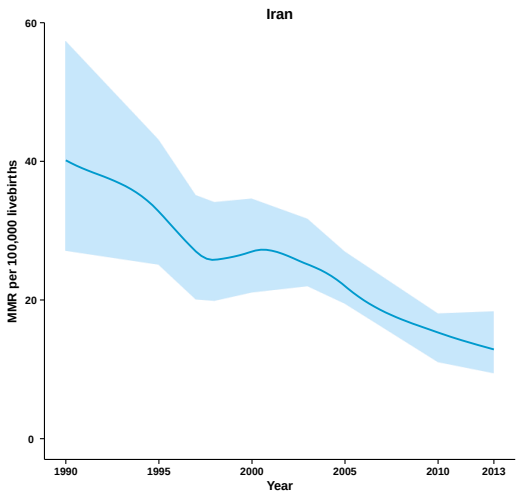
Profile Overview

- In terms of the number of years of life lost (YLLs) due to premature death in Iran, ischemic heart disease, road injury, and congenital anomalies were the highest-ranking causes in 2010.
- Of the 25 most important causes of burden, as measured by disability-adjusted life years (DALYs), lower respiratory infections showed the largest decrease, falling by 65% from 1990 to 2010.
- The leading risk factor in Iran is dietary risks.

Maternal and Under-five Mortality Rates

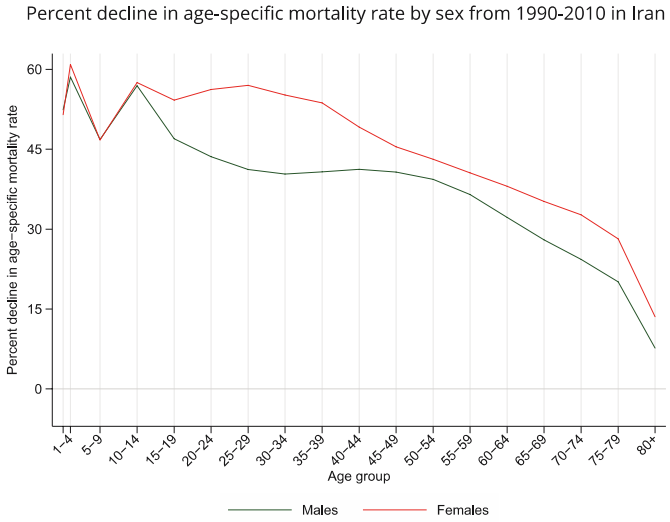
Drawing on the graphs, Under-5 mortality rate per 100,000 was decreasing from 1156.84 in 1990 to 550.932 in 2010. Maternal Mortality Rate per 100,000 live births decreased among women from 1990 to 2013 in Iran as well.





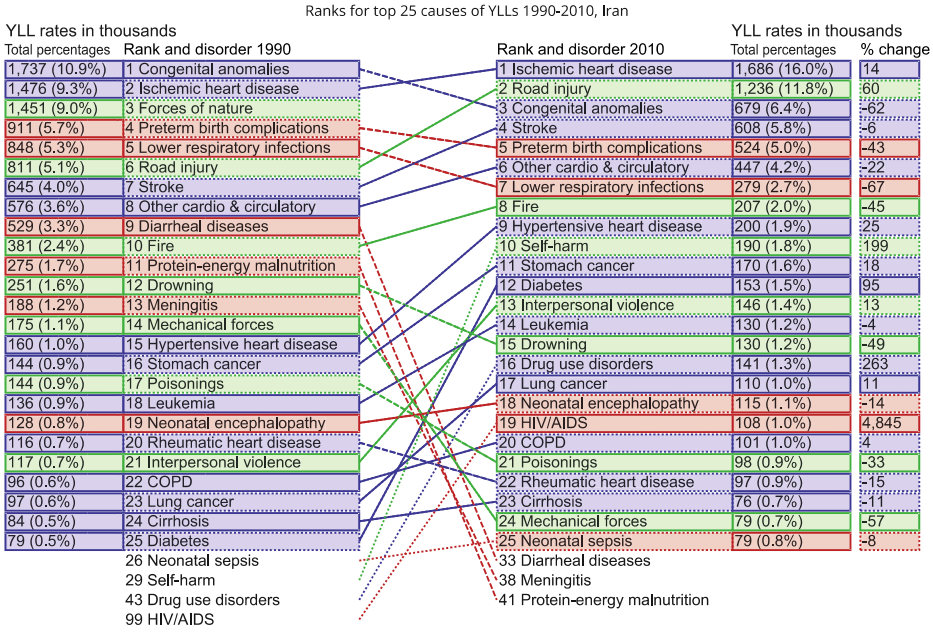
All-Cause Mortality Rate

- 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 females aged 1-4 years (61%). Males aged 80+ years saw the smallest decrease in mortality rate (8%).



Causes of Premature Death

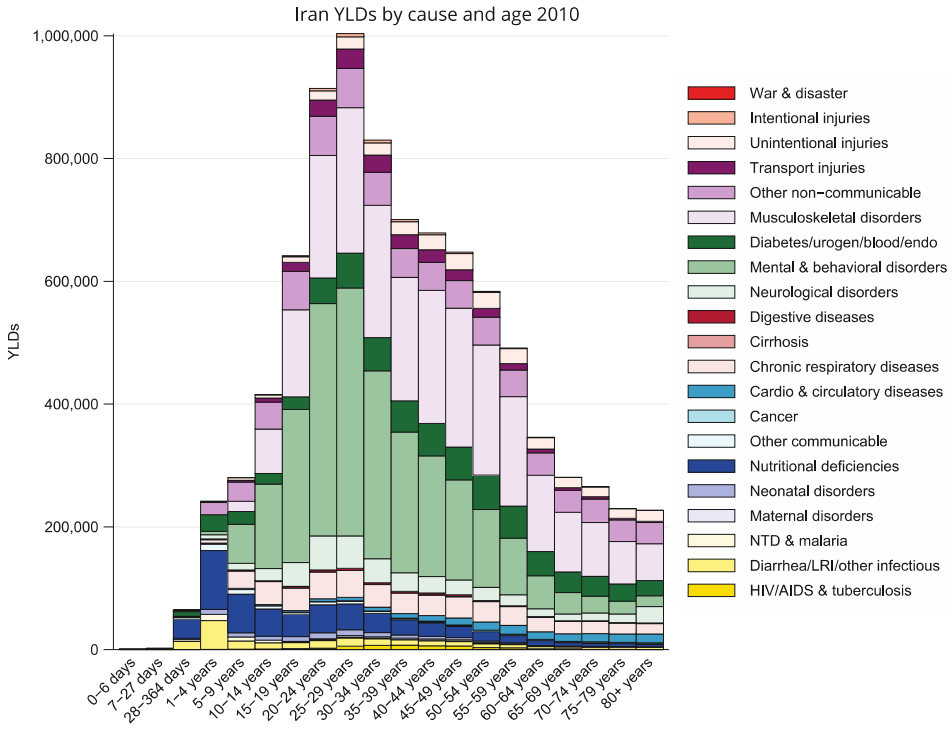
Years of life lost (YLLs) quantify premature mortality by weighting younger deaths more than older deaths.


Ranks for top 25 causes of YLLs 1990-2010, Iran
YLL rates in thousands
Total percentages
Rank and disorder 1990
1,737 (10.9%) 1 Congenital anomalies
1,476 (9.3%) 2 Ischemic heart disease
1,451 (9.0%) 3 Forces of nature
911 (5.7%) 4 Preterm birth complications
848 (5.3%) 5 Lower respiratory infections
811 (5.1%) 6 Road injury
645 (4.0%) 7 Stroke
576 (3.6%) 8 Other cardio & circulatory
529 (3.3%) 9 Diarrheal diseases
381 (2.4%) 10 Fire
275 (1.7%) 11 Protein-energy malnutrition
251 (1.6%) 12 Drowning
188 (1.2%) 13 Meningitis
175 (1.1%) 14 Mechanical forces
160 (1.0%) 15 Hypertensive heart disease
144 (0.9%) 16 Stomach cancer
144 (0.9%) 17 Poisonings
136 (0.9%) 18 Leukemia
128 (0.8%) 19 Neonatal encephalopathy
116 (0.7%) 20 Rheumatic heart disease
117 (0.7%) 21 Interpersonal violence
96 (0.6%) 22 COPD
97 (0.6%) 23 Lung cancer
84 (0.5%) 24 Cirrhosis
79 (0.5%) 25 Diabetes
26 Neonatal sepsis
29 Self-harm
43 Drug use disorders
99 HIV/AIDS
Rank and disorder 2010
1 Ischemic heart disease
2 Road injury
3 Congenital anomalies
4 Stroke
5 Preterm birth complications
6 Other cardio & circulatory
7 Lower respiratory infections
8 Fire
9 Hypertensive heart disease
10 Self-harm
11 Stomach cancer
12 Diabetes
13 Interpersonal violence
14 Leukemia
15 Drowning
16 Drug use disorders
17 Lung cancer
18 Neonatal encephalopathy
19 HIV/AIDS
20 COPD
21 Poisonings
22 Rheumatic heart disease
23 Cirrhosis
24 Mechanical forces
25 Neonatal sepsis
33 Diarrheal diseases
38 Meningitis
41 Protein-energy malnutrition
YLL rates in thousands
Total percentages
% change
1,686 (16.0%) 14
1,236 (11.8%) 60
679 (6.4%) -62
608 (5.8%) -6
524 (5.0%) -43
447 (4.2%) -22
279 (2.7%) -67
207 (2.0%) -45
200 (1.9%) 25
190 (1.8%) 199
170 (1.6%) 18
153 (1.5%) 95
146 (1.4%) 13
130 (1.2%) -4
130 (1.2%) -49
141 (1.3%) 263
110 (1.0%) 11
115 (1.1%) -14
108 (1.0%) 4,845
101 (1.0%) 4
98 (0.9%) -33
97 (0.9%) -15
76 (0.7%) -11
79 (0.7%) -57
79 (0.8%) -8

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

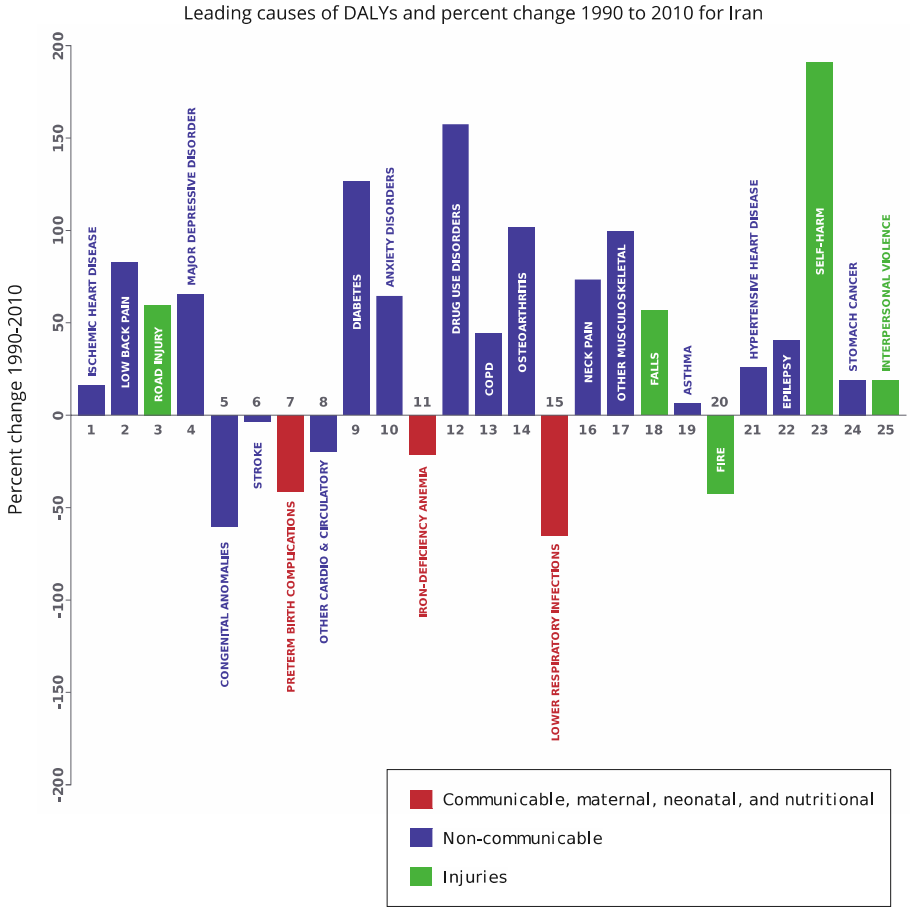


The size of the colored portion in each bar represents the number of YLDs attributable to each cause. The height of each bar shows which age groups had the most YLDs in 2010. The causes are aggregated. For example, musculoskeletal disorders include low back pain and neck pain.

Disability-Adjusted Life Years (DALYs)

Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Iran, the top three causes of DALYs in 2010

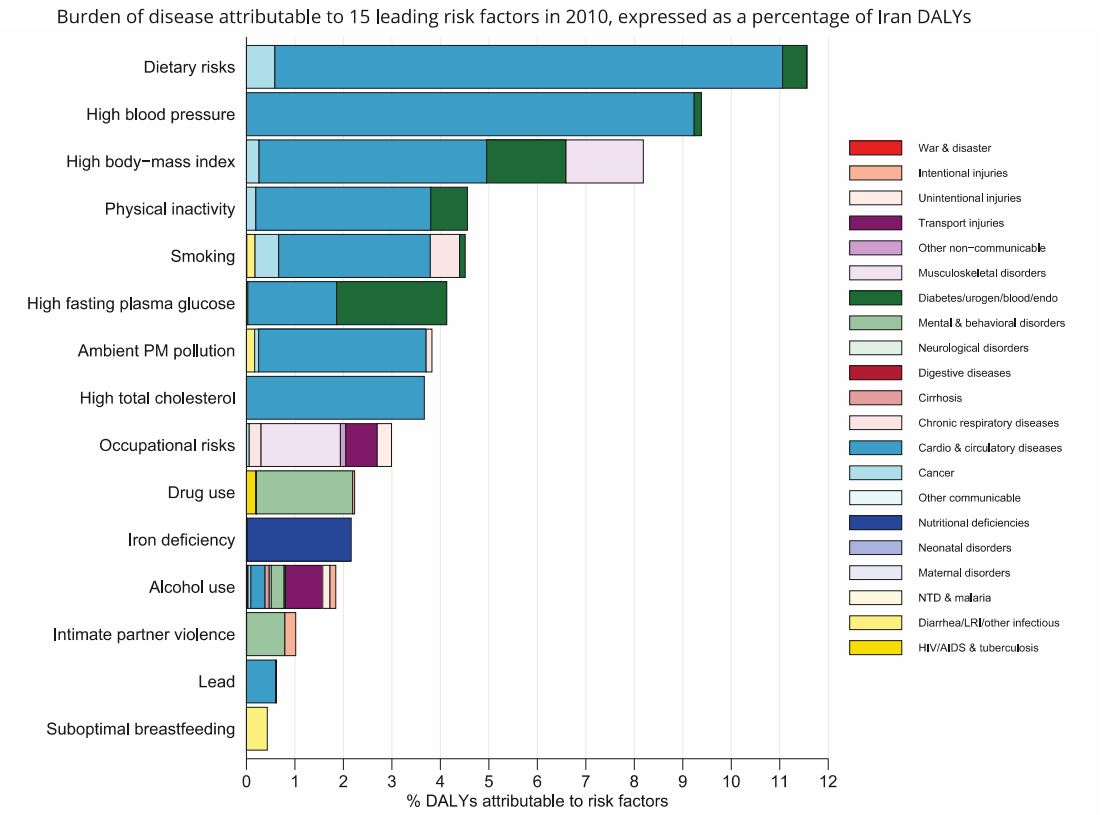
were ischemic heart disease, low back pain, and road injury. The causes that were in the 10 leading causes of DALYs in 2010 and not 1990 were other cardiovascular and circulatory diseases, diabetes mellitus, and anxiety disorders.



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 Iran are dietary risks, high blood pressure, and high body-mass index. The leading risk factors for children under 5 and adults aged 15-49 years were childhood underweight and dietary risks, respectively, in 2010.



The graph shows the top 15 risk factors for Iran. 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 Iran against other ECO countries provides key insight into public health successes and areas where Iran might be falling behind. The table identifies Iran's rank across 9 other countries, for five metrics of interest, with 1 indicating the best rank and 10 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.

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
Afghanistan	1,931	10	1,668	10	68,958	10	52,078	10	17,727	10	17,252	10	51.9	10	57.7	10	42.4	10	47.3	10
Azerbaijan	961	3	695	3	31,387	4	20,272	3	12,212	3	11,620	2	66.7	4	72.5	3	57.4	3	62.5	3
Iran	**934**	**1**	**640**	**2**	**29,033**	**1**	**16,780**	**2**	**13,288**	**9**	**12,619**	**9**	**67.5**	**1**	**74.4**	**1**	**57.2**	**5**	**63.2**	**2**
Kazakhstan	1,043	5	1,043	9	31,524	5	29,881	7	11,955	2	11,587	1	66.2	5	66.7	8	57.3	4	58.2	7
Kyrgyzstan	1,047	6	999	8	33,446	6	30,037	8	12,606	7	12,336	8	65.5	6	66.9	7	56.2	6	57.6	8
Pakistan	1,120	8	982	7	41,231	9	33,518	9	12,877	8	12,323	7	62.3	9	65.7	9	53.3	9	56.5	9
Tajikistan	1,067	7	911	4	38,138	7	27,409	6	12,331	4	12,296	6	63.8	7	68.3	6	54.8	7	58.7	6
Turkey	942	2	628	1	30,025	3	16,760	1	12,442	6	11,885	3	67.1	3	74.4	1	57.6	2	63.9	1
Turkmenistan	1,144	9	919	6	39,780	8	24,522	4	11,911	1	11,933	4	62.8	8	69.3	4	54.4	8	60	4
Uzbekistan	972	4	911	5	29,477	2	26,063	5	12,381	5	12,150	5	67.3	2	68.8	5	57.8	1	59.3	5

This figure shows the rank of Iran relative to the other ECO countries for the leading causes of DALYs in 1990 (top) and 2010 (bottom).

- The columns are ordered by the absolute number of DALYs in Iran 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 10 as the worst.

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 1990

Country	Congenital anomalies	Ischemic heart disease	Preterm birth complications	Road injury	Lower respiratory infections	Low back pain	Major depressive disorder	Stroke	Diarrheal diseases	Other cardiovascular & circulatory
Afghanistan	9	10	7	10	10	7	10	10	10	9
Azerbaijan	5	8	4	**3**	7	**4**	3	3	5	6
Iran	**10**	**3**	**2**	**9**	**1**	**10**	**9**	**4**	**1**	**10**
Kazakhstan	8	4	3	7	3	8	7	6	2	2
Kyrgyzstan	4	2	6	8	6	2	6	9	6	3
Pakistan	7	1	10	1	4	1	1	1	8	5
Tajikistan	2	5	9	4	9	5	2	5	9	4
Turkey	6	6	8	2	2	9	8	8	4	8
Turkmenistan	3	9	5	6	8	6	4	2	7	7
Uzbekistan	1	7	1	5	5	3	5	7	3	1

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 2010

Country	Ischemic heart disease	Low back pain	Road injury	Major depressive disorder	Congenital anomalies	Stroke	Preterm birth complications	Other cardiovascular & circulatory	Diabetes	Anxiety disorders
Afghanistan	9	7	10	10	5	10	9	10	10	10
Azerbaijan	4	**2**	2	2	3	4	6	7	**5**	4
Iran	**3**	**10**	**9**	**9**	**7**	**2**	**4**	**9**	**4**	**8**

Kazakhstan	8	8	8	1	10	7	5	1	2	6
Kyrgyzstan	6	4	7	3	4	9	8	3	1	1
Pakistan	1	1	3	4	8	1	10	6	9	5
Tajikistan	5	3	4	5	9	6	7	2	7	3
Turkey	2	9	1	8	6	5	3	8	3	9
Turkmenistan	10	5	5	7	1	3	2	4	6	7
Uzbekistan	7	6	6	6	2	8	1	5	8	2
Ranking legend		1-3			4-7			8-10		

Republic of Kazakhstan

General View

The Republic of Kazakhstan, is a contiguous transcontinental country in Central Asia, with its smaller part west of the Ural River in Europe. Kazakhstan is the world's largest landlocked country by land area and the ninth largest country in the world; its territory of 2,727,300 square kilometers is larger than Western Europe. It has borders with Russia, China, Kyrgyzstan, Uzbekistan, and Turkmenistan, and also adjoins a large part of the Caspian Sea. With an estimated 17 million people as of 2013 Kazakhstan is the 61st most populous country in the world, though its population density is among the lowest, at less than 6 people per square kilometer (15 people per sq. mi.). The capital is Astana, where it was moved from Almaty in 1997. [22]

History

Kazakhstan history tells us that even before our era numerous nomadic tribes inhabited what is now Kazakhstan. The historians of antiquity called them the Saka. In 1218, Mongol-Tatar hordes led by Genghiz Khan invaded Kazakhstan. They swept over the Kazakh land with fire and sword. As a result of those aggressive campaigns Kazakhstan, like the entire Central Asian region, was incorporated in the vast empire of the Mongols known in world history as the Golden Horde. However, the Golden Horde turned out to be an unstable state. Undermined by internecine wars between the feudal lords and the liberation straggle of the conquered peoples, it eventually disintegrated into separate tribal alliances.[23]

Culture

Kazakhstan has a well-articulated culture based on the nomadic pastoral economy of the inhabitants. Islam was introduced to Kazakhstan in the 7th to 12th centuries. Kazakhs have always revered and highly valued their national customs and traditions. The main tradition of Kazakhs, which eventually transformed into a feature of national character, is hospitality. In the Kazakh society, there is an unofficial law voiced in ancient times, which says “Meet a guest as the God's messenger”. Hospitality is considered a sacred duty in the Kazakh society. At all times, the steppe inhabitants did their best to please their guest. Therefore, each traveller knew that he or she would be welcomed anywhere in the Kazakh land. [24,25]

Political System

Kazakhstan has a parliamentary system with a president as head of the State. The president serves as commander-in-chief, sets foreign policy, can initiate legislation, and appoints Kazakhstan prime minister, subject to Parliamentary approval. Kazakhstan parliament is the supreme legislative body and consists of two chambers, the Senate (Upper House) and the Mazhilis (Lower House). The 47 members of Kazakhstan Senate are indirectly elected representatives of regional assemblies and appointees of

Kazakhstan president. The Mazhilis is composed of 67 elected deputies. The prime minister is the head of the executive branch of government and is appointed by the president, with the approval of Kazakhstan parliament. [26]

Economy

Kazakhstan is an upper-middle-income country with per capita GDP of nearly US$13 thousand in 2013. Strong domestic demand coupled with increased oil output and recovered crop production, boosted economic growth from 5 percent in 2012 to 6 percent in 2013. An expansion of credit was the key driver of growth in private consumption and investment activity in 2013. Prospects of additional oil output with Kashagan coming on stream should help boost economic activity in the coming years and increase Kazakhstan's vulnerability to external shocks unless the country succeeds in diversifying its endowments from natural resources to stronger institutions and higher quality human capital. [27]

Health System

Since becoming independent, Kazakhstan has undertaken major efforts in reforming its post-Soviet health system. Two comprehensive reform programmes were developed in 2000: the National Programme for Health Care Reform and Development 2011-2015 "Salamatty Kazakhstan". Changes in health services provision included a reduction of hospital sector and an increased emphasis on primary health-care. However, inpatient facilities continue to consume the bulk of health financing. Partly resulting from changing perspectives on decentralization, levels of pooling kept changing. [28]

Components of health system in the ECO member states at a glance *

	Total expenditure on health as % of gross domestic product (2010)	General government expenditure on health as % of total expenditure on health (2010)	Out-of-pocket expenditure as % of private expenditure on health (2010)	Per capita total expenditure on health at average exchange rate (US$)	Physicians per 100,000 population (2005-12)	Hospital beds per 100,000 population (2005-12)	Antiretroviral therapy coverage among people with advanced HIV infection (%) 2011	Unmet need for family planning (%) 2005-2012	Population without access to improved drinking-water sources (%)	Population without access to improved sanitation (%)
Afghanistan	10.4	22.5	94	44	1.9	4	6	N/A	39	72
Azerbaijan	5.3	21.9	88.6	307	33.8	46	28	15	20	18
Iran	5.3	40.2	97	302	8.9	17	7	N/A	5	<2
Kazakhstan	**4.3**	**59.1**	**98.8**	**395**	**38.4**	**76**	**27**	**N/A**	**5**	**3**
Kyrgyzstan	6.7	55.7	87.3	60	24.7	48	23	N/A	11	7
Pakistan	1	76.6	N/A	10	8.1	6	10	25	9	53
Tajikistan	6	26.7	90.7	40	19	55	22	N/A	34	5
Turkey	6.7	74.8	64.4	668	17.1	25	50	6	<2	9
Turkmenistan	2.5	60.4	100	105	N/A	41	N/A	N/A	29	<2
Uzbekistan	5.6	49	90.2	80	25.4	45	N/A	N/A	13	<2

* Source: The World Health Statistics 2013, World Health Organization

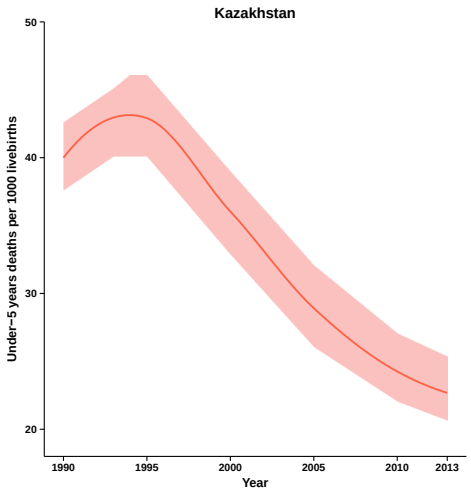
Health Status

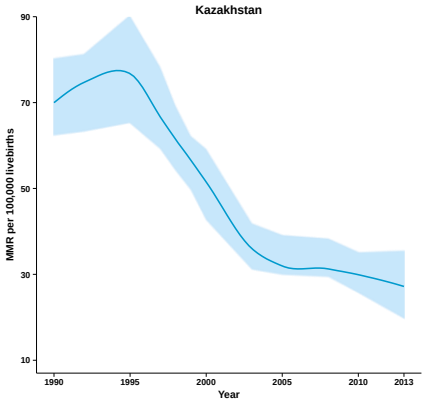
Profile Overview

- In terms of the number of years of life lost (YLLs) due to premature death in Kazakhstan, ischemic heart disease, cerebrovascular disease, 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), lower respiratory infections showed the largest decrease, falling by 59% from 1990 to 2010.
- The leading risk factor in Kazakhstan is dietary risks.

Maternal and Under-five Mortality Rates

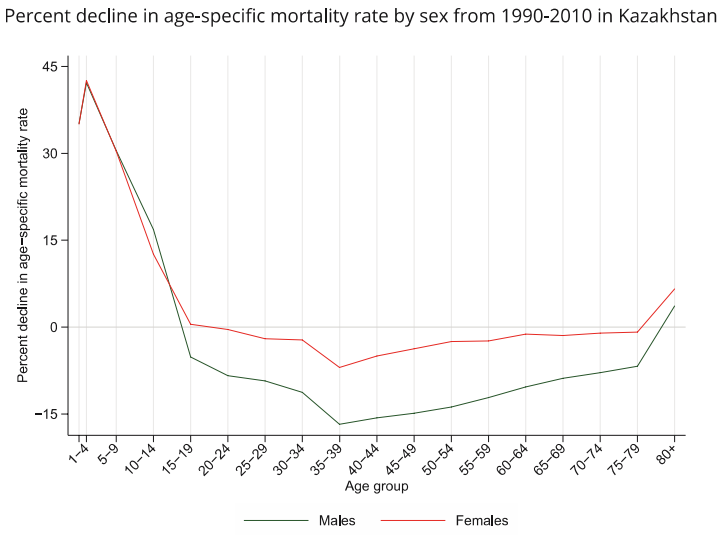
Based on the graphs, Under-5 mortality rate per 100,000 showed an increase in the first 5 years and decreased during the next years, as it decreased from 1084.09 in 1990 to 726.073 in 2010. Maternal Mortality Rate per 100,000 live births increased in the first five years and decreased among women in the year 2013 in Kazakhstan.




Kazakhstan
90
70
50
30
10
IMR per 100,000 livebirths
1990
1995
2000
2005
2010
2013
Year

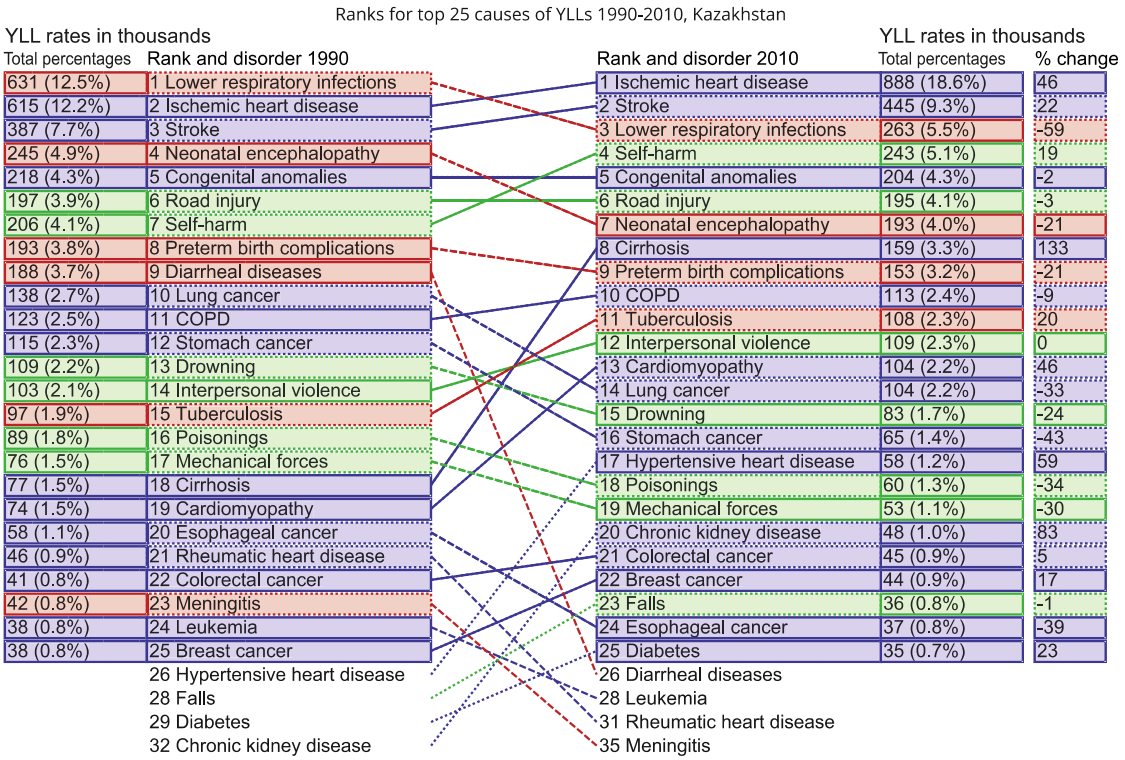
All-Cause Mortality Rate

- 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 (43%). Males aged 35-39 years saw the largest increase in mortality rate (17%).



Causes of Premature Death

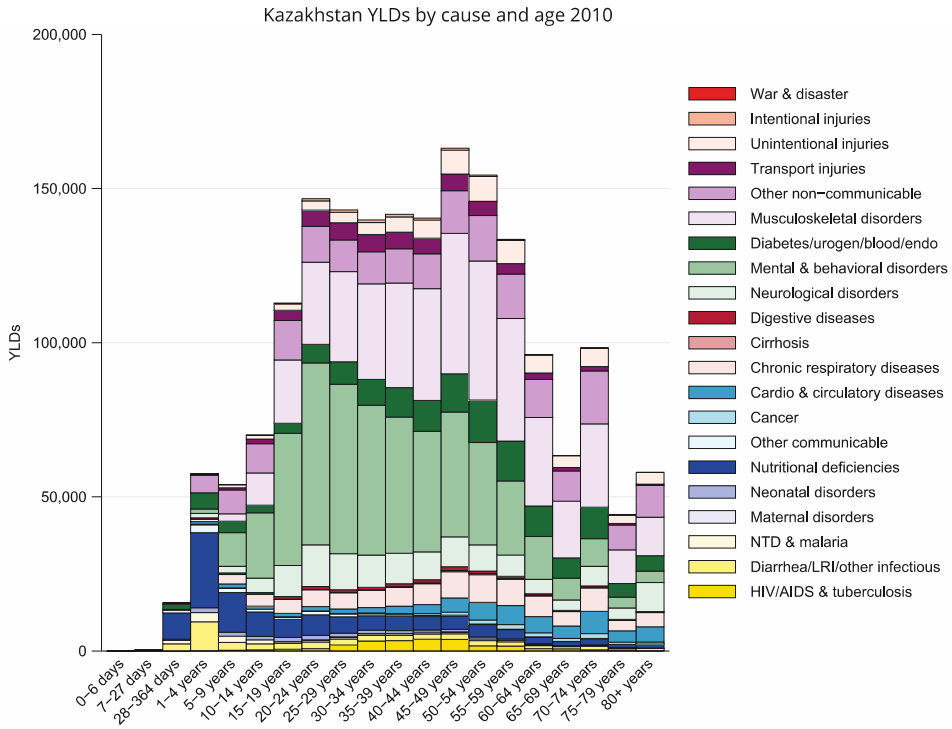
Years of life lost (YLLs) quantify premature mortality by weighting younger deaths more than older deaths.



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)

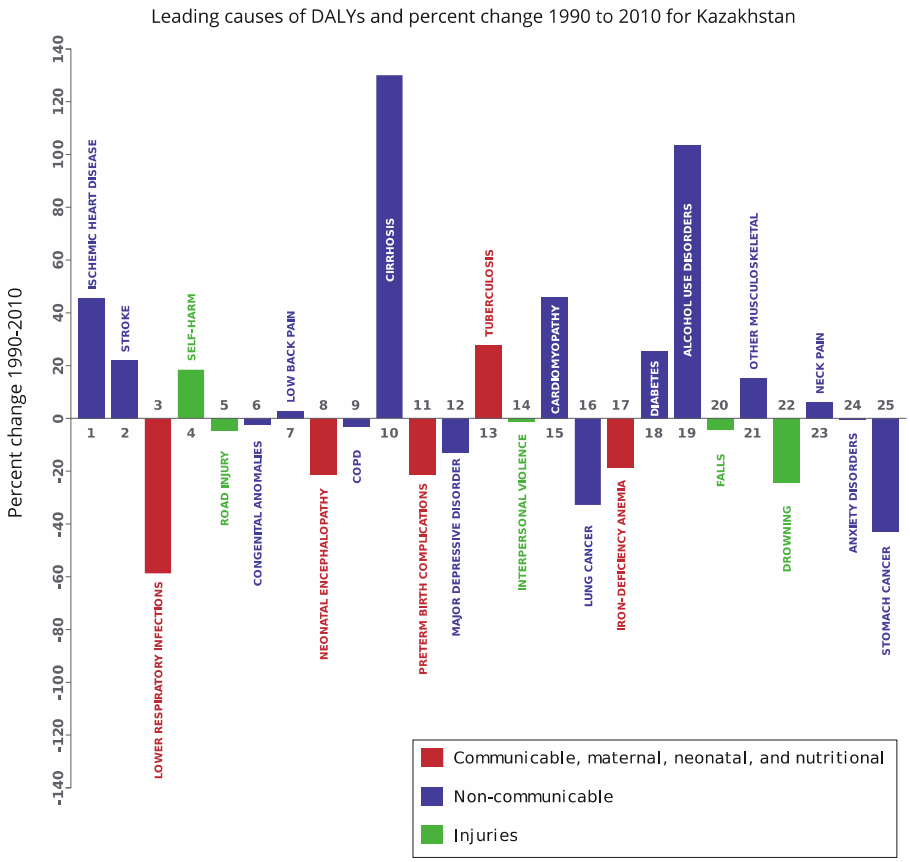
Years lived with disability (YLDs) are estimated by weighting the prevalence of different conditions based on severity. The top five leading causes of YLDs in Kazakhstan are low back pain, major depressive disorder, iron-deficiency anemia, neck pain, and chronic obstructive pulmonary disease.



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)

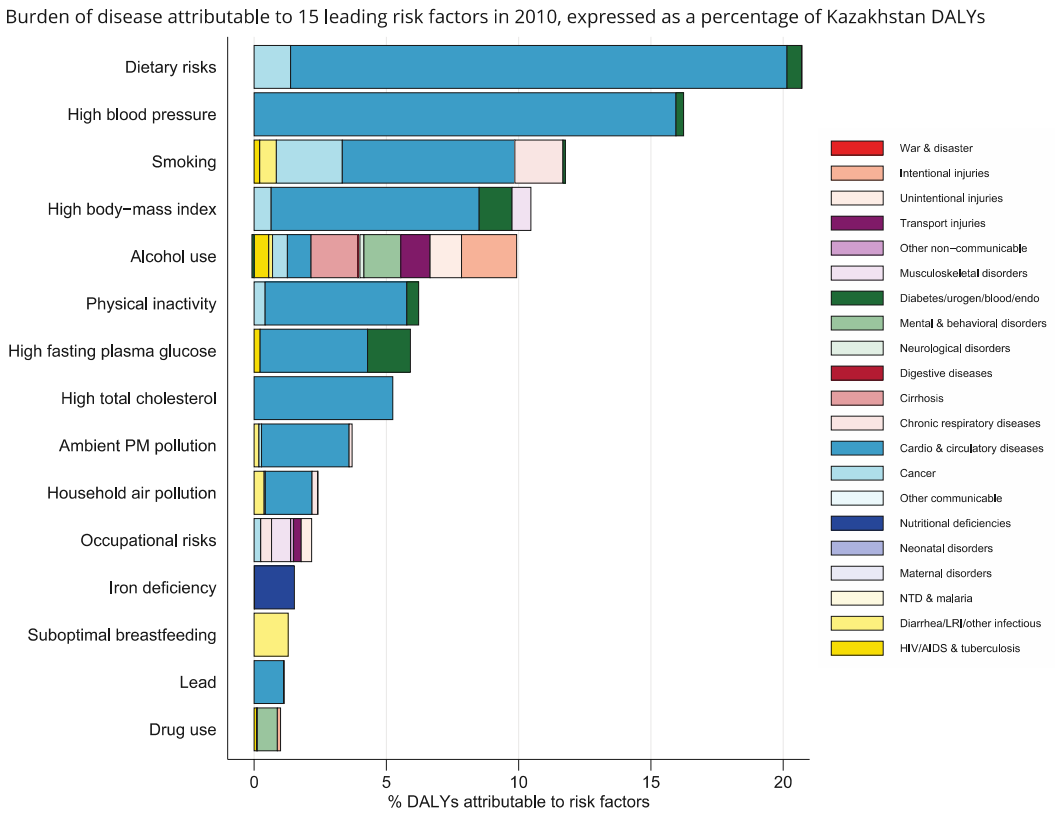
Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Kazakhstan, the top three causes of DALYs in 2010 were ischemic heart disease, cerebrovascular disease, and lower respiratory infections. Two causes that appeared in the 10 leading causes of DALYs in 2010 and not 1990 were chronic obstructive pulmonary disease and cirrhosis of the liver.



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 Kazakhstan are dietary risks, high blood pressure, and tobacco smoking. The leading risk factors for children under 5 and adults aged 15-49 years were suboptimal breastfeeding and dietary risks, respectively, in 2010.



The graph shows the top 15 risk factors for Kazakhstan. 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 Kazakhstan against other ECO countries provides key insight into public health successes and areas where Kazakhstan might be falling behind. The table identifies Kazakhstan's rank across 10 ECO countries, for five metrics of interest, with 1 indicating the best rank and 10 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.

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
Afghanistan	1,931	10	1,668	10	68,958	10	52,078	10	17,727	10	17,252	10	51.9	10	57.7	10	42.4	10	47.3	10
Azerbaijan	961	3	695	3	31,387	4	20,272	3	12,212	3	11,620	2	66.7	4	72.5	3	57.4	3	62.5	3
Iran	934	1	640	2	29,033	1	16,780	2	13,288	9	12,619	9	67.5	1	74.4	1	57.2	5	63.2	2
Kazakhstan	**1,043**	**5**	**1,043**	**9**	**31,524**	**5**	**29,881**	**7**	**11,955**	**2**	**11,587**	**1**	**66.2**	**5**	**66.7**	**8**	**57.3**	**4**	**58.2**	**7**
Kyrgyzstan	1,047	6	999	8	33,446	6	30,037	8	12,606	7	12,336	8	65.5	6	66.9	7	56.2	6	57.6	8
Pakistan	1,120	8	982	7	41,231	9	33,518	9	12,877	8	12,323	7	62.3	9	65.7	9	53.3	9	56.5	9
Tajikistan	1,067	7	911	4	38,138	7	27,409	6	12,331	4	12,296	6	63.8	7	68.3	6	54.8	7	58.7	6
Turkey	942	2	628	1	30,025	3	16,760	1	12,442	6	11,885	3	67.1	3	74.4	1	57.6	2	63.9	1
Turkmenistan	1,144	9	919	6	39,780	8	24,522	4	11,911	1	11,933	4	62.8	8	69.3	4	54.4	8	60	4
Uzbekistan	972	4	911	5	29,477	2	26,063	5	12,381	5	12,150	5	67.3	2	68.8	5	57.8	1	59.3	5

This figure shows the rank of Kazakhstan 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 Kazakhstan 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 10 as the worst.

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 1990

Country	Ischemic heart disease	Lower respiratory infections	Stroke	Road injury	Neonatal encephalopathy	Congenital anomalies	Diarrheal diseases	Self-harm	Low back pain	Preterm birth complications
Afghanistan	10	10	10	10	3	9	10	4	7	7
Azerbaijan	8	7	3	**3**	**4**	5	5	2	**4**	4
Iran	3	1	4	9	1	10	1	3	10	2
Kazakhstan	**4**	**3**	**6**	**7**	**6**	**8**	**2**	**10**	**8**	**3**
Kyrgyzstan	2	6	9	8	7	4	6	9	2	6
Pakistan	1	4	1	1	10	7	8	6	1	10
Tajikistan	5	9	5	4	5	2	9	5	5	9
Turkey	6	2	8	2	2	6	4	1	9	8
Turkmenistan	9	8	2	6	9	3	7	8	6	5
Uzbekistan	7	5	7	5	8	1	3	7	3	1

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 2010

Country	Ischemic heart disease	Stroke	Lower respiratory infections	Self-harm	Road injury	Congenital anomalies	Low back pain	Neonatal encephalopathy	COPD	Cirrhosis
Afghanistan	9	10	10	5	10	5	7	3	8	4
Azerbaijan	4	4	5	1	2	3	2	5	2	3
Iran	3	2	1	2	9	7	10	2	1	1
Kazakhstan	**8**	**7**	**3**	**10**	**8**	**10**	**8**	**7**	**7**	**7**
Kyrgyzstan	6	9	6	9	7	4	4	8	9	10
Pakistan	1	1	7	6	3	8	1	10	10	5

Tajikistan	5	6	8	3	4	9	3	6	5	6
Turkey	2	5	2	4	1	6	9	1	4	2
Turkmenistan	10	3	4	8	5	1	5	4	6	8
Uzbekistan	7	8	9	7	6	2	6	9	3	9
Ranking legend		1-3		4-7		8-10				

Kyrgyz Republic

General View

Kyrgyzstan is a country located in Central Asia. Landlocked and mountainous, Kyrgyzstan is bordered by Kazakhstan to the north, Uzbekistan to the west, Tajikistan to the southwest and China to the east. This country covers 198,000 square kilometers, with a mixed ethnic population of fewer than 4,500,000. The land of Kyrgyzstan is almost entirely mountainous, of which only 7% is suitable for arable agriculture. Its capital and largest city is Bishkek. [29]

History

Kyrgyz history can be traced at least to the 1st century BCE. Although geographically isolated by its mountainous location, it had an important role as part of the historical Silk Road trade route. In between periods of self-government it was ruled by Göktürks, the Uyghur Empire, and the Khitan people, before being conquered by the Mongols in the 13th century; subsequently it regained independence but was invaded by Kalmyks, Manchus and Uzbeks. In 1876 Kyrgyzstan became part of the Russian Empire, remaining as the Kirghiz Soviet Socialist Republic after the Russian Revolution. On 31 August 1991, Kyrgyzstan declared independence from Moscow, and a democratic government was subsequently established. [30,31]

Culture

The culture of Kyrgyzstan has a wide mix of ethnic groups and cultures, with the Kyrgyz being the majority group. Culture of Kyrgyzstan takes its roots in antiquity. Its formation was largely influenced by Turkic tribes that migrated in the early Middle Ages from the territory of the Altay and East Turkestan. Before the 20th century there was the Kyrgyz tribal division. Some of the Kyrgyz still adhere to this tradition. This can be seen even in the division of the Kyrgyz into the southern and northern Kyrgyz. [32]

Political System

Kyrgyzstan is defined as a democratic republic under its post-Soviet constitution. (This 1993 Constitution has been amended in 1996, 1998, 2003, 2006 and 2007) The head of state is the President, while the head of government is the Prime Minister. The Prime Minister also leads the 90-member unicameral legislature, called the Jogorku Kengesh. The judicial branch is headed by the Supreme Court and the Constitutional Court; judges are recommended by the president and appointed to 10-year terms by the legislature. Lower courts include the Higher Court of Arbitration and Local Courts. [33]

Economy

After independence in 1992, the Kyrgyz Republic's economy and public services were hit hard by the break-up of the Soviet economic zone and the end of subsidies from Moscow. Thanks to the adoption of market-based economic reforms in the 1990s, the economy has nearly recovered to its pre-independence level of output, but infrastructure and social services have suffered from low investment. With per capita GNI of $920 in 2011, the Kyrgyz Republic remains a low-income country. Moreover, the global economic crisis, the political unrest of April and June 2010 and food price increases in 2011 and 2012 have reversed earlier gains in poverty reduction. The absolute poverty rate increased from 33.7 percent in 2010 to 36.8 percent in 2011. [34]

Health System

Kyrgyzstan has undertaken wide-ranging reforms of its health system in a challenging socioeconomic and political context. The country has developed two major health reform programs after becoming independent: Manas (1996–2006) and Manas Taalimi (2006–2010). These reforms introduced comprehensive structural changes to the health care delivery system with the aim of strengthening primary health care, developing family medicine and restructuring the hospital sector. Major service delivery improvements have included the introduction of new clinical practice guidelines, improvements in the provision and use of pharmaceuticals, quality improvements in the priority programs for mother and child health, cardiovascular diseases, tuberculosis and HIV/ AIDS, strengthening of public health and improvements in medical education. [35]

Components of health system in the ECO member states at a glance *

	Total expenditure on health as % of gross domestic product (2010)	General government expenditure on health as % of total expenditure on health (2010)	Out-of-pocket expenditure as % of private expenditure on health (2010)	Per capita total expenditure on health at average exchange rate (US$)	Physicians per 100,000 population (2005-12)	Hospital beds per 100,000 population (2005-12)	Antiretroviral therapy coverage among people with advanced HIV infection (%) 2011	Unmet need for family planning (%) 2005-2012	Population without access to improved drinking-water sources (%)	Population without access to improved sanitation (%)
Afghanistan	10.4	22.5	94	44	1.9	4	6	N/A	39	72
Azerbaijan	5.3	21.9	88.6	307	33.8	46	28	15	20	18
Iran	5.3	40.2	97	302	8.9	17	7	N/A	5	<2
Kazakhstan	4.3	59.1	98.8	395	38.4	76	27	N/A	5	3
Kyrgyzstan	**6.7**	**55.7**	**87.3**	**60**	**24.7**	**48**	**23**	**N/A**	**11**	**7**
Pakistan	1	76.6	N/A	10	8.1	6	10	25	9	53
Tajikistan	6	26.7	90.7	40	19	55	22	N/A	34	5
Turkey	6.7	74.8	64.4	668	17.1	25	50	6	<2	9
Turkmenistan	2.5	60.4	100	105	N/A	41	N/A	N/A	29	<2
Uzbekistan	5.6	49	90.2	80	25.4	45	N/A	N/A	13	<2

* Source: The World Health Statistics 2013, World Health Organization

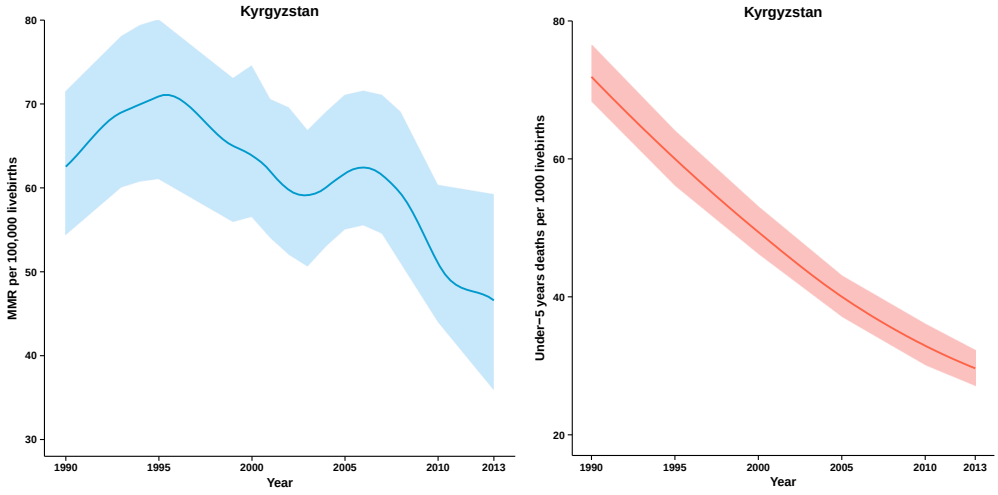
Health Status

Profile Overview

- In terms of the number of years of life lost (YLLs) due to premature death in Kyrgyzstan, lower respiratory infections, ischemic heart disease, and cerebrovascular disease 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 63% from 1990 to 2010.
- The leading risk factor in Kyrgyzstan is dietary risks.

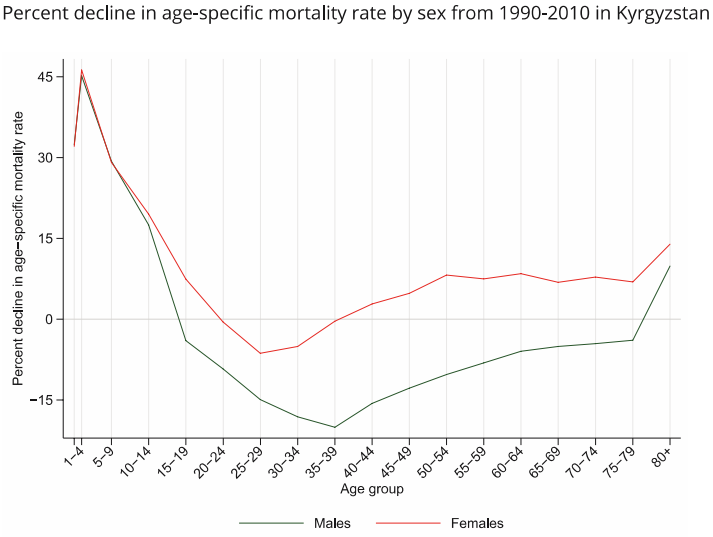
Maternal and Under-five Mortality Rates

As the graphs demonstrate, Under-5 mortality rate per 100,000 showed a dramatic decrease from 1562.65 in 1990 to 1033.6 in 2010. Although there was a fluctuation in Maternal Mortality Rate per 100,000 live births, in general this variable decreased by 15.7 from 1990 to 2013 in Kyrgyzstan.



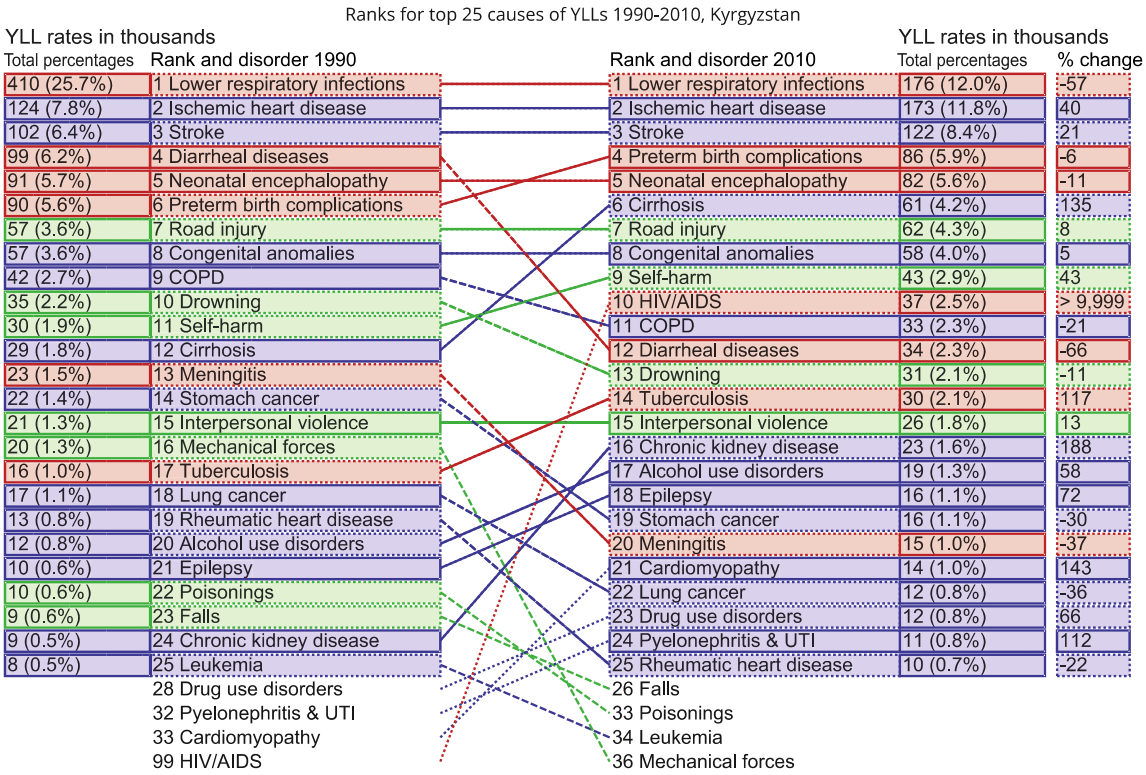
All-Cause Mortality Rate

- 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 (46%). Males aged 35-39 years saw the largest increase in mortality rate (20%).



Cause of Premature Death

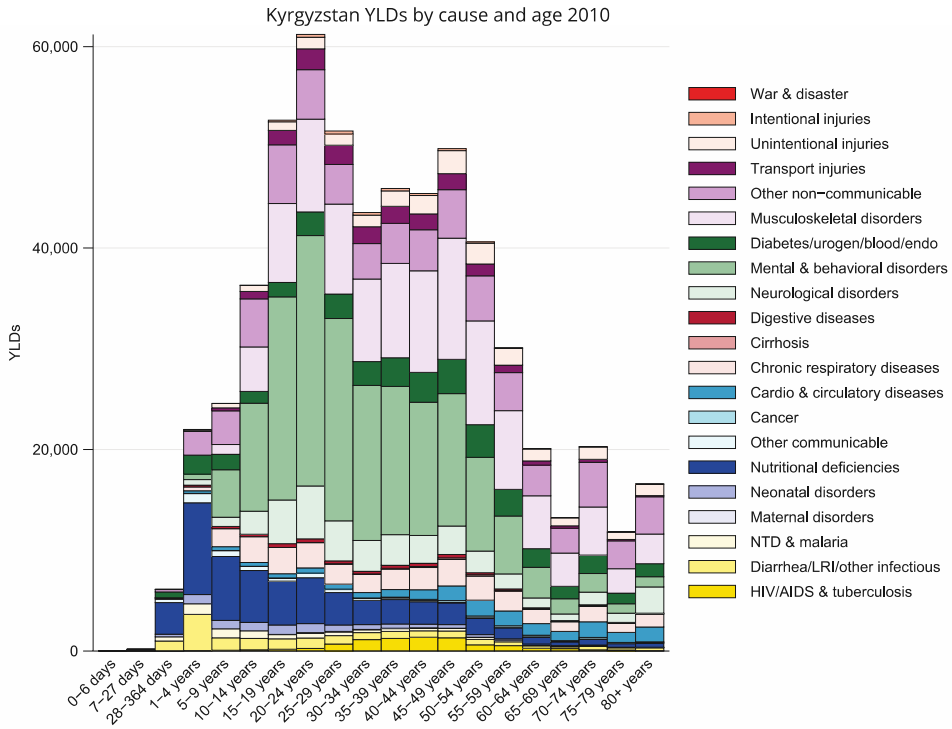
Years of life lost (YLLs) quantify premature mortality by weighting younger deaths more than older deaths.



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)

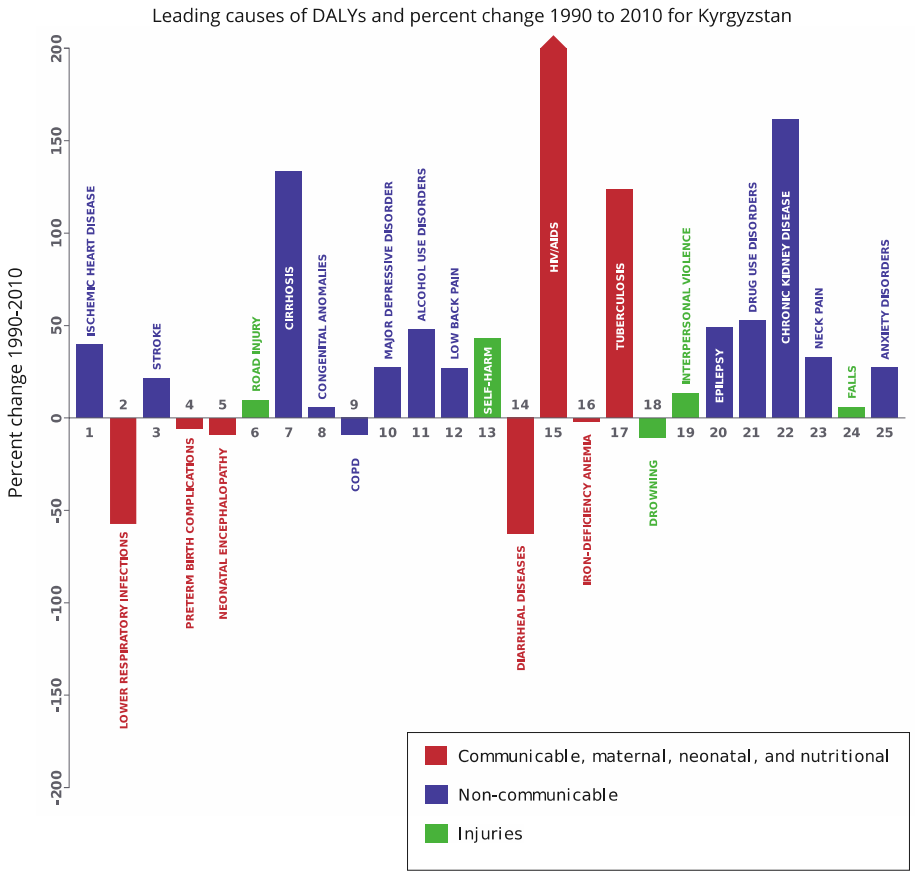
Years lived with disability (YLDs) are estimated by weighting the prevalence of different conditions based on severity. The top five leading causes of YLDs in Kyrgyzstan are major depressive disorder, low back pain, iron-deficiency anemia, alcohol use disorders, and neck pain.



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)

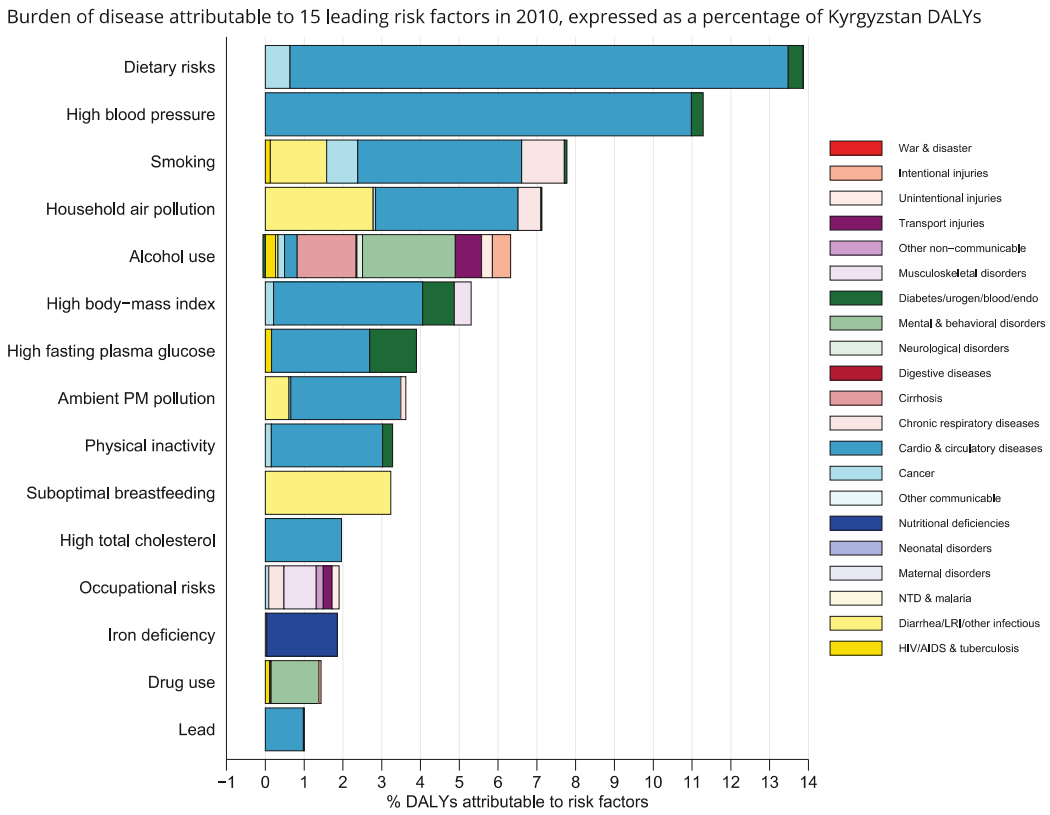
Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Kyrgyzstan, the top three causes of DALYs in 2010 were ischemic heart disease, lower respiratory infections, and cerebrovascular disease. The only cause to appear in the 10 leading causes of DALYs in 2010 and not 1990 was cirrhosis of the liver.



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 Kyrgyzstan are dietary risks, high blood pressure, and tobacco smoking. The leading risk factors for children under 5 and adults aged 15-49 years were household air pollution from solid fuels and alcohol use, respectively, in 2010.



The graph shows the top 15 risk factors for Kyrgyzstan. 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 Kyrgyzstan against other ECO countries provides key insight into public health successes and areas where Kyrgyzstan might be falling behind. The table identifies Kyrgyzstan's rank across 9 other ECO countries, 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.

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
Afghanistan	1,931	10	1,668	10	68,958	10	52,078	10	17,727	10	17,252	10	51.9	10	57.7	10	42.4	10	47.3	10
Azerbaijan	961	3	695	3	31,387	4	20,272	3	12,212	3	11,620	2	66.7	4	72.5	3	57.4	3	62.5	3
Iran	934	1	640	2	29,033	1	16,780	2	13,288	9	12,619	9	67.5	1	74.4	1	57.2	5	63.2	2
Kazakhstan	1,043	5	1,043	9	31,524	5	29,881	7	11,955	2	11,587	1	66.2	5	66.7	8	57.3	4	58.2	7
Kyrgyzstan	**1,047**	**6**	**999**	**8**	**33,446**	**6**	**30,037**	**8**	**12,606**	**7**	**12,336**	**8**	**65.5**	**6**	**66.9**	**7**	**56.2**	**6**	**57.6**	**8**
Pakistan	1,120	8	982	7	41,231	9	33,518	9	12,877	8	12,323	7	62.3	9	65.7	9	53.3	9	56.5	9
Tajikistan	1,067	7	911	4	38,138	7	27,409	6	12,331	4	12,296	6	63.8	7	68.3	6	54.8	7	58.7	6
Turkey	942	2	628	1	30,025	3	16,760	1	12,442	6	11,885	3	67.1	3	74.4	1	57.6	2	63.9	1
Turkmenistan	1,144	9	919	6	39,780	8	24,522	4	11,911	1	11,933	4	62.8	8	69.3	4	54.4	8	60	4
Uzbekistan	972	4	911	5	29,477	2	26,063	5	12,381	5	12,150	5	67.3	2	68.8	5	57.8	1	59.3	5

This figure shows the rank of Kyrgyzstan 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 Kyrgyzstan 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 10 as the worst.

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 1990

Country	Lower respiratory infections	Ischemic heart disease	Diarrheal diseases	Stroke	Neonatal encephalopathy	Preterm birth complications	Road injury	COPD	Congenital anomalies	Major depressive disorder
Afghanistan	10	10	10	10	3	7	10	7	9	10
Azerbaijan	7	8	5	3	4	4	3	2	5	3
Iran	1	3	1	4	1	2	9	1	10	9
Kazakhstan	3	4	2	6	6	3	7	8	8	7
Kyrgyzstan	**6**	**2**	**6**	**9**	**7**	**6**	**8**	**9**	**4**	**6**
Pakistan	4	1	8	1	10	10	1	10	7	1
Tajikistan	9	5	9	5	5	9	4	6	2	2
Turkey	2	6	4	8	2	8	2	4	6	8
Turkmenistan	8	9	7	2	9	5	6	5	3	4
Uzbekistan	5	7	3	7	8	1	5	3	1	5

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 2010

Country	Ischemic heart disease	Lower respiratory infections	Stroke	Preterm birth complications	Neonatal encephalopathy	Road injury	Cirrhosis	Congenital anomalies	COPD	Major depressive disorder
Afghanistan	9	10	10	9	3	10	4	5	8	10
Azerbaijan	4	5	4	6	5	2	3	3	2	2
Iran	3	1	2	4	2	9	1	7	1	9
Kazakhstan	8	3	7	5	7	8	7	10	7	1
Kyrgyzstan	**6**	**6**	**9**	**8**	**8**	**7**	**10**	**4**	**9**	**3**

Pakistan	1	7	1	10	10	3	5	8	10	4
Tajikistan	5	8	6	7	6	4	6	9	5	5
Turkey	2	2	5	3	1	1	2	6	4	8
Turkmenistan	10	4	3	2	4	5	8	1	6	7
Uzbekistan	7	9	8	1	9	6	9	2	3	6
Ranking legend		1-3			4-7			8-10		

Islamic Republic of Pakistan

General View

The Islamic Republic of Pakistan is a country in South Asia. With a population exceeding 180 million people, it is the sixth most populous country and with an area covering 796,095 square kilometers, it is the 36th largest country in the world in terms of area. Pakistan has a 1,046 kilometers coastline along the Arabian Sea and the Gulf of Oman in the south and is bordered by India to the east, Afghanistan to the west, Iran to the southwest and China in the far northeast. Islamabad is the capital of Pakistan. [36]

History

The history of Pakistan encompasses the history of the region constituting modern Pakistan. Prior to independence in 1947, the land that is now Pakistan was a part of the British Indian Empire. Prior to that it was ruled in different periods by local kings and numerous imperial powers. The ancient history of the region comprising present-day Pakistan also includes some of the oldest empires of Indian Subcontinent and some of its major civilizations. By the 18th century the land was incorporated into British India. [37]

Culture

The origins of the current Pakistani culture can be traced back to the Indus Valley civilization, which was contemporaneous with the ancient Egyptian and Sumerian civilizations, around 5500 years ago. The region has formed a distinct unit within the main geographical complex of South Asia, the Middle East and Central Asia from the earliest times, and is analogous to the position of Afghanistan. There are differences among the ethnic groups in cultural aspects such as dress, food, and religion, especially where pre-Islamic customs differ from Islamic practices. [38]

Political System

Politics of Pakistan has taken place in the framework of a federal republic, where the system of government has at times been parliamentary, presidential, or semi-presidential. In the current parliamentary system, the President of Pakistan is the largely ceremonial head of state, the Prime Minister is head of government, and there is a multi-party system. Executive power is exercised by the government. Legislative power is largely vested in the Parliament. [39]

Economy

The sharp rise in international oil and food prices, combined with recurring natural disasters like the 2010 and 2011 floods had a devastating impact on the economy. As Pakistan recovered from the 2008 global crisis, its gross domestic product (GDP) grew 3.8 percent in Fiscal Year 2009/2010 (FY09/10). The 2010 floods, with an estimated damage of over $10 billion, caused growth to slow down to 2.4 percent in FY10/11. The

Pakistan economy grew by an estimated 3.7 percent in 2011/12, against the pre-flood targeted growth rate of 4.2 percent. [40]

Health System

Pakistan's health care system is a three-tiered health care delivery system: primary, secondary and tertiary care. Health system strengthening Health system strengthening Mechanism Starting at grass roots level, health houses provide community health care services through lady health worker and are connected to basic health units with an upward referral pathway to rural health centers, tehsil hospitals and district hospitals. There are also well-equipped tertiary level teaching hospitals. [41]

Components of health system in the ECO member states at a glance *

	Total expenditure on health as % of gross domestic product (2010)	General government expenditure on health as % of total expenditure on health (2010)	Out-of-pocket expenditure as % of private expenditure on health (2010)	Per capita total expenditure on health at average exchange rate (US$)	Physicians per 100,000 population (2005-12)	Hospital beds per 100,000 population (2005-12)	Antiretroviral therapy coverage among people with advanced HIV infection (%) 2011	Unmet need for family planning (%) 2005-2012	Population without access to improved drinking-water sources (%)	Population without access to improved sanitation (%)
Afghanistan	10.4	22.5	94	44	1.9	4	6	N/A	39	72
Azerbaijan	5.3	21.9	88.6	307	33.8	46	28	15	20	18
Iran	5.3	40.2	97	302	8.9	17	7	N/A	5	<2
Kazakhstan	4.3	59.1	98.8	395	38.4	76	27	N/A	5	3
Kyrgyzstan	6.7	55.7	87.3	60	24.7	48	23	N/A	11	7
Pakistan	**1**	**76.6**	**N/A**	**10**	**8.1**	**6**	**10**	**25**	**9**	**53**
Tajikistan	6	26.7	90.7	40	19	55	22	N/A	34	5
Turkey	6.7	74.8	64.4	668	17.1	25	50	6	<2	9
Turkmenistan	2.5	60.4	100	105	N/A	41	N/A	N/A	29	<2
Uzbekistan	5.6	49	90.2	80	25.4	45	N/A	N/A	13	<2

* Source: The World Health Statistics 2013, World Health Organization

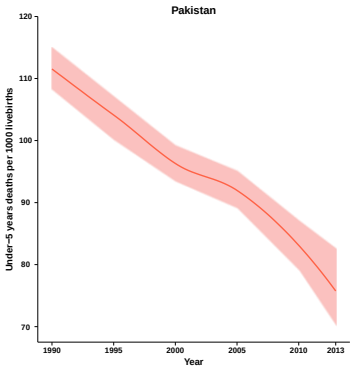
Health Status

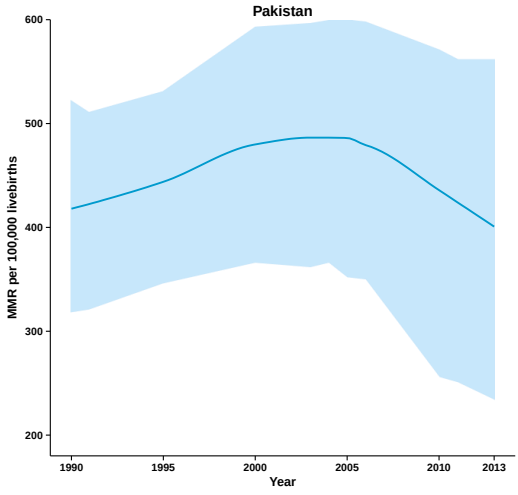
Profile Overview

- In terms of the number of years of life lost (YLLs) due to premature death in Pakistan, lower respiratory infections, neonatal encephalopathy (birth asphyxia and birth trauma), and diarrheal 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 35% from 1990 to 2010.
- The leading risk factor in Pakistan is household air pollution from solid fuels.

Maternal and Under-five Mortality Rates

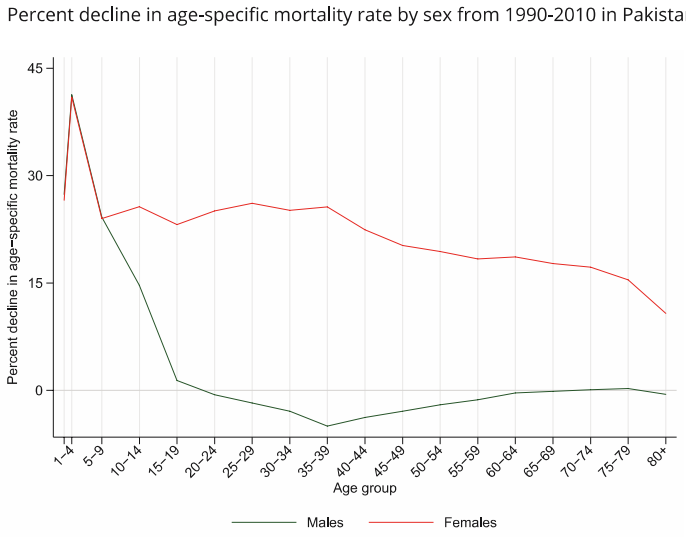
As the graphs demonstrate, Under-5 mortality rate per 100,000 showed a decrease from 2537.25 in 1990 to 1746.13 in 2010. Although there was a fluctuation in Maternal Mortality Rate per 100,000 live births, in general this variable decreased by 23.3 from 1990 to 2013 in Pakistan.





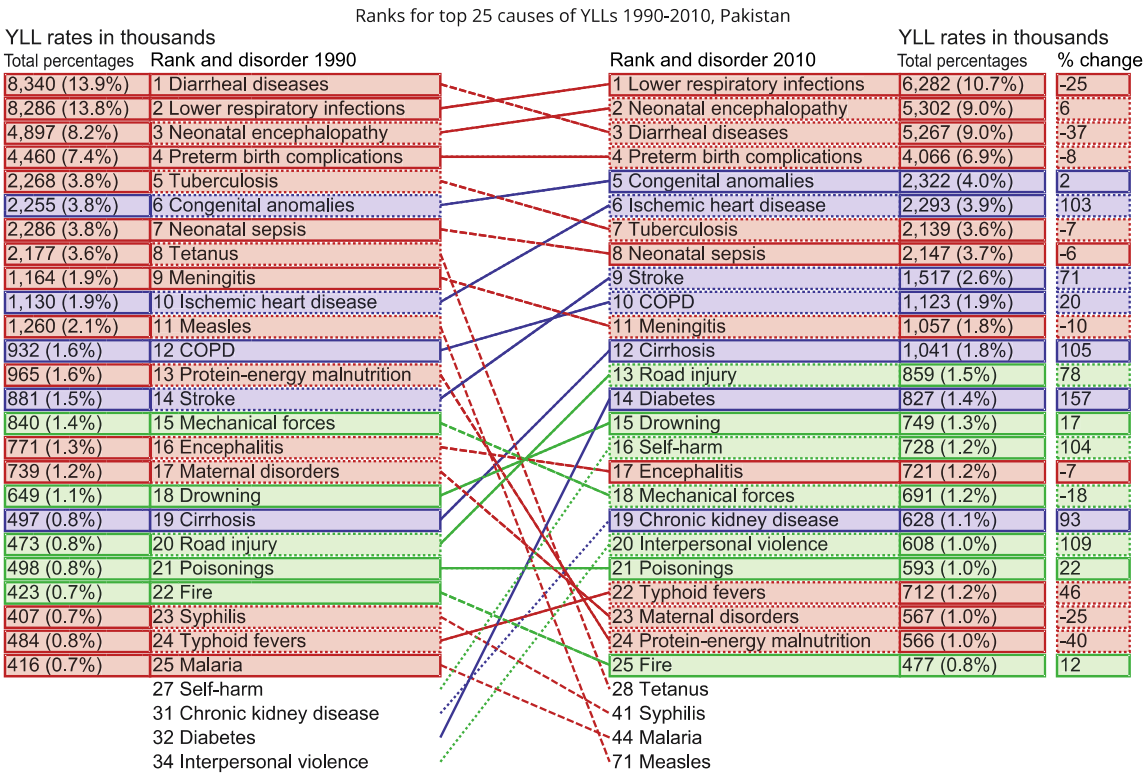
All-Cause Mortality Rate

- 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 males aged 1-4 years (41%). Males aged 35-39 years saw the largest increase in mortality rate (5%).



CAUSES OF PREMATURE DEATH

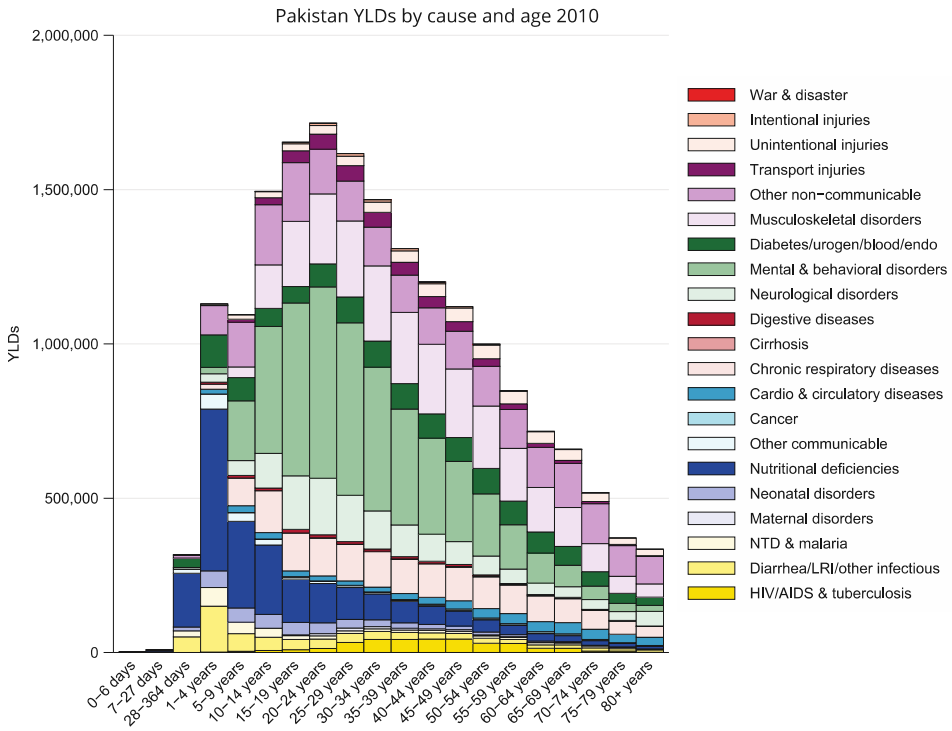
Years of life lost (YLLs) quantify premature mortality by weighting younger deaths more than older deaths.



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)

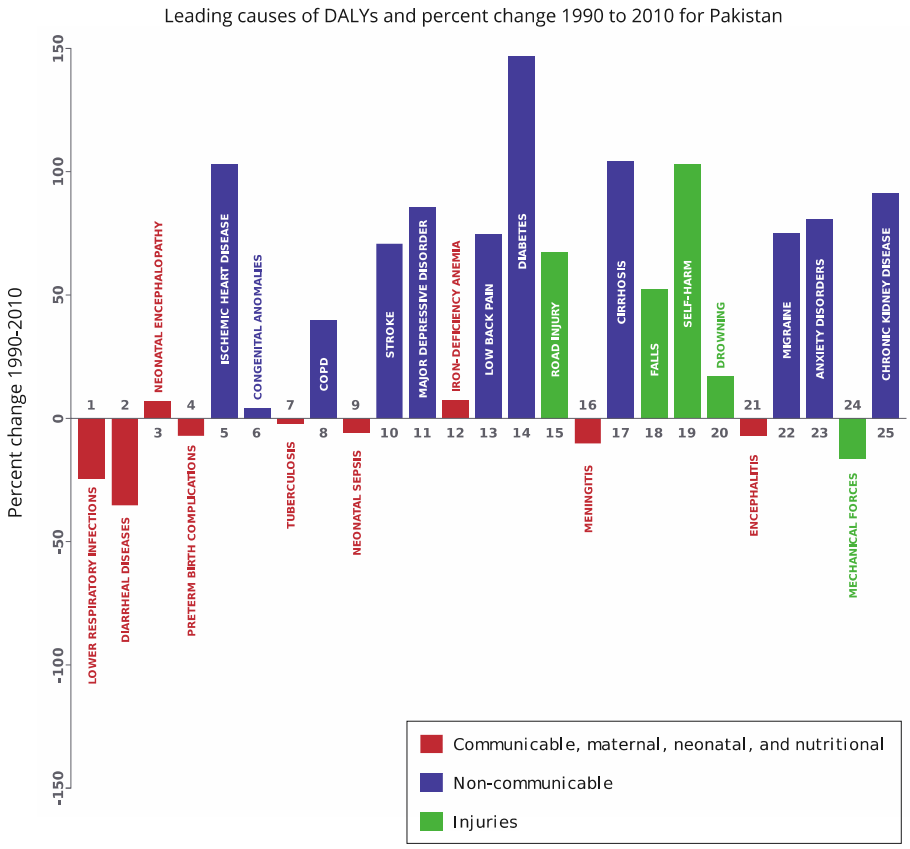
Years lived with disability (YLDs) are estimated by weighting the prevalence of different conditions based on severity. The top five leading causes of YLDs in Pakistan are major depressive disorder, iron-deficiency anemia, low back pain, chronic obstructive pulmonary disease, and migraine.



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)

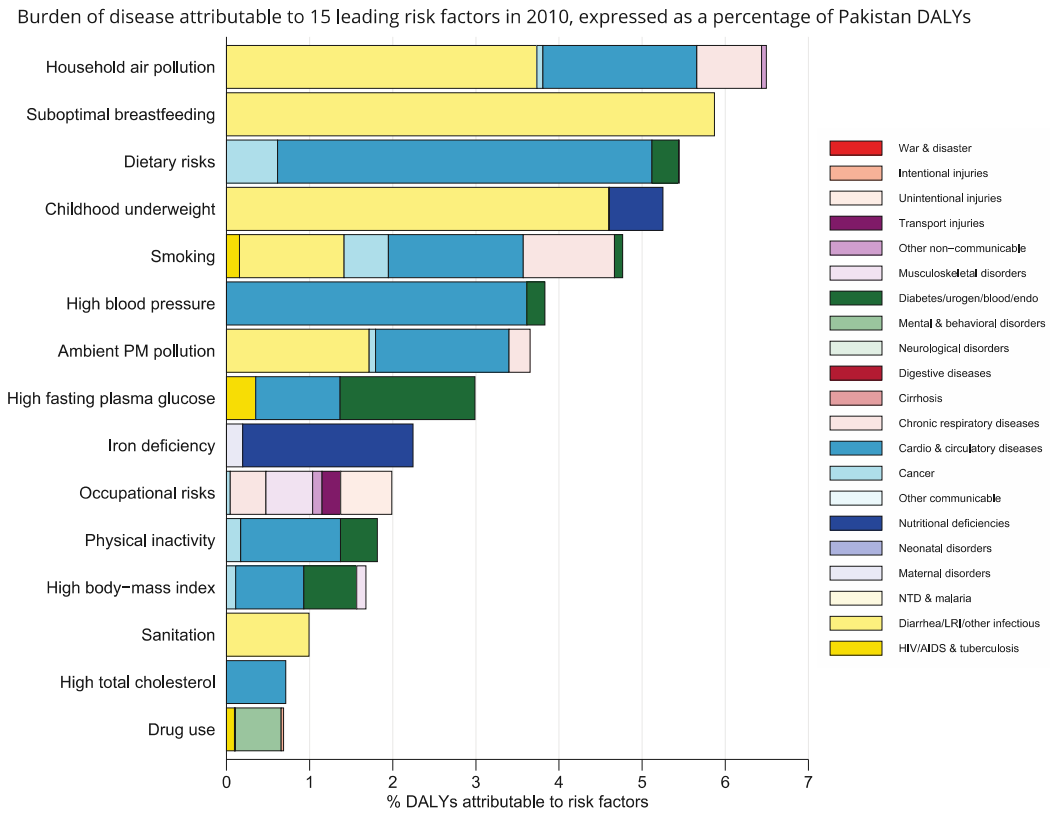
Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Pakistan, the top three causes of DALYs in 2010 were lower respiratory infections, diarrheal diseases, and neonatal encephalopathy (birth asphyxia and birth trauma). Two causes that appeared in the 10 leading causes of DALYs in 2010 and not 1990 were ischemic heart disease and cerebrovascular disease.



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 Pakistan are household air pollution from solid fuels, suboptimal breastfeeding, and dietary risks. The leading risk factors for children under 5 and adults aged 15-49 years were childhood underweight and occupational risks, respectively, in 2010.



The graph shows the top 15 risk factors for Pakistan. 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 Pakistan against other ECO countries provides key insight into public health successes and areas where Pakistan might be falling behind. The table identifies Pakistan's rank across 9 other countries, for five metrics of interest, with 1 indicating the best rank and 10 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.

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
Afghanistan	1,931	10	1,668	10	68,958	10	52,078	10	17,727	10	17,252	10	51.9	10	57.7	10	42.4	10	47.3	10
Azerbaijan	961	3	695	3	31,387	4	20,272	3	12,212	3	11,620	2	66.7	4	72.5	3	57.4	3	62.5	3
Iran	934	1	640	2	29,033	1	16,780	2	13,288	9	12,619	9	67.5	1	74.4	1	57.2	5	63.2	2
Kazakhstan	1,043	5	1,043	9	31,524	5	29,881	7	11,955	2	11,587	1	66.2	5	66.7	8	57.3	4	58.2	7
Kyrgyzstan	1,047	6	999	8	33,446	6	30,037	8	12,606	7	12,336	8	65.5	6	66.9	7	56.2	6	57.6	8
Pakistan	**1,120**	**8**	**982**	**7**	**41,231**	**9**	**33,518**	**9**	**12,877**	**8**	**12,323**	**7**	**62.3**	**9**	**65.7**	**9**	**53.3**	**9**	**56.5**	**9**
Tajikistan	1,067	7	911	4	38,138	7	27,409	6	12,331	4	12,296	6	63.8	7	68.3	6	54.8	7	58.7	6
Turkey	942	2	628	1	30,025	3	16,760	1	12,442	6	11,885	3	67.1	3	74.4	1	57.6	2	63.9	1
Turkmenistan	1,144	9	919	6	39,780	8	24,522	4	11,911	1	11,933	4	62.8	8	69.3	4	54.4	8	60	4
Uzbekistan	972	4	911	5	29,477	2	26,063	5	12,381	5	12,150	5	67.3	2	68.8	5	57.8	1	59.3	5

This figure shows the rank of Pakistan relative to the other ECO countries for the leading causes of DALYs in 1990 (top) and 2010 (bottom).

- The columns are ordered by the absolute number of DALYs in Pakistan 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 10 as the worst.

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 1990

Country	Diarrheal diseases	Lower respiratory infections	Neonatal encephalopathy	Preterm birth complications	Tuberculosis	Congenital anomalies	Neonatal sepsis	Tetanus	COPD	Iron-deficiency anemia
Afghanistan	10	10	3	7	9	9	9	10	7	8
Azerbaijan	5	7	4	4	6	5	1	6	2	6
Iran	1	1	1	2	1	10	2	8	1	7
Kazakhstan	2	3	6	3	7	8	5	2	8	1
Kyrgyzstan	6	6	7	6	4	4	4	3	9	4
Pakistan	**8**	**4**	**10**	**10**	**10**	**7**	**10**	**9**	**10**	**10**
Tajikistan	9	9	5	9	2	2	7	4	6	5
Turkey	4	2	2	8	3	6	8	7	4	2
Turkmenistan	7	8	9	5	8	3	6	5	5	3
Uzbekistan	3	5	8	1	5	1	3	1	3	9

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 2010

Country	Lower respiratory infections	Diarrheal diseases	Neonatal encephalopathy	Preterm birth complications	Ischemic heart disease	Congenital anomalies	Tuberculosis	COPD	Neonatal sepsis	Stroke
Afghanistan	10	9	3	9	9	5	10	8	9	10
Azerbaijan	5	5	5	6	4	3	3	2	1	4
Iran	1	1	2	4	3	7	1	1	4	2
Kazakhstan	3	4	7	5	8	10	8	7	6	7

Kyrgyzstan	6	6	8	8	6	4	7	9	5	9
Pakistan	**7**	**10**	**10**	**10**	**1**	**8**	**9**	**10**	**10**	**1**
Tajikistan	8	8	6	7	5	9	6	5	7	6
Turkey	2	2	1	3	2	6	2	4	8	5
Turkmenistan	4	7	4	2	10	1	4	6	2	3
Uzbekistan	9	3	9	1	7	2	5	3	3	8

Ranking legend		1-3		4-7		8-10

Republic of Tajikistan

General View

Tajikistan is the smallest country in Central Asia. The republic is bounded by China in the east, Afghanistan to the south, and Uzbekistan and Kyrgyzstan to the west and north. Population of the country has been estimated to be more than 8,000,000 in 2014, while the land covers 143,100 square kilometers. The capital of Tajikistan is Dushanbe. [42]

History

The current Tajik Republic harkens to the Samanid Empire (875–999). The Tajik people came under Russian rule in the 1860s. The broke out in the wake of the Russian Revolution of 1917 was quelled in the early 1920s and Tajikistan became an autonomous Soviet socialist republic within Uzbekistan in 1924. In 1929 Tajikistan was made one of the component republics of the Soviet Union and kept that status until 1991. Tajikistan gained independence in 1991, and has experienced three changes in government and a civil war since then. A peace agreement among rival factions was signed in 1997. [43]

Culture

Tajiks are one of the most ancient peoples in the world. Archaeologists have dated settlements in the territory of today's Tajikistan date back to the end of the upper Paleolithic period, fifteen to twenty thousand years ago. The Tajiks have preserved many of the ancient traditions and customs of their ancestors. They have their own spoken language – a variety of Persian. Large families spanning several generations live together under one roof as the family and their farms and businesses reflect this prosperity and the welcome a guest receives reflects the legendary hospitality. [44]

Political System

The politics of Tajikistan takes place in a framework of a presidential republic, whereby the President is both head of state and head of government, and of a multi-party system. Legislative power is vested in both the executive branch and the two chambers of parliament. The Council of Ministers is responsible for management of government activities in accordance with laws and decrees of the Supreme Assembly and decrees of the president. The president appoints the prime minister and the other council members, with the nominal approval of the Supreme Assembly. [45]

Economy

Tajikistan’s economic growth moderated to 6.7 percent in the first half of 2014 from 7.5 percent a year earlier as activity slowed in almost all sectors. Weaker world economic growth and lower prices for cotton and aluminum adversely affected the major export-oriented industries, pushing total industrial growth below 3 percent from nearly 7 percent a year earlier. Lower inflows of remittances due to the slowdown in Russia have

translated into lower domestic demand and slower growth in services and housing construction. Though growth in agricultural output also moderated due to heavy rains and low temperatures, it was still a healthy 6 percent. [46]

Health System

Tajikistan is undergoing a complex transition from a health system inherited from the Soviet period to new forms of management, financing and healthcare provision. Following independence and the consequences of the civil war, health funding collapsed and informal out-of-pocket payments became the main source of revenue, with particularly severe consequences for the poor. With the aim of ensuring equitable access to health care and formalizing out-of-pocket payments, the Ministry of Health developed a program that encompassed a basic benefit package (also known as the guaranteed benefit package) for people in need and formal co-payments for other groups of the population. [47]

Components of health system in the ECO member states at a glance *

	Total expenditure on health as % of gross domestic product (2010)	General government expenditure on health as % of total expenditure on health (2010)	Out-of-pocket expenditure as % of private expenditure on health (2010)	Per capita total expenditure on health at average exchange rate (US$)	Physicians per 100,000 population (2005-12)	Hospital beds per 100,000 population (2005-12)	Antiretroviral therapy coverage among people with advanced HIV infection (%) 2011	Unmet need for family planning (%) 2005-2012	Population without access to improved drinking-water sources (%)	Population without access to improved sanitation (%)
Afghanistan	10.4	22.5	94	44	1.9	4	6	N/A	39	72
Azerbaijan	5.3	21.9	88.6	307	33.8	46	28	15	20	18
Iran	5.3	40.2	97	302	8.9	17	7	N/A	5	<2
Kazakhstan	4.3	59.1	98.8	395	38.4	76	27	N/A	5	3
Kyrgyzstan	6.7	55.7	87.3	60	24.7	48	23	N/A	11	7
Pakistan	1	76.6	N/A	10	8.1	6	10	25	9	53
Tajikistan	**6**	**26.7**	**90.7**	**40**	**19**	**55**	**22**	**N/A**	**34**	**5**
Turkey	6.7	74.8	64.4	668	17.1	25	50	6	<2	9
Turkmenistan	2.5	60.4	100	105	N/A	41	N/A	N/A	29	<2
Uzbekistan	5.6	49	90.2	80	25.4	45	N/A	N/A	13	<2

* Source: The World Health Statistics 2013, World Health Organization

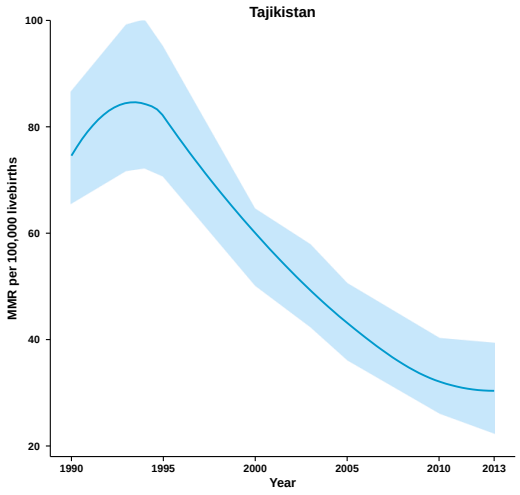
Health Status

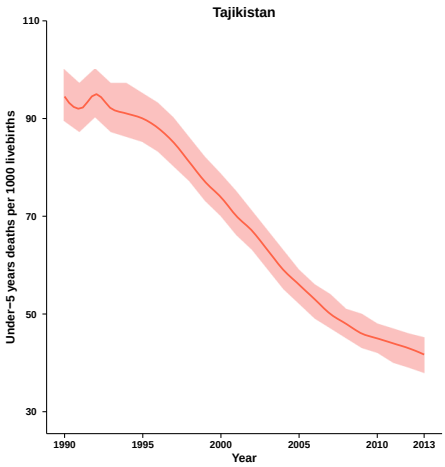
Profile Overview

- 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.

Maternal and Under-five Mortality Rates

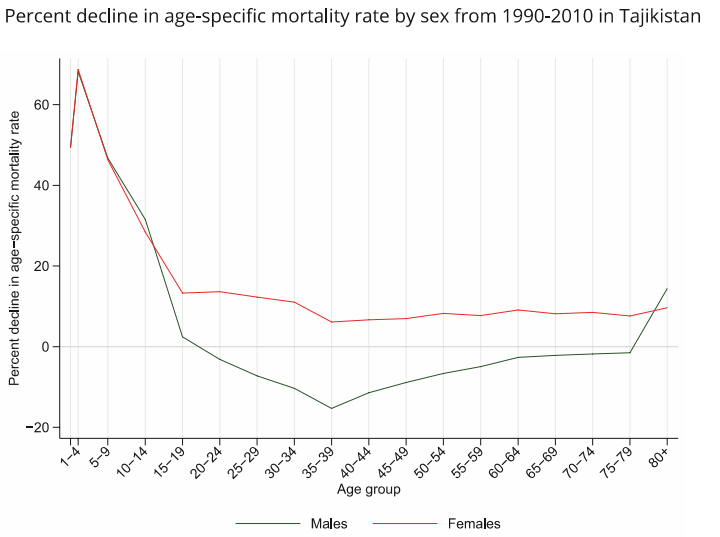
As the graphs demonstrate, Under-5 mortality rate per 100,000 showed a decrease from 2503.57 in 1990 to 1084.8 in 2010. Although there was an increase in Maternal Mortality Rate (MMR) per 100,000 live births from 1990 to 1995, this variable decreased from 82 to 30.4 during the next 18 years in Tajikistan.





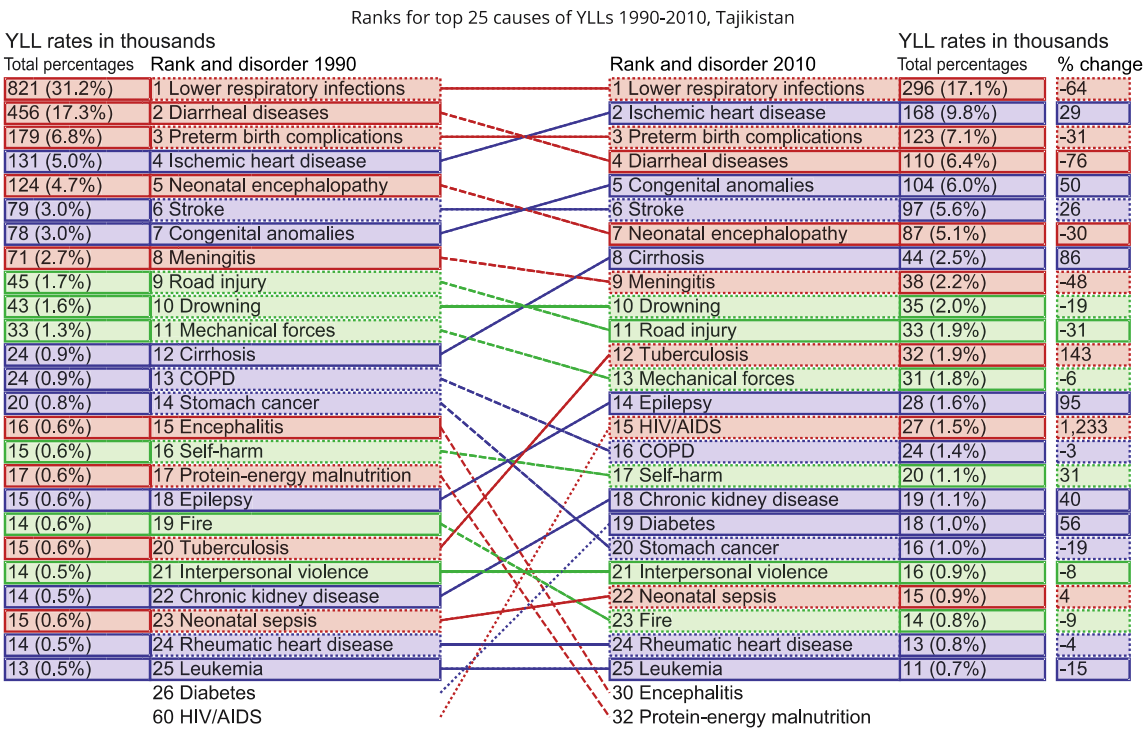
All-Cause Mortality Rate

- 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

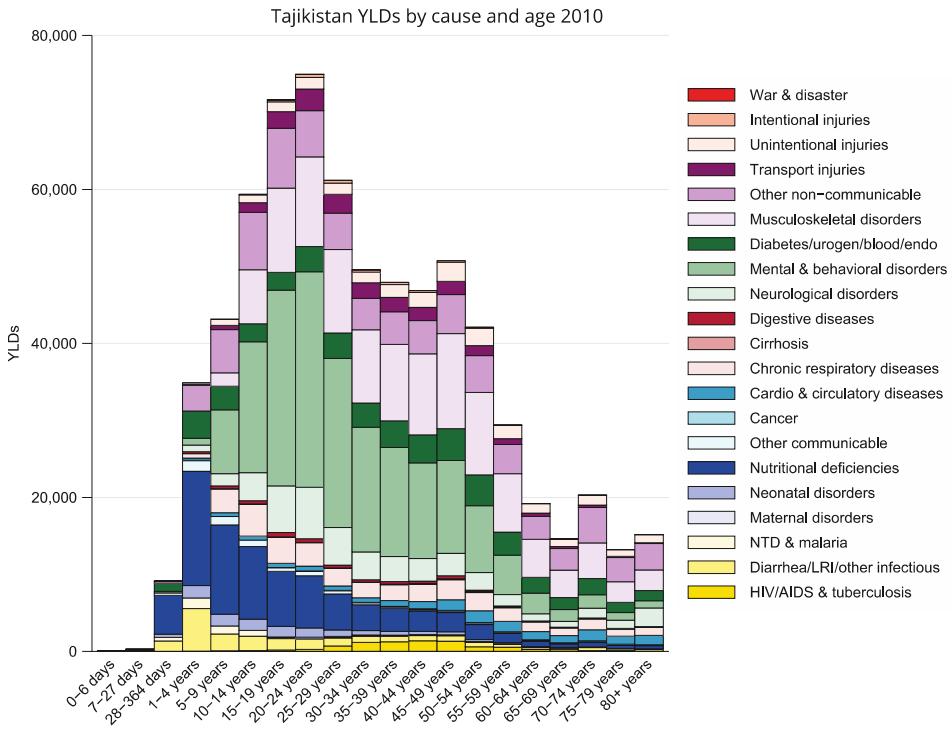
Years of life lost (YLLs) quantify premature mortality by weighting younger deaths more than older deaths.



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)

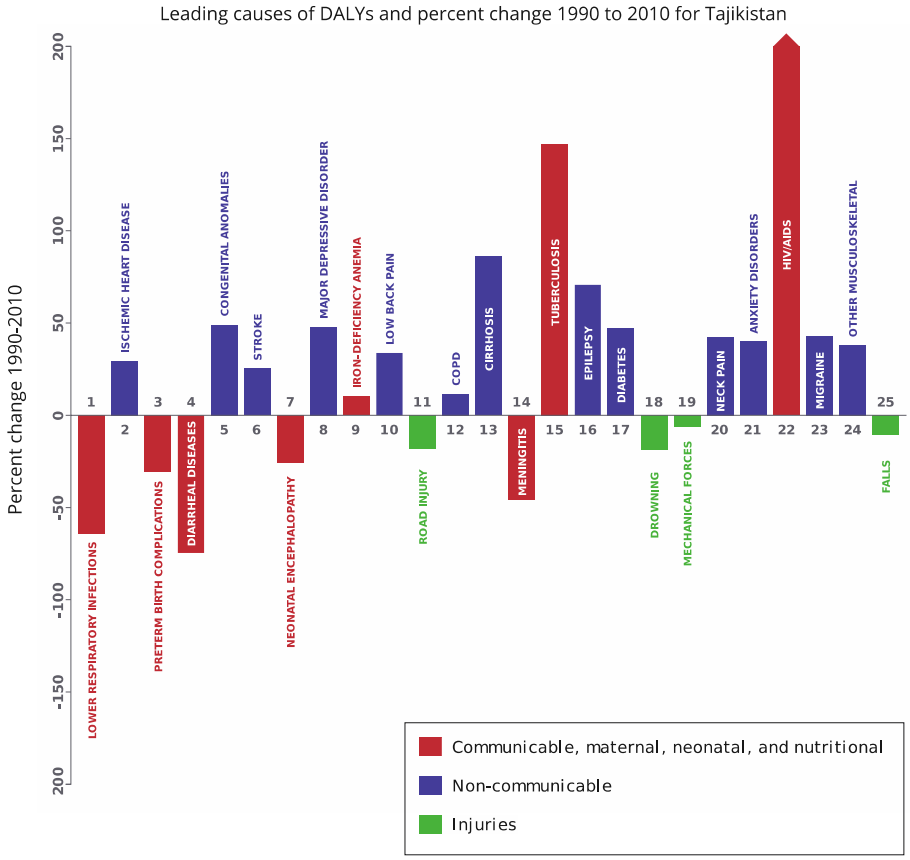
Years lived with disability (YLDs) are estimated by weighting the prevalence of different conditions based on severity. The top five leading causes of YLDs in Tajikistan are major depressive disorder, low back pain, iron-deficiency anemia, neck pain, and anxiety disorders.



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)

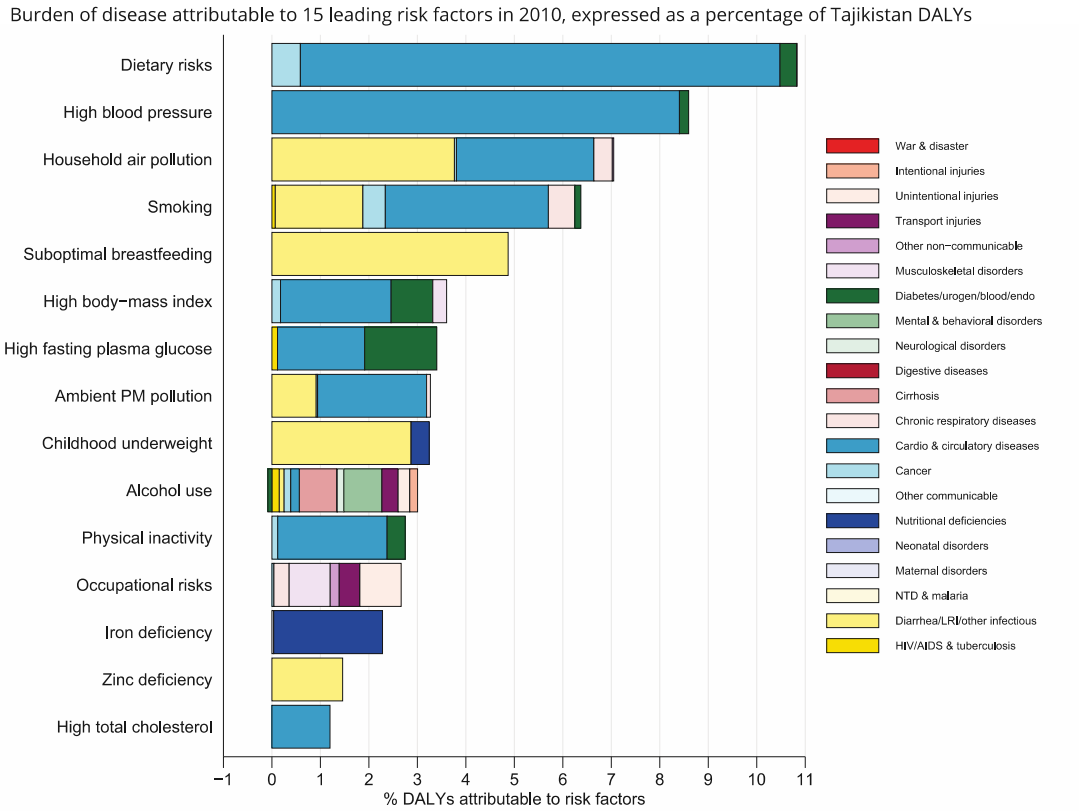
Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Tajikistan, the top three causes of DALYs in 2010 were lower respiratory infections, ischemic heart disease, and preterm birth complications. Two causes that appeared in the 10 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.

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.

COUNTRY BENCHMARKING OF BURDEN OF DISEASE

Understanding the relative performance of Tajikistan against other ECO countries provides key insight into public health successes and areas where Tajikistan might be falling behind. The table identifies Tajikistan's rank across 9 other countries, for five metrics of interest, with 1 indicating the best rank and 10 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.

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
Afghanistan	1,931	10	1,668	10	68,958	10	52,078	10	17,727	10	17,252	10	51.9	10	57.7	10	42.4	10	47.3	10
Azerbaijan	961	3	695	3	31,387	4	20,272	3	12,212	3	11,620	2	66.7	4	72.5	3	57.4	3	62.5	3
Iran	934	1	640	2	29,033	1	16,780	2	13,288	9	12,619	9	67.5	1	74.4	1	57.2	5	63.2	2
Kazakhstan	1,043	5	1,043	9	31,524	5	29,881	7	11,955	2	11,587	1	66.2	5	66.7	8	57.3	4	58.2	7
Kyrgyzstan	1,047	6	999	8	33,446	6	30,037	8	12,606	7	12,336	8	65.5	6	66.9	7	56.2	6	57.6	8
Pakistan	1,120	8	982	7	41,231	9	33,518	9	12,877	8	12,323	7	62.3	9	65.7	9	53.3	9	56.5	9
Tajikistan	**1,067**	**7**	**911**	**4**	**38,138**	**7**	**27,409**	**6**	**12,331**	**4**	**12,296**	**6**	**63.8**	**7**	**68.3**	**6**	**54.8**	**7**	**58.7**	**6**
Turkey	942	2	628	1	30,025	3	16,760	1	12,442	6	11,885	3	67.1	3	74.4	1	57.6	2	63.9	1
Turkmenistan	1,144	9	919	6	39,780	8	24,522	4	11,911	1	11,933	4	62.8	8	69.3	4	54.4	8	60	4
Uzbekistan	972	4	911	5	29,477	2	26,063	5	12,381	5	12,150	5	67.3	2	68.8	5	57.8	1	59.3	5

This figure shows the rank of Tajikistan relative to the other ECO 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 10 as the worst.

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states 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
Afghanistan	10	10	7	10	3	10	9	10	10	8
Azerbaijan	7	5	4	8	4	3	5	3	3	6
Iran	1	1	2	3	1	4	10	2	9	7
Kazakhstan	3	2	3	4	6	6	8	1	7	1
Kyrgyzstan	6	6	6	2	7	9	4	4	8	4
Pakistan	4	8	10	1	10	1	7	7	1	10
Tajikistan	**9**	**9**	**9**	**5**	**5**	**5**	**2**	**8**	**4**	**5**
Turkey	2	4	8	6	2	8	6	9	2	2
Turkmenistan	8	7	5	9	9	2	3	6	6	3
Uzbekistan	5	3	1	7	8	7	1	5	5	9

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states 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
Afghanistan	10	9	9	9	5	10	3	10	8	7
Azerbaijan	5	4	6	5	3	4	5	2	5	2
Iran	1	3	4	1	7	2	2	9	2	10
Kazakhstan	3	8	5	4	10	7	7	1	4	8
Kyrgyzstan	6	6	8	6	4	9	8	3	6	4

Pakistan	7	1	10	10	8	1	10	4	10	1
Tajikistan	**8**	**5**	**7**	**8**	**9**	**6**	**6**	**5**	**7**	**3**
Turkey	2	2	3	2	6	5	1	8	1	9
Turkmenistan	4	10	2	7	1	3	4	7	3	5
Uzbekistan	9	7	1	3	2	8	9	6	9	6
Ranking legend		1-3			4-7			8-10		

Republic of Turkey

General View

With its smaller part in Southeastern Europe and its larger part in Western Asia, Turkey is bordered by eight countries: Bulgaria to the northwest; Greece to the west; Georgia to the northeast; Armenia, Iran and the Azerbaijani exclave of Nakhchivan to the east; and Iraq and Syria to the southeast. The Mediterranean Sea is to the south; the Aegean Sea to the west; and the Black Sea to the north. Based on a census the population of turkey exceeded 76 million in 2013. In terms of the total area, Turkey covers 783,562 square kilometers. The capital of the country is Ankara. [48]

History

Archaeological finds indicate that the earliest Anatolian hunter-gatherers lived in caves during the Paleolithic era. By around the 7th millennium BC some folk had abandoned their nomadic existence and formed settlements. Çatalhöyük, which arose around 6500 BC, may well be the first ever city. It was certainly a center of innovation – here locals developed crop irrigation and were the first to domesticate pigs and sheep, as well as create distinctive pottery and what is thought to have been the first-ever landscape picture. [49]

Culture

The culture of Turkey combines a heavily diverse and heterogeneous set of elements that have been derived from the various cultures of the Eastern Mediterranean (West Asian) region and to a lesser degree, Southeastern European, Caucasian, and Central Asian traditions. Many of these traditions were initially brought together by the Ottoman Empire, a multi-ethnic and multi-religious state. The present-day Republic of Turkey, which was declared in 1923 after the dissolution of the Ottoman Empire, is still a transcontinental country that spans Europe and Asia. [50]

Political System

Turkey is a parliamentary representative democracy. Since its foundation as a republic in 1923, Turkey has developed a strong tradition of secularism. Turkey's constitution governs the legal framework of the country. The President of the Republic is the head of state and has a largely ceremonial role. Executive power is exercised by the Prime Minister and the Council of Ministers which make up the government, while the legislative power is vested in the unicameral parliament, the Grand National Assembly of Turkey. The judiciary is independent of the executive and the legislature, and the Constitutional Court is charged with ruling on the conformity of laws and decrees with the constitution. The Council of State is the tribunal of last resort for administrative cases, and the High Court of Appeals for all others. [51]

Economy

Turkey is one of the largest middle-income partners of the World Bank Group (WBG). With a Gross Domestic Product (GDP) of $786 billion, Turkey is the 18th largest economy in the world. In less than a decade, per capita income in the country has nearly tripled and now exceeds $10,000. Although economic growth was slowed by the onset of the global economic crisis in 2008, it has nonetheless remained resilient—making Turkey an example from which other countries in the region can learn. Labor markets have recovered fast after the crisis and both the seasonally-adjusted unemployment and employment rates have also improved on their pre-crisis levels. [52]

Health System

Turkey's health care system has been undergoing a far-reaching reform process HTP since 2003 and radical changes have occurred both in the provision and the financing of health care services. Health services are now financed through a social security scheme covering the majority of the population, the General Health Insurance Scheme, and services are provided both by public and private sector facilities. The Social Security Institution, financed through payments by employers and employees and government contributions in cases of budget deficit, has become a monopsonic (single buyer) power on the purchasing side of health care services. On the provision side, the Ministry of Health is the main actor and provides primary, secondary and tertiary care through its facilities across the country. [53]

Components of health system in the ECO member states at a glance *

	Total expenditure on health as % of gross domestic product (2010)	General government expenditure on health as % of total expenditure on health (2010)	Out-of-pocket expenditure as % of private expenditure on health (2010)	Per capita total expenditure on health at average exchange rate (US$)	Physicians per 100,000 population (2005-12)	Hospital beds per 100,000 population (2005-12)	Antiretroviral therapy coverage among people with advanced HIV infection (%) 2011	Unmet need for family planning (%) 2005-2012	Population without access to improved drinking-water sources (%)	Population without access to improved sanitation (%)
Afghanistan	10.4	22.5	94	44	1.9	4	6	N/A	39	72
Azerbaijan	5.3	21.9	88.6	307	33.8	46	28	15	20	18
Iran	5.3	40.2	97	302	8.9	17	7	N/A	5	<2
Kazakhstan	4.3	59.1	98.8	395	38.4	76	27	N/A	5	3
Kyrgyzstan	6.7	55.7	87.3	60	24.7	48	23	N/A	11	7
Pakistan	1	76.6	N/A	10	8.1	6	10	25	9	53
Tajikistan	6	26.7	90.7	40	19	55	22	N/A	34	5
Turkey	**6.7**	**74.8**	**64.4**	**668**	**17.1**	**25**	**50**	**6**	**<2**	**9**
Turkmenistan	2.5	60.4	100	105	N/A	41	N/A	N/A	29	<2
Uzbekistan	5.6	49	90.2	80	25.4	45	N/A	N/A	13	<2

* Source: The World Health Statistics 2013, World Health Organization

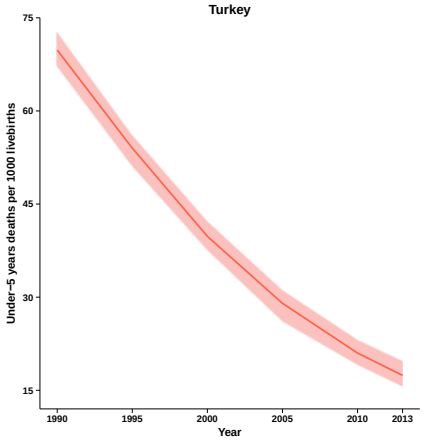
Health Status

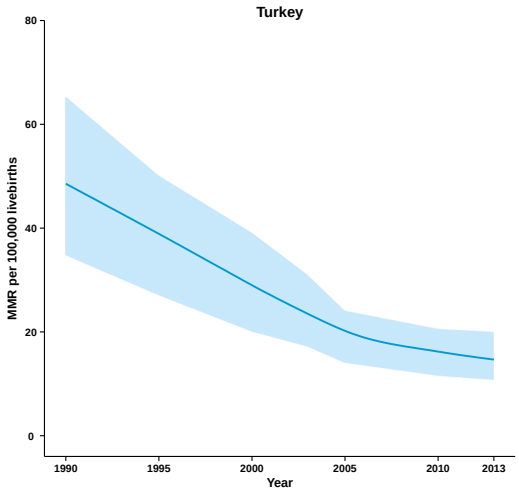
Profile Overview

- In terms of the number of years of life lost (YLLs) due to premature death in Turkey, ischemic heart disease, cerebrovascular disease, and congenital anomalies were the highest-ranking causes in 2010.
- Of the 25 most important causes of burden, as measured by disability-adjusted life years (DALYs), lower respiratory infections showed the largest decrease, falling by 79% from 1990 to 2010.
- The leading risk factor in Turkey is dietary risks.

Maternal and Under-five Mortality Rates

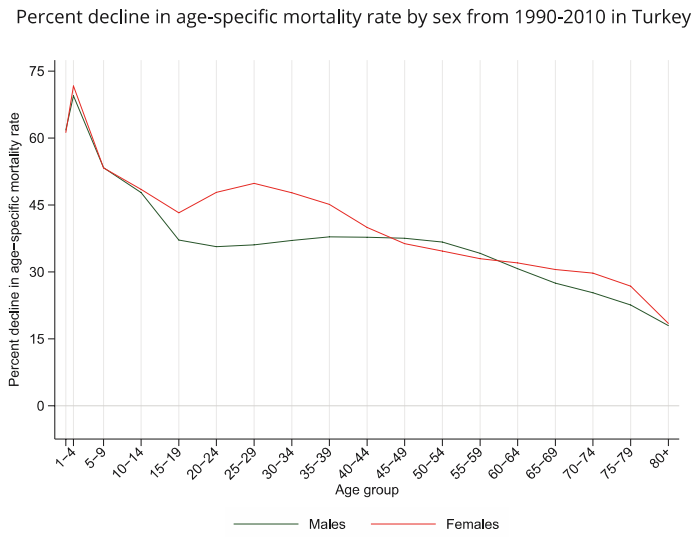
As the graphs demonstrate, Under-5 mortality rate per 100,000 showed a decrease from 1409.23 in 1990 to 523.935 in 2010. Maternal Mortality Rate per 100,000 live births, decreased by 33.5 from 1990 to 2013 in Turkey as well.





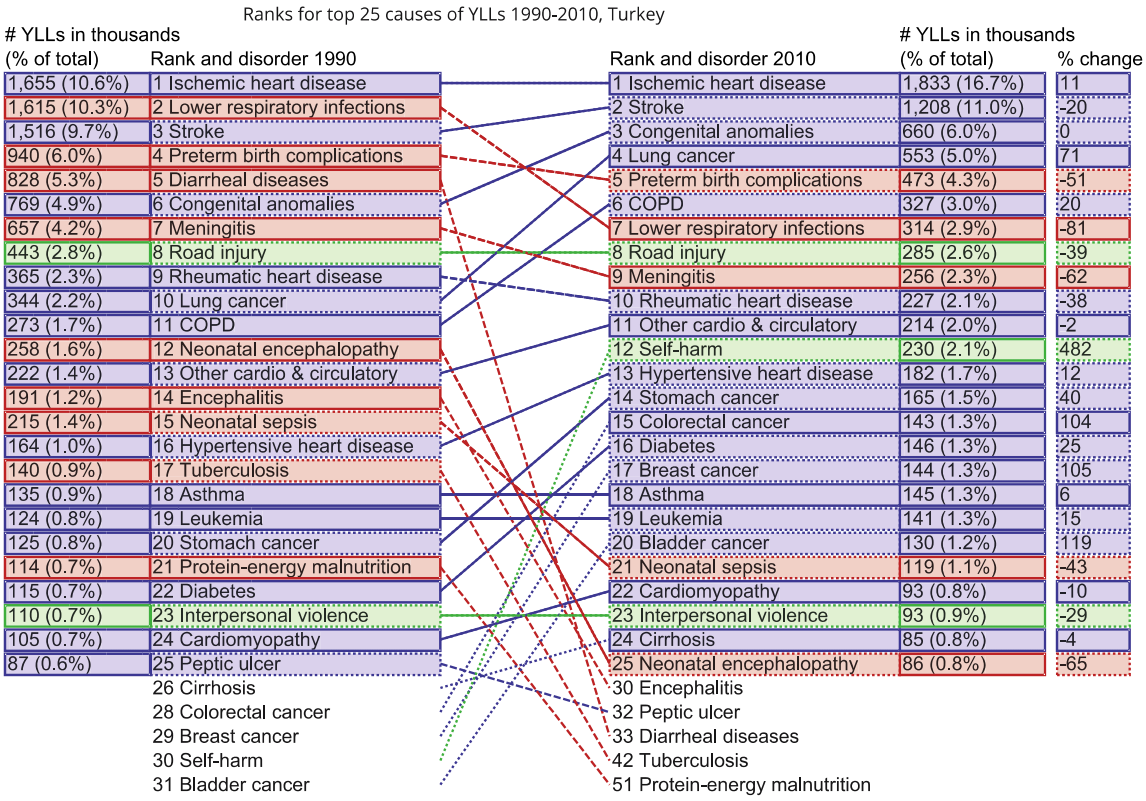
All-Cause Mortality Rate

- 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 females aged 1-4 years (72%). Males aged 80+ years saw the smallest decrease in mortality rate (18%).



CAUSES OF PREMATURE DEATH

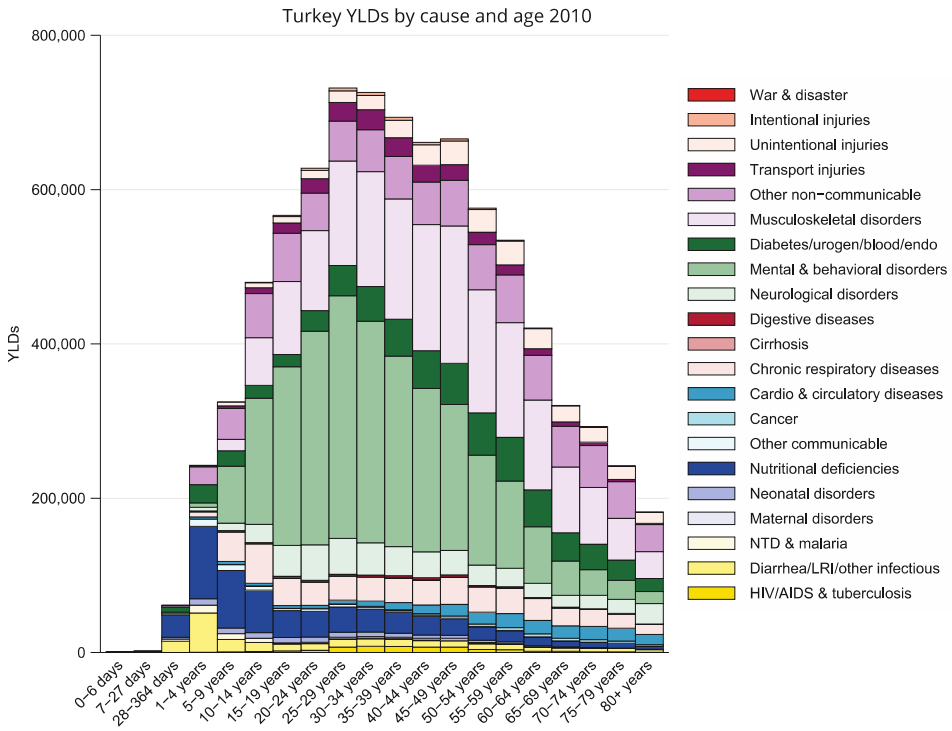
Years of life lost (YLLs) quantify premature mortality by weighting younger deaths more than older deaths.



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)

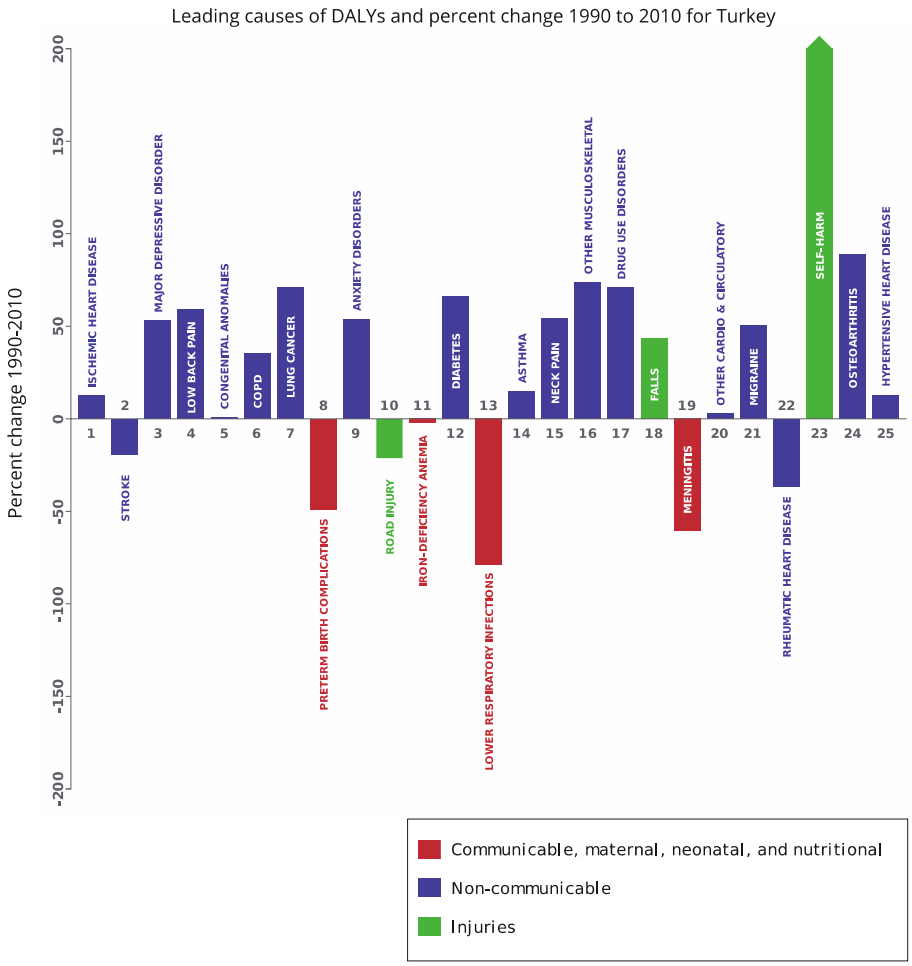
Years lived with disability (YLDs) are estimated by weighting the prevalence of different conditions based on severity. The top five leading causes of YLDs in Turkey are major depressive disorder, low back pain, anxiety disorders, iron-deficiency anemia, and neck pain.



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)

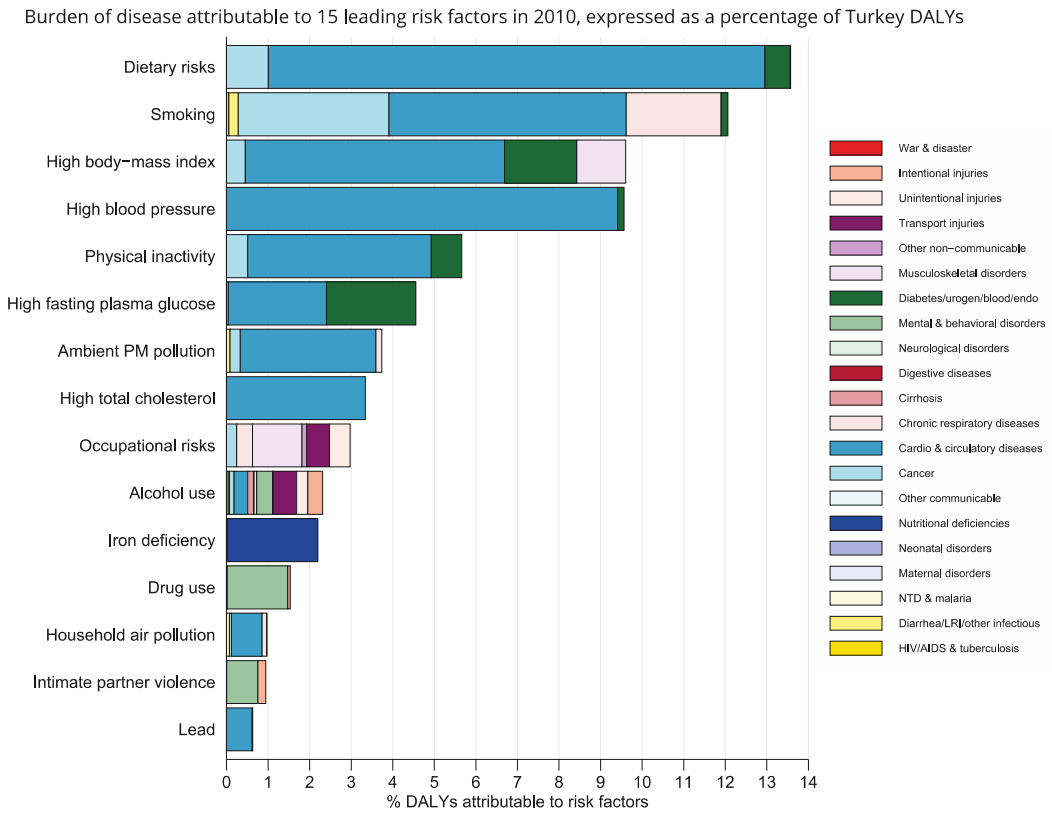
Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Turkey, the top three causes of DALYs in 2010 were ischemic heart disease, cerebrovascular disease, and major depressive disorder. The causes that were in the 10 leading causes of DALYs in 2010 and not 1990 were chronic obstructive pulmonary disease, trachea, bronchus, and lung cancers, and anxiety disorders.



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 Turkey are dietary risks, tobacco smoking, and high body-mass index. The leading risk factors for children under 5 and adults aged 15-49 years were suboptimal breastfeeding and dietary risks, respectively, in 2010.



The graph shows the top 15 risk factors for Turkey. 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 Turkey against other ECO countries provides key insight into public health successes and areas where Turkey might be falling behind. The table identifies Turkey's rank across 9 other countries, 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.

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
Afghanistan	1,931	10	1,668	10	68,958	10	52,078	10	17,727	10	17,252	10	51.9	10	57.7	10	42.4	10	47.3	10
Azerbaijan	961	3	695	3	31,387	4	20,272	3	12,212	3	11,620	2	66.7	4	72.5	3	57.4	3	62.5	3
Iran	934	1	640	2	29,033	1	16,780	2	13,288	9	12,619	9	67.5	1	74.4	1	57.2	5	63.2	2
Kazakhstan	1,043	5	1,043	9	31,524	5	29,881	7	11,955	2	11,587	1	66.2	5	66.7	8	57.3	4	58.2	7
Kyrgyzstan	1,047	6	999	8	33,446	6	30,037	8	12,606	7	12,336	8	65.5	6	66.9	7	56.2	6	57.6	8
Pakistan	1,120	8	982	7	41,231	9	33,518	9	12,877	8	12,323	7	62.3	9	65.7	9	53.3	9	56.5	9
Tajikistan	1,067	7	911	4	38,138	7	27,409	6	12,331	4	12,296	6	63.8	7	68.3	6	54.8	7	58.7	6
Turkey	**942**	**2**	**628**	**1**	**30,025**	**3**	**16,760**	**1**	**12,442**	**6**	**11,885**	**3**	**67.1**	**3**	**74.4**	**1**	**57.6**	**2**	**63.9**	**1**
Turkmenistan	1,144	9	919	6	39,780	8	24,522	4	11,911	1	11,933	4	62.8	8	69.3	4	54.4	8	60	4
Uzbekistan	972	4	911	5	29,477	2	26,063	5	12,381	5	12,150	5	67.3	2	68.8	5	57.8	1	59.3	5

This figure shows the rank of Turkey relative to the other ECO countries for the leading causes of DALYs in 1990 (top) and 2010 (bottom).

- The columns are ordered by the absolute number of DALYs in Turkey 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 10 as the worst.

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 1990

Country	Ischemic heart disease	Lower respiratory infections	Stroke	Preterm birth complications	Diarrheal diseases	Congenital anomalies	Major depressive disorder	Meningitis	Low back pain	Road injury
Afghanistan	10	10	10	7	10	9	10	10	7	10
Azerbaijan	8	7	3	4	5	5	3	3	4	3
Iran	3	1	4	2	1	10	9	2	10	9
Kazakhstan	4	3	6	3	2	8	7	1	8	7
Kyrgyzstan	2	6	9	6	6	4	6	4	2	8
Pakistan	1	4	1	10	8	7	1	7	1	1
Tajikistan	5	9	5	9	9	2	2	8	5	4
Turkey	**6**	**2**	**8**	**8**	**4**	**6**	**8**	**9**	**9**	**2**
Turkmenistan	9	8	2	5	7	3	4	6	6	6
Uzbekistan	7	5	7	1	3	1	5	5	3	5

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 2010

Country	Ischemic heart disease	Stroke	Major depressive disorder	Low back pain	Congenital anomalies	COPD	Lung cancer	Preterm birth complications	Anxiety disorders	Road injury
Afghanistan	9	10	10	7	5	8	8	9	10	10
Azerbaijan	4	4	2	2	3	2	6	6	4	2
Iran	3	2	9	10	7	1	1	4	8	9
Kazakhstan	8	7	1	8	10	7	9	5	6	8
Kyrgyzstan	6	9	3	4	4	9	7	8	1	7

Pakistan	1	1	4	1	8	10	4	10	5	3
Tajikistan	5	6	5	3	9	5	2	7	3	4
Turkey	**2**	**5**	**8**	**9**	**6**	**4**	**10**	**3**	**9**	**1**
Turkmenistan	10	3	7	5	1	6	5	2	7	5
Uzbekistan	7	8	6	6	2	3	3	1	2	6

Ranking legend		1-3		4-7		8-10

Turkmenistan

General View

Turkmenistan, formerly known as Turkmenia, is one of the Turkic states in Central Asia. Turkmenistan is bordered by Kazakhstan to the northwest, Uzbekistan to the northeast and east, Afghanistan to the southeast, Iran to the south and southwest, and the Caspian Sea to the west. Total population of the country has been estimated to be more than 5,000,000 in 2014. Turkmenistan covers 491,210 square kilometers as the total land area. The capital of Turkmenistan is Ashgabat. [54]

History

Turkmenistan was a part of the ancient Persian Empire. The Turkmen people were originally pastoral nomads and some of them continued this way of life up into the 20th century, living in transportable dome-shaped felt tents. The territory was ruled by the Seljuk Turks in the 11th century. The Mongols conquered the land in the 13th century; they dominated the area for the next two centuries until they were deposed in the late 15th century by invading Uzbeks. Prior to the 19th century, Turkmenia was divided into two lands, one belonging to the khanate of Khiva and the other belonging to the khanate of Bukhara. After 69 years as part of the Soviet Union, Turkmenistan declared its independence on 27 October 1991. [55]

Culture

The culture the Turkmen is slightly different from the cultural traditions of the neighboring Muslim states of Central Asia. The reason to this is that the ancestors of the Turkmen were nomadic tribes whereas the lands of modern Tajikistan and Uzbekistan were populated by settled tribes of farmers. This particular fact reflected on such aspect as cultural development of the Turkmen people. The basic cultural milestones of Turkmenistan are related to the traditions of Turkic-speaking Oguzs. The latter go back to the pre-Islamic period. The Oguzs' traditions found their reflection in literature, music, folklore of the Turkmen. [56]

Political System

According to the constitution, Turkmenistan is a secular democratic and presidential republic. The government has three branches: Executive (President and the Council of Ministers), Legislative (Mejlis or Parliament), and Judicial (Supreme Court). The legal system is based on the civil law system. Turkmenistan’s declaration of “permanent neutrality” was formally recognized by the United Nations in 1995. The country has the administrative subdivisions including: Velayats (provinces), Akhal, Balkan, Dashoguz, Lebap, and Mary. [57]

Economy

The Turkmen economy continued strong growth performance in 2012, expanding by 11.1 percent. High growth performance sustained over an extended period of time led to a steady increase in income levels and moved the country to an upper middle-income status (GDP per capita exceeded $6,000 by the end of 2012). Preliminary outcomes of the annual economic developments demonstrate that the Turkmen economy remains resilient to the global uncertainties stemming from the Eurozone crisis. [58]

Health System

In the post-soviet period the country experienced a deterioration of the health system, marked by underinvestment and severe shortages of equipment and medicines. These shortages inevitably had an impact on the population's health. A year after the health sector spending fell to a historical low of 0.8% of the GDP. A State Health Program was adopted in 1995, which primarily focused on health financing and management reforms. Besides, the program aimed at rationalizing hospital care and strengthening primary care.[59]

Components of health system in the ECO member states at a glance *

	Total expenditure on health as % of gross domestic product (2010)	General government expenditure on health as % of total expenditure on health (2010)	Out-of-pocket expenditure as % of private expenditure on health (2010)	Per capita total expenditure on health at average exchange rate (US$)	Physicians per 100,000 population (2005-12)	Hospital beds per 100,000 population (2005-12)	Antiretroviral therapy coverage among people with advanced HIV infection (%) 2011	Unmet need for family planning (%) 2005-2012	Population without access to improved drinking-water sources (%)	Population without access to improved sanitation (%)
Afghanistan	10.4	22.5	94	44	1.9	4	6	N/A	39	72
Azerbaijan	5.3	21.9	88.6	307	33.8	46	28	15	20	18
Iran	5.3	40.2	97	302	8.9	17	7	N/A	5	<2
Kazakhstan	4.3	59.1	98.8	395	38.4	76	27	N/A	5	3
Kyrgyzstan	6.7	55.7	87.3	60	24.7	48	23	N/A	11	7
Pakistan	1	76.6	N/A	10	8.1	6	10	25	9	53
Tajikistan	6	26.7	90.7	40	19	55	22	N/A	34	5
Turkey	6.7	74.8	64.4	668	17.1	25	50	6	<2	9
Turkmenistan	**2.5**	**60.4**	**100**	**105**	**N/A**	**41**	**N/A**	**N/A**	**29**	**<2**
Uzbekistan	5.6	49	90.2	80	25.4	45	N/A	N/A	13	<2

* Source: The World Health Statistics 2013, World Health Organization

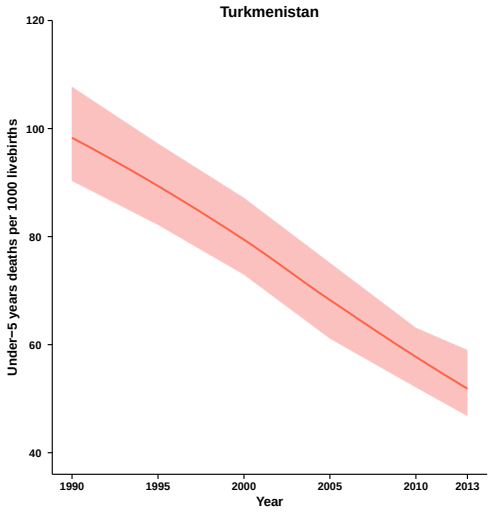
Health Status

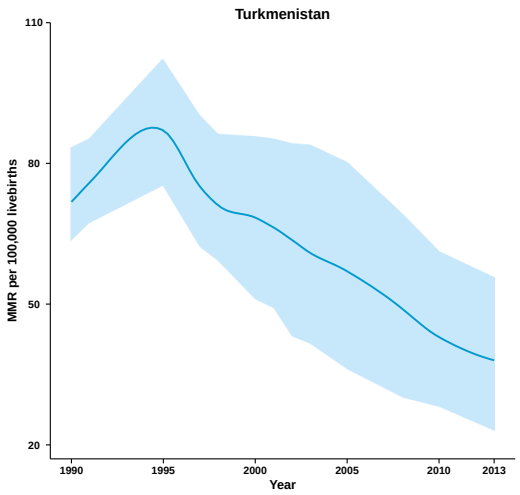
Profile Overview

- In terms of the number of years of life lost (YLLs) due to premature death in Turkmenistan, ischemic heart disease, cerebrovascular disease, 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), lower respiratory infections showed the largest decrease, falling by 84% from 1990 to 2010.
- The leading risk factor in Turkmenistan is dietary risks.

Maternal and Under-five Mortality Rates

As the graphs demonstrate, Under-5 mortality rate per 100,000 showed a decrease from 2318.13 in 1990 to 500.622 in 2010. Although there was an increase in Maternal Mortality Rate per 100,000 live births from 1990 to 1995, this variable decreased from 88 to 38.2 during the next 18 years in Turkmenistan.

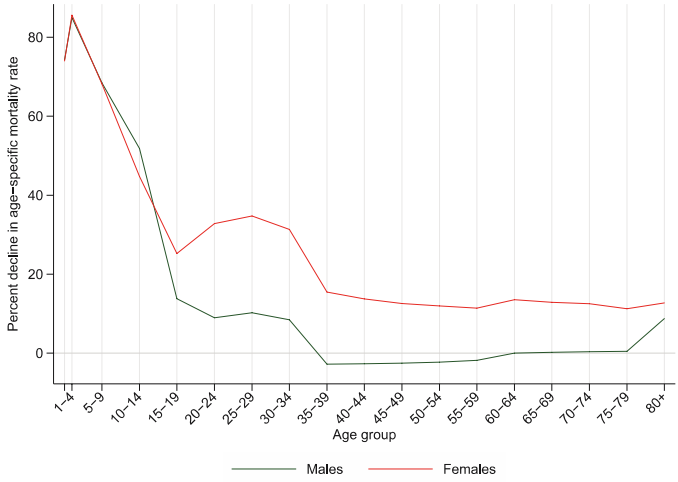




All-cause Mortality Rate

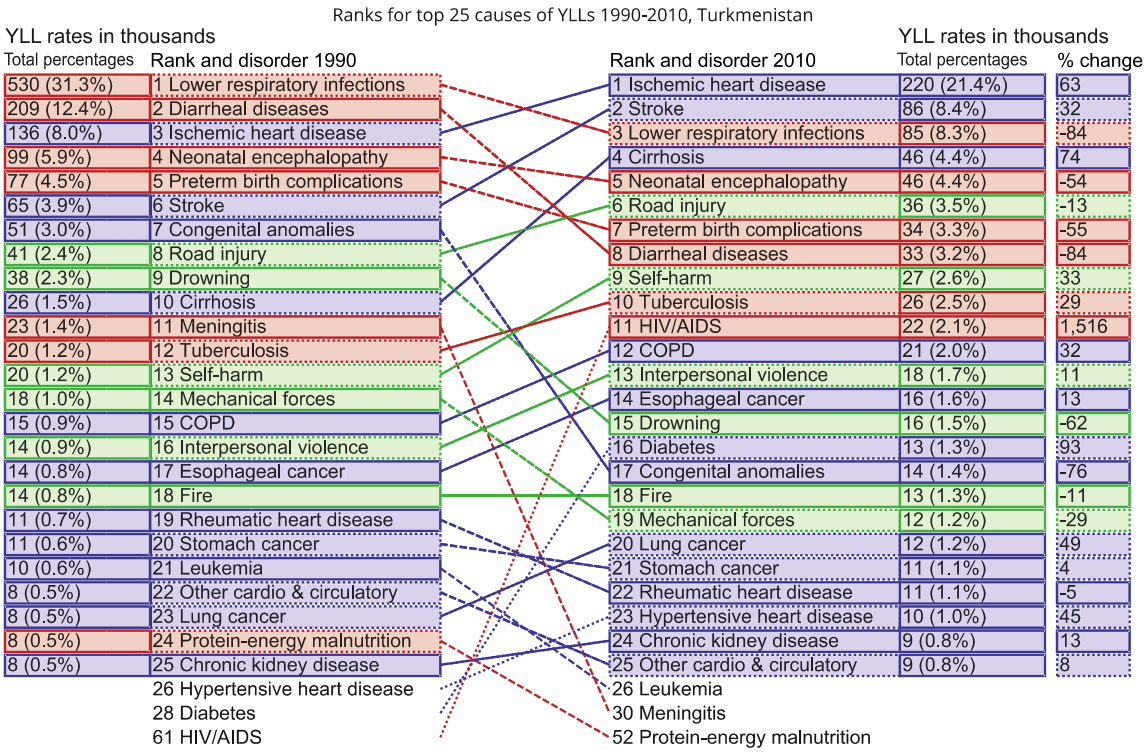
- This chart shows the change in mortality rate at every age range. The points above 0 on the chart indicate positive declines in the all-cause mortality rate, while points below 0 indicate an increase in mortality rate between 1990 and 2010.
- The greatest reductions in all-cause mortality rate were experienced by females aged 1-4 years (86%). Males aged 35-39 years saw the largest increase in mortality rate (3%).

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



CAUSES OF PREMATURE DEATH

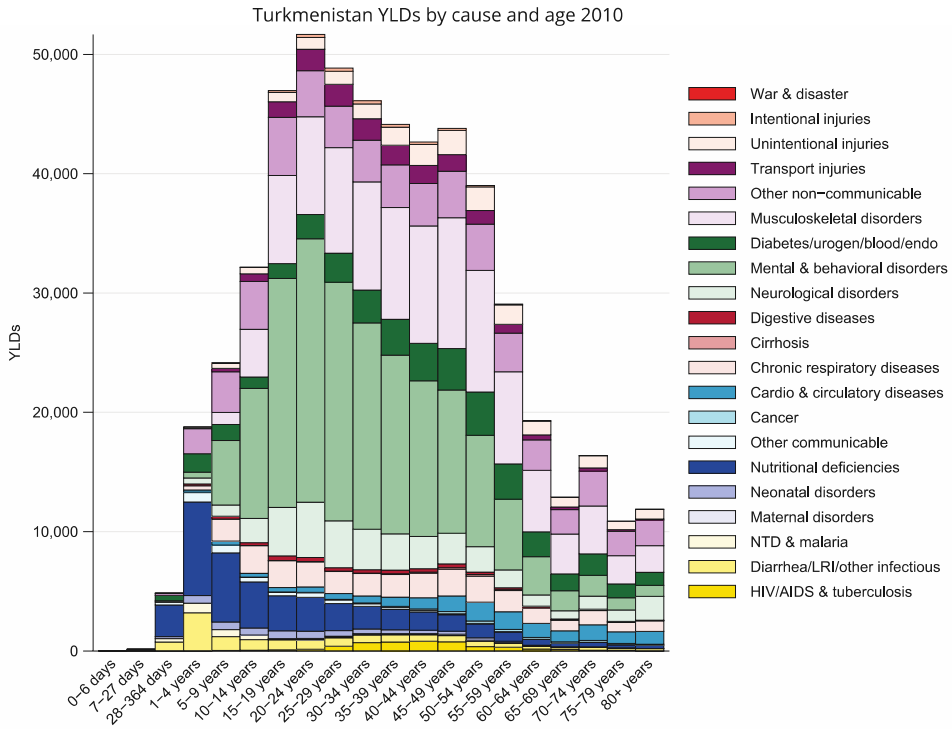
Years of life lost (YLLs) quantify premature mortality by weighting younger deaths more than older deaths.



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)

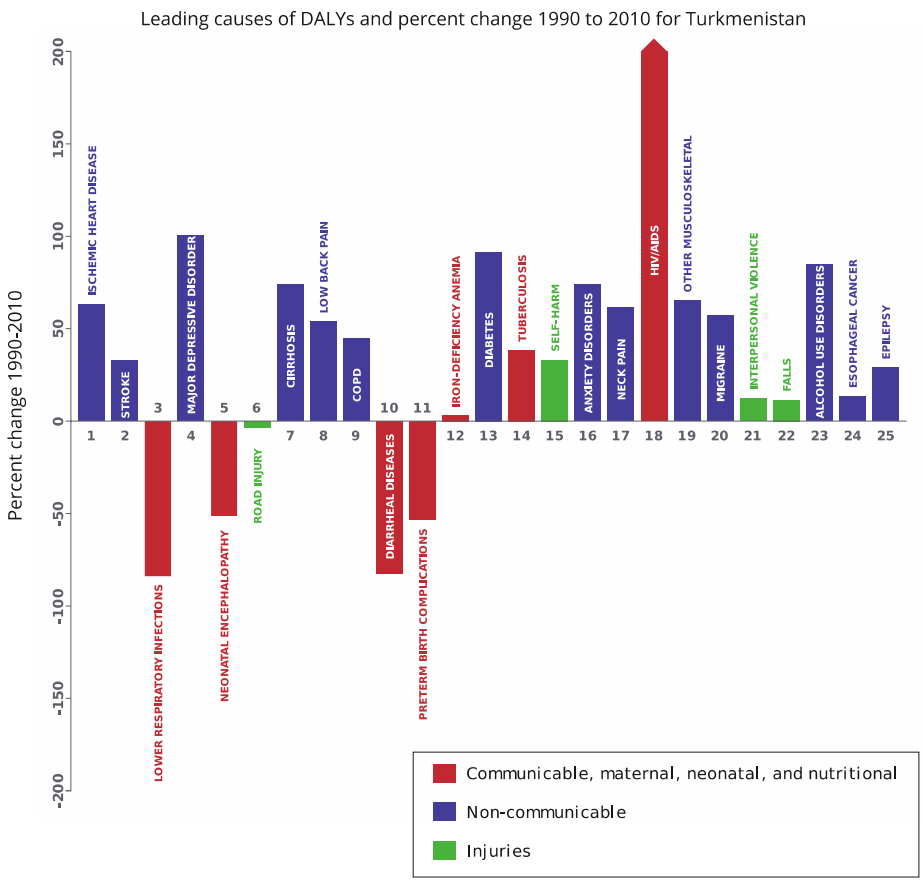
Years lived with disability (YLDs) are estimated by weighting the prevalence of different conditions based on severity. The top five leading causes of YLDs in Turkmenistan are major depressive disorder, low back pain, iron-deficiency anemia, anxiety disorders, and neck pain.



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)

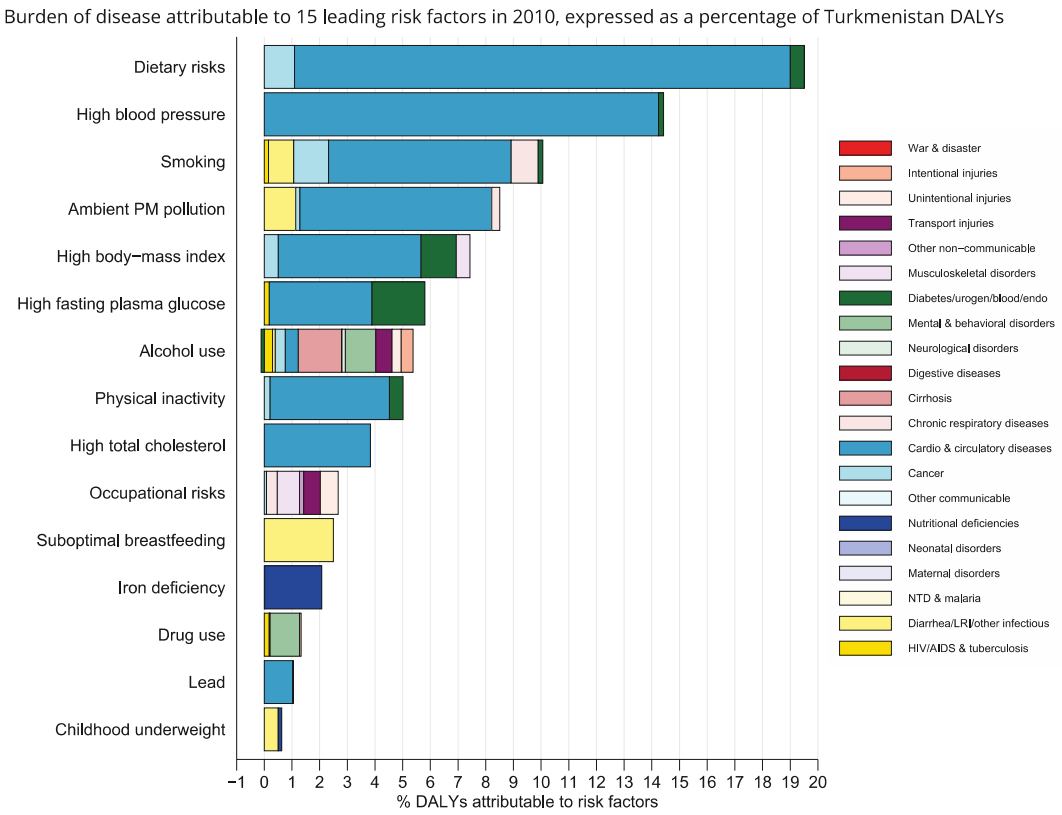
Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Turkmenistan, the top three causes of DALYs in 2010 were ischemic heart disease, cerebrovascular disease, and lower respiratory infections. The causes that were in the 10 leading causes of DALYs in 2010 and not 1990 were major depressive disorder, cirrhosis of the liver, low back pain, and chronic obstructive pulmonary disease.



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 Turkmenistan are dietary risks, high blood pressure, and tobacco smoking. The leading risk factors for children under 5 and adults aged 15-49 years were suboptimal breastfeeding and dietary risks, respectively, in 2010.



The graph shows the top 15 risk factors for Turkmenistan. 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 Turkmenistan against other ECO countries provides key insight into public health successes and areas where Turkmenistan might be falling behind. The table identifies Turkmenistan's rank across 9 other countries, for five metrics of interest, with 1 indicating the best rank and 10 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.

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
Afghanistan	1,931	10	1,668	10	68,958	10	52,078	10	17,727	10	17,252	10	51.9	10	57.7	10	42.4	10	47.3	10
Azerbaijan	961	3	695	3	31,387	4	20,272	3	12,212	3	11,620	2	66.7	4	72.5	3	57.4	3	62.5	3
Iran	934	1	640	2	29,033	1	16,780	2	13,288	9	12,619	9	67.5	1	74.4	1	57.2	5	63.2	2
Kazakhstan	1,043	5	1,043	9	31,524	5	29,881	7	11,955	2	11,587	1	66.2	5	66.7	8	57.3	4	58.2	7
Kyrgyzstan	1,047	6	999	8	33,446	6	30,037	8	12,606	7	12,336	8	65.5	6	66.9	7	56.2	6	57.6	8
Pakistan	1,120	8	982	7	41,231	9	33,518	9	12,877	8	12,323	7	62.3	9	65.7	9	53.3	9	56.5	9
Tajikistan	1,067	7	911	4	38,138	7	27,409	6	12,331	4	12,296	6	63.8	7	68.3	6	54.8	7	58.7	6
Turkey	942	2	628	1	30,025	3	16,760	1	12,442	6	11,885	3	67.1	3	74.4	1	57.6	2	63.9	1
Turkmenistan	**1,144**	**9**	**919**	**6**	**39,780**	**8**	**24,522**	**4**	**11,911**	**1**	**11,933**	**4**	**62.8**	**8**	**69.3**	**4**	**54.4**	**8**	**60**	**4**
Uzbekistan	972	4	911	5	29,477	2	26,063	5	12,381	5	12,150	5	67.3	2	68.8	5	57.8	1	59.3	5

This figure shows the rank of Turkmenistan relative to the other ECO countries for the leading causes of DALYs in 1990 (top) and 2010 (bottom).

- The columns are ordered by the absolute number of DALYs in Turkmenistan 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 10 as the worst.

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 1990										
Country	Lower respiratory infections	Diarrheal diseases	Ischemic heart disease	Neonatal encephalopathy	Preterm birth complications	Stroke	Congenital anomalies	Road injury	Drowning	Iron-deficiency anemia
Afghanistan	10	10	10	3	7	10	9	10	9	8
Azerbaijan	7	5	8	4	4	3	5	3	2	6
Iran	1	1	3	1	2	4	10	9	3	7
Kazakhstan	3	2	4	6	3	6	8	7	7	1
Kyrgyzstan	6	6	2	7	6	9	4	8	8	4
Pakistan	4	8	1	10	10	1	7	1	4	10
Tajikistan	9	9	5	5	9	5	2	4	6	5
Turkey	2	4	6	2	8	8	6	2	1	2
Turkmenistan	**8**	**7**	**9**	**9**	**5**	**2**	**3**	**6**	**10**	**3**
Uzbekistan	5	3	7	8	1	7	1	5	5	9

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 2010										
Country	Ischemic heart disease	Stroke	Lower respiratory infections	Major depressive disorder	Neonatal encephalopathy	Road injury	Cirrhosis	Low back pain	COPD	Diarrheal diseases
Afghanistan	9	10	10	10	3	10	4	7	8	9
Azerbaijan	4	4	5	2	5	2	3	2	2	5
Iran	3	2	1	9	2	9	1	10	1	1
Kazakhstan	8	7	3	1	7	8	7	8	7	4
Kyrgyzstan	6	9	6	3	8	7	10	4	9	6

Pakistan	1	1	7	4	10	3	5	1	10	10
Tajikistan	5	6	8	5	6	4	6	3	5	8
Turkey	2	5	2	8	1	1	2	9	4	2
Turkmenistan	**10**	**3**	**4**	**7**	**4**	**5**	**8**	**5**	**6**	**7**
Uzbekistan	7	8	9	6	9	6	9	6	3	3
Ranking legend		1-3		4-7		8-10				

Republic of Uzbekistan

General View

Uzbekistan, officially the Republic of Uzbekistan is a doubly landlocked country in Central Asia. The country is bordered by five countries: Kazakhstan and the Aral Sea to the north; Tajikistan to the southeast; Kyrgyzstan to the northeast; Afghanistan to the south; and Turkmenistan to the southwest. Total population of the country has been estimated to be more than 3,000,000 in 2013. The country covers 448 978 square kilometers, and its capital is Tashkent. [60]

History

The Uzbekistan land was once part of the ancient Persian Empire and was later conquered by Alexander the Great in the 4th century B.C. The Mongols took over the region from the Seljuk Turks in the 13th century, and it later became part of Tamerlane the Great's empire and that of his successors until the 16th century. The Uzbeks invaded the territory in the early 16th century and merged with the other inhabitants in the area. Their empire broke up into separate Uzbek principalities, the khanates of Khiva, Bukhara, and Kokand. These city-states resisted Russian expansion into the area but were conquered by the Russian forces in the mid-19th century. [61]

Culture

Culture of Uzbekistan is one of the brightest and original cultures of East. It is inimitable national music, dances and painting, unique national kitchen and clothes. The Uzbek national music is characterized as variety of subjects and genres. The songs and tool plays according to their functions and forms of usage can be divided into two groups: performed in the certain time and under the certain circumstances and performed at any time. The songs connected with customs and traditions, labor processes, various ceremonies, dramatized entertainment representations and games belong to the first group. [62]

Political System

The Republic of Uzbekistan is a presidential constitutional republic, whereby the President of Uzbekistan is both head of state and head of government. Executive power is exercised by the government. Legislative power is vested in the two chambers of the Supreme Assembly, the Senate and the Legislative Chamber. The judicial branch (or judiciary), is composed of the Supreme Court, Constitutional Court, and Higher Economic Court that exercises judicial power. [63]

Economy

Since the mid-2000s, Uzbekistan has enjoyed robust GDP growth, thanks to favorable trade terms for its key export commodities like copper, gold, natural gas, cotton, the

government's macro-economic management, and limited exposure to international financial markets that protected it from the economic downturn. Still, the future is not without challenges. Overall growth for Uzbekistan is projected to continue at around 7 to 8 percent annually during 2011-14, supported by net exports and a large capital investment program. World prices for Uzbekistan's principal exports are projected to remain favorable at least through the first half of the 2012-15 fiscal year (FY) Country Partnership Strategy (CPS) period. [64]

Health System

The Uzbek health system has undergone significant changes since the country became independent in 1991. While Uzbekistan has made progress in the restructuring of different layers of health services with an increased emphasis on primary care, the coordination of different levels of care remains a major challenge. The establishment of a state-guaranteed benefits package was an important element of health reforms. However, a number of essential services were left outside the state-guaranteed benefits package for the majority of the population, including secondary and tertiary services and outpatient pharmaceuticals. [65]

Components of health system in the ECO member states at a glance *

	Total expenditure on health as % of gross domestic product (2010)	General government expenditure on health as % of total expenditure on health (2010)	Out-of-pocket expenditure as % of private expenditure on health (2010)	Per capita total expenditure on health at average exchange rate (US$)	Physicians per 100,000 population (2005-12)	Hospital beds per 100,000 population (2005-12)	Antiretroviral therapy coverage among people with advanced HIV infection (%) 2011	Unmet need for family planning (%) 2005-2012	Population without access to improved drinking-water sources (%)	Population without access to improved sanitation (%)
Afghanistan	10.4	22.5	94	44	1.9	4	6	N/A	39	72
Azerbaijan	5.3	21.9	88.6	307	33.8	46	28	15	20	18
Iran	5.3	40.2	97	302	8.9	17	7	N/A	5	<2
Kazakhstan	4.3	59.1	98.8	395	38.4	76	27	N/A	5	3
Kyrgyzstan	6.7	55.7	87.3	60	24.7	48	23	N/A	11	7
Pakistan	1	76.6	N/A	10	8.1	6	10	25	9	53
Tajikistan	6	26.7	90.7	40	19	55	22	N/A	34	5
Turkey	6.7	74.8	64.4	668	17.1	25	50	6	<2	9
Turkmenistan	2.5	60.4	100	105	N/A	41	N/A	N/A	29	<2
Uzbekistan	**5.6**	**49**	**90.2**	**80**	**25.4**	**45**	**N/A**	**N/A**	**13**	**<2**

* Source: The World Health Statistics 2013, World Health Organization

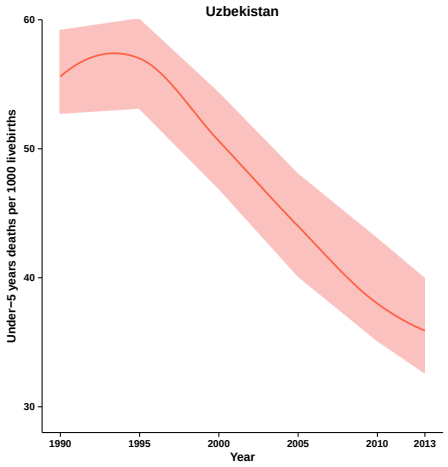
Health Status

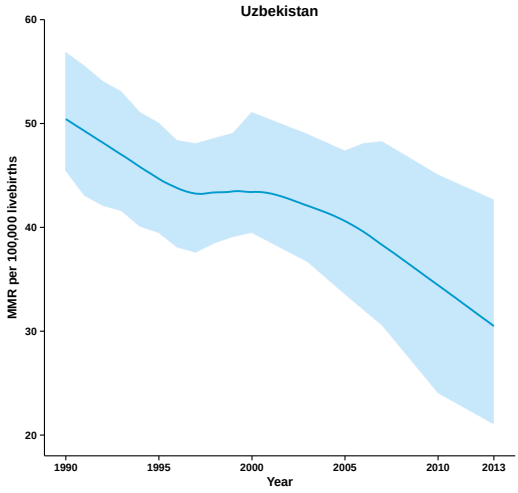
Profile Overview

- In terms of the number of years of life lost (YLLs) due to premature death in Uzbekistan, lower respiratory infections, ischemic heart disease, and cerebrovascular disease were the highest-ranking causes in 2010.
- Of the 25 most important causes of burden, as measured by disability-adjusted life years (DALYs), lower respiratory infections showed the largest decrease, falling by 39% from 1990 to 2010.
- The leading risk factor in Uzbekistan is dietary risks.

Maternal and Under-five Mortality Rates

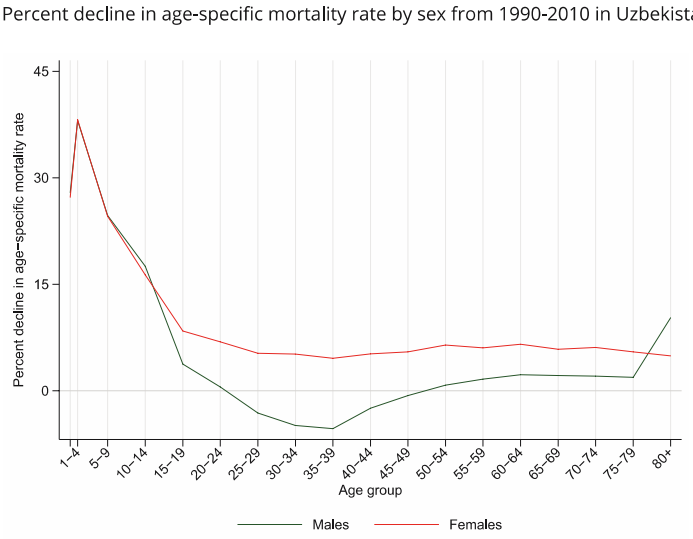
Based in the graphs, Under-5 mortality rate per 100,000 showed an increase from 1990 to 1995, but decreased by 417.99 during the next years. Maternal Mortality Rate per 100,000 live births decreased from 50.7 to 30.5 during the years 1990 and 2013 in Uzbekistan.





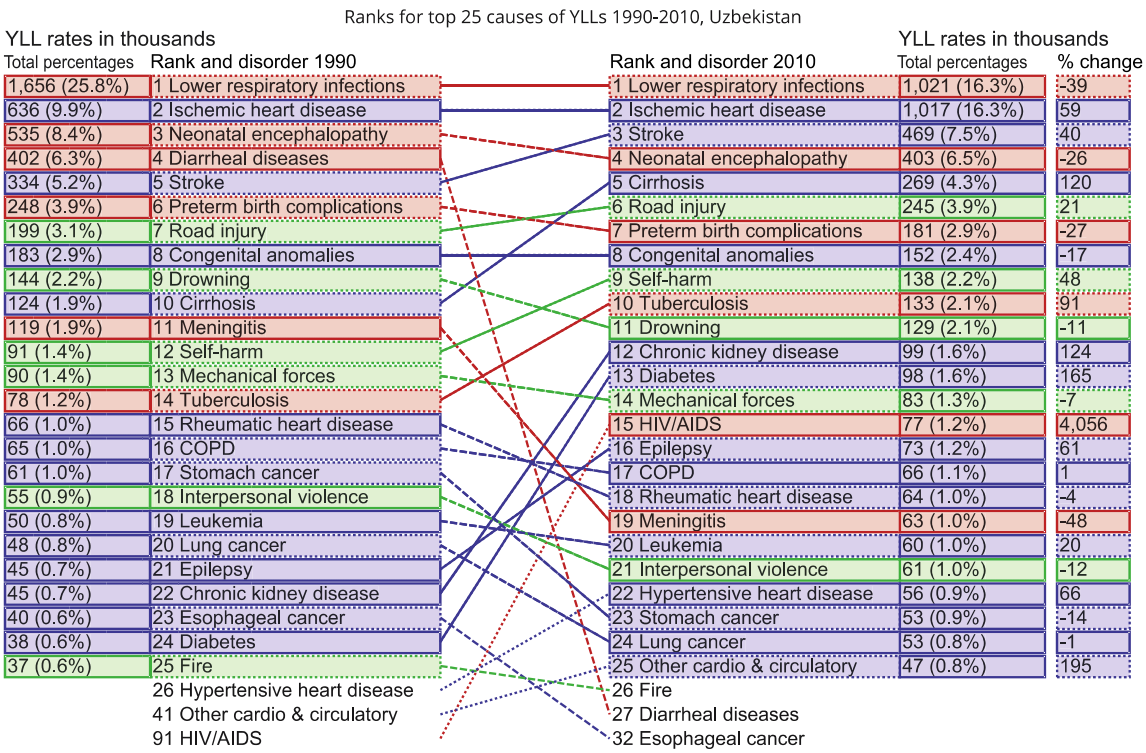
All-Cause Mortality Rate

- 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 (38%). Males aged 35-39 years saw the largest increase in mortality rate (5%).



CAUSES OF PREMATURE DEATH

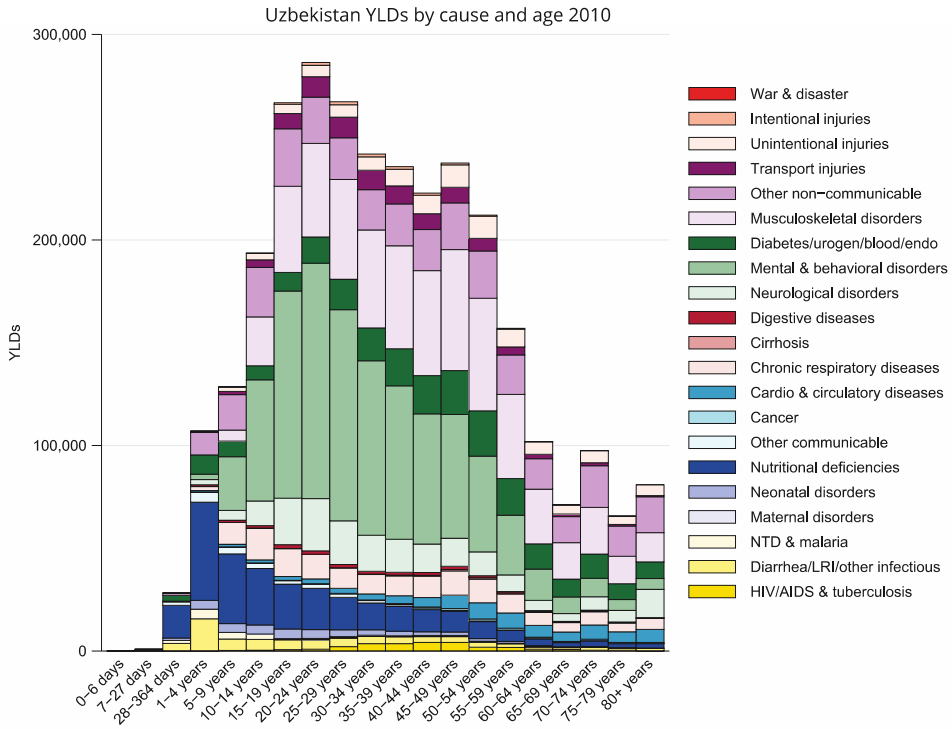
Years of life lost (YLLs) quantify premature mortality by weighting younger deaths more than older deaths.



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)

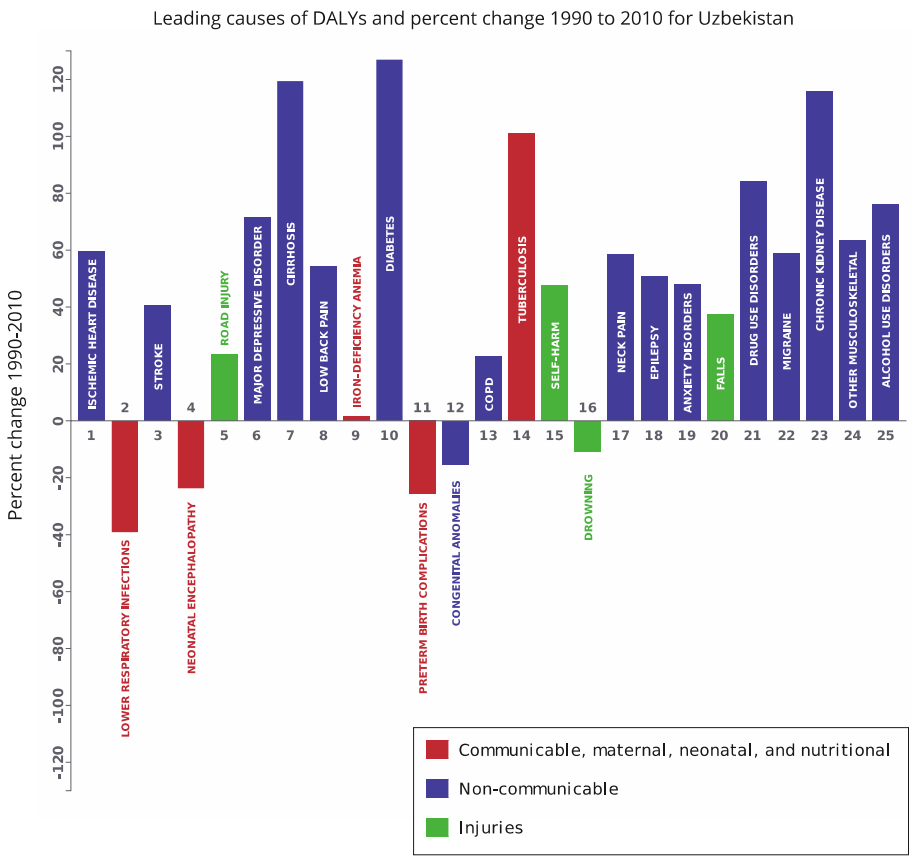
Years lived with disability (YLDs) are estimated by weighting the prevalence of different conditions based on severity. The top five leading causes of YLDs in Uzbekistan are major depressive disorder, low back pain, iron-deficiency anemia, neck pain, and anxiety disorders.



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)

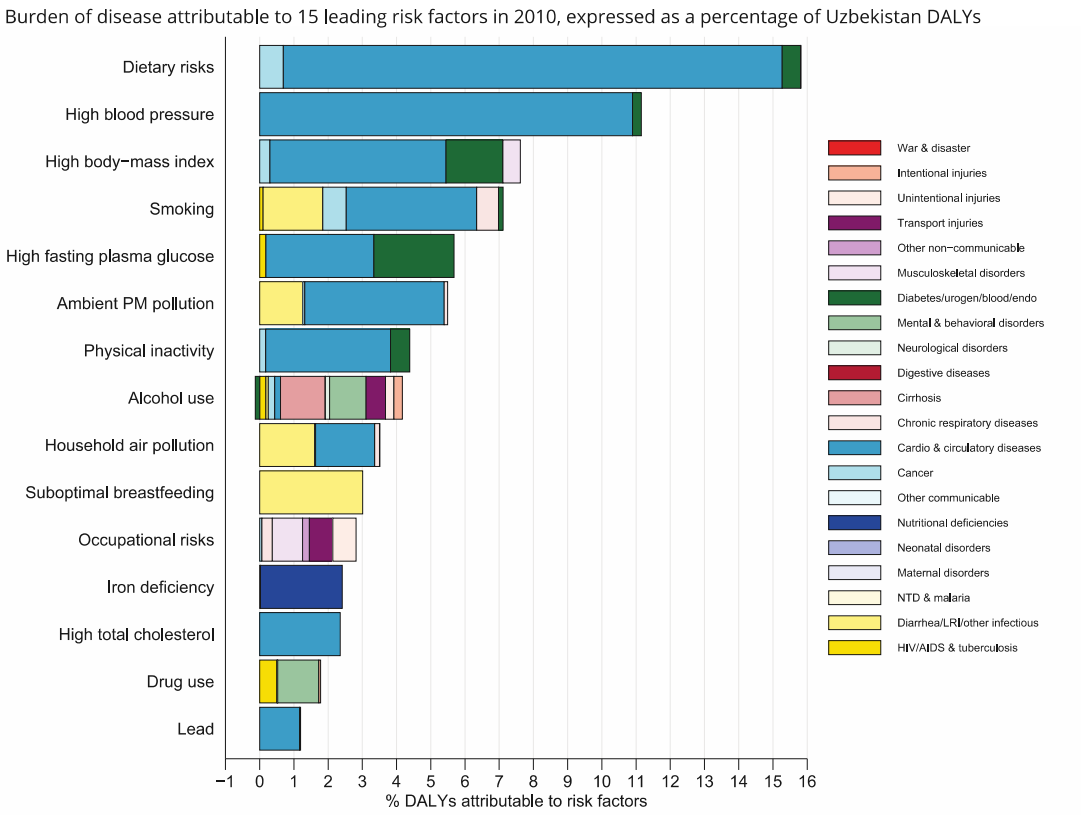
Disability-adjusted life years (DALYs) quantify both premature mortality (YLLs) and disability (YLDs) within a population. In Uzbekistan, the top three causes of DALYs in 2010 were ischemic heart disease, lower respiratory infections, and cerebrovascular disease. The causes that were in the 10 leading causes of DALYs in 2010 and not 1990 were cirrhosis of the liver, low back pain, and diabetes mellitus.



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 Uzbekistan are dietary risks, high blood pressure, and high body-mass index. The leading risk factors for children under 5 and adults aged 15-49 years were suboptimal breastfeeding and dietary risks, respectively, in 2010.



The graph shows the top 15 risk factors for Uzbekistan. 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 Uzbekistan against other ECO countries provides key insight into public health successes and areas where Uzbekistan might be falling behind. The table identifies Uzbekistan's rank across 9 other countries, for five metrics of interest, with 1 indicating the best rank and 10 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.

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
Afghanistan	1,931	10	1,668	10	68,958	10	52,078	10	17,727	10	17,252	10	51.9	10	57.7	10	42.4	10	47.3	10
Azerbaijan	961	3	695	3	31,387	4	20,272	3	12,212	3	11,620	2	66.7	4	72.5	3	57.4	3	62.5	3
Iran	934	1	640	2	29,033	1	16,780	2	13,288	9	12,619	9	67.5	1	74.4	1	57.2	5	63.2	2
Kazakhstan	1,043	5	1,043	9	31,524	5	29,881	7	11,955	2	11,587	1	66.2	5	66.7	8	57.3	4	58.2	7
Kyrgyzstan	1,047	6	999	8	33,446	6	30,037	8	12,606	7	12,336	8	65.5	6	66.9	7	56.2	6	57.6	8
Pakistan	1,120	8	982	7	41,231	9	33,518	9	12,877	8	12,323	7	62.3	9	65.7	9	53.3	9	56.5	9
Tajikistan	1,067	7	911	4	38,138	7	27,409	6	12,331	4	12,296	6	63.8	7	68.3	6	54.8	7	58.7	6
Turkey	942	2	628	1	30,025	3	16,760	1	12,442	6	11,885	3	67.1	3	74.4	1	57.6	2	63.9	1
Turkmenistan	1,144	9	919	6	39,780	8	24,522	4	11,911	1	11,933	4	62.8	8	69.3	4	54.4	8	60	4
Uzbekistan	**972**	**4**	**911**	**5**	**29,477**	**2**	**26,063**	**5**	**12,381**	**5**	**12,150**	**5**	**67.3**	**2**	**68.8**	**5**	**57.8**	**1**	**59.3**	**5**

This figure shows the rank of Uzbekistan relative to the other ECO countries for the leading causes of DALYs in 1990 (top) and 2010 (bottom).

- The columns are ordered by the absolute number of DALYs in Uzbekistan 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 10 as the worst.

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 1990										
Country	Lower respiratory infections	Ischemic heart disease	Neonatal encephalopathy	Diarrheal diseases	Stroke	Road injury	Preterm birth complications	Iron-deficiency anemia	Congenital anomalies	Major depressive disorder
Afghanistan	10	10	3	10	10	10	7	8	9	10
Azerbaijan	7	8	4	5	3	3	4	6	5	3
Iran	1	3	1	1	4	9	2	7	10	9
Kazakhstan	3	4	6	2	6	7	3	1	8	7
Kyrgyzstan	6	2	7	6	9	8	6	4	4	6
Pakistan	4	1	10	8	1	1	10	10	7	1
Tajikistan	9	5	5	9	5	4	9	5	2	2
Turkey	2	6	2	4	8	2	8	2	6	8
Turkmenistan	8	9	9	7	2	6	5	3	3	4
Uzbekistan	**5**	**7**	**8**	**3**	**7**	**5**	**1**	**9**	**1**	**5**

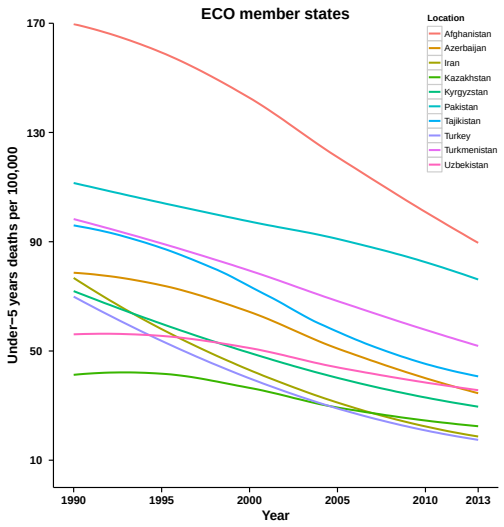
Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to ECO member states in 2010										
Country	Ischemic heart disease	Lower respiratory infections	Stroke	Neonatal encephalopathy	Road injury	Major depressive disorder	Cirrhosis	Low back pain	Iron-deficiency anemia	Diabetes
Afghanistan	9	10	10	3	10	10	4	7	8	10
Azerbaijan	4	5	4	5	2	2	3	2	5	5
Iran	3	1	2	2	9	9	1	10	2	4
Kazakhstan	8	3	7	7	8	1	7	8	4	2

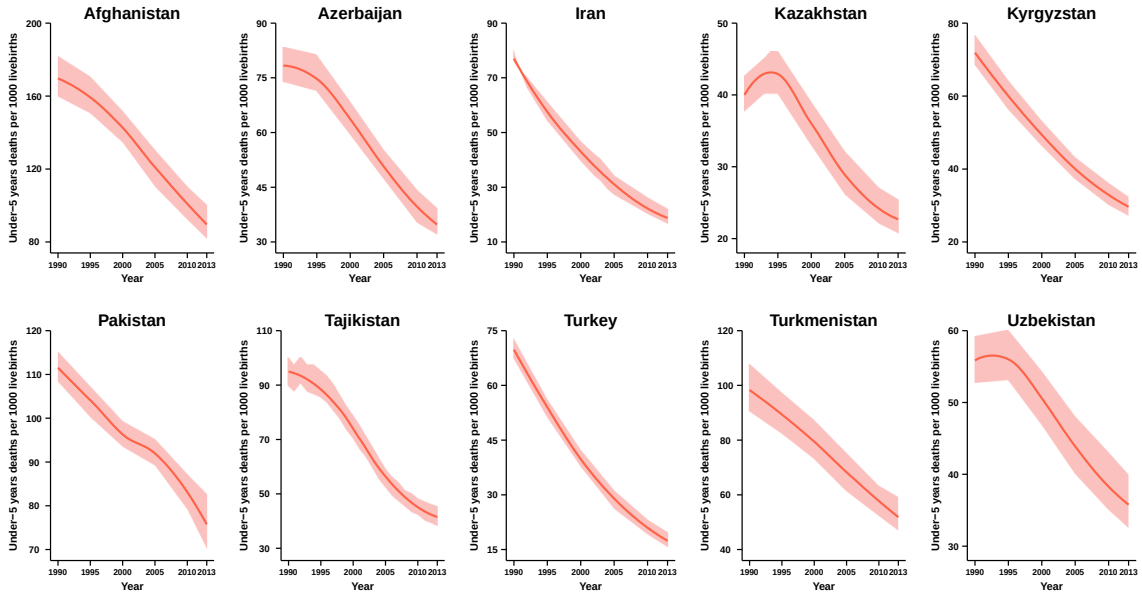
Kyrgyzstan	6	6	9	8	7	3	10	4	6	1
Pakistan	1	7	1	10	3	4	5	1	10	9
Tajikistan	5	8	6	6	4	5	6	3	7	7
Turkey	2	2	5	1	1	8	2	9	1	3
Turkmenistan	10	4	3	4	5	7	8	5	3	6
Uzbekistan	**7**	**9**	**8**	**9**	**6**	**6**	**9**	**6**	**9**	**8**
Ranking legend		1-3		4-7		8-10				

Health Profile of the ECO member states at a glance

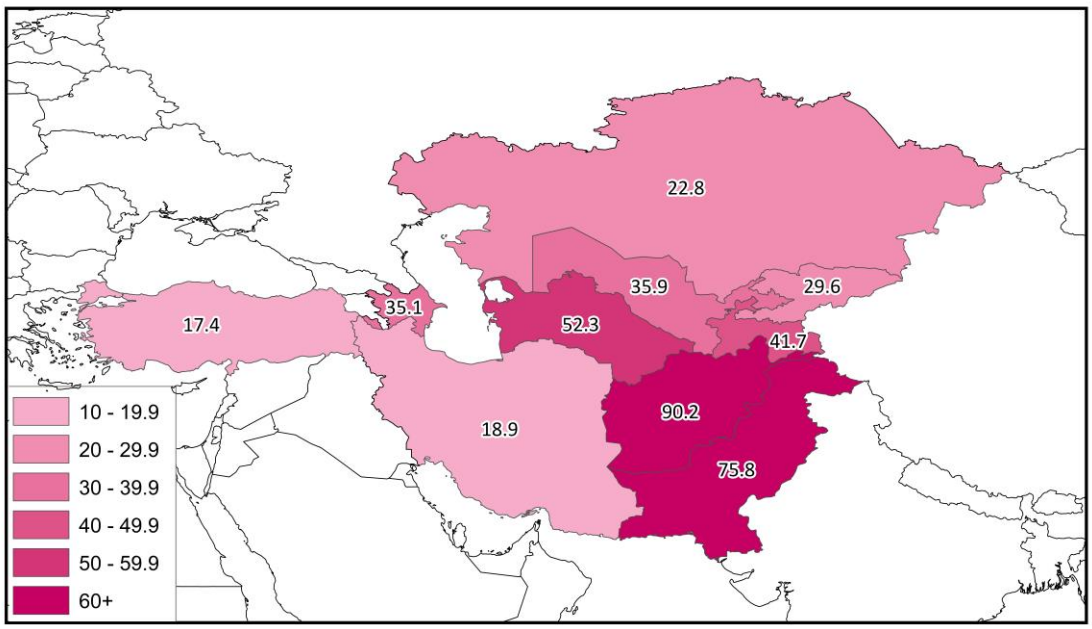
Under-5 Mortality Rates

Death rates among under-5 children in the ECO member states have been compared in the following graphs:



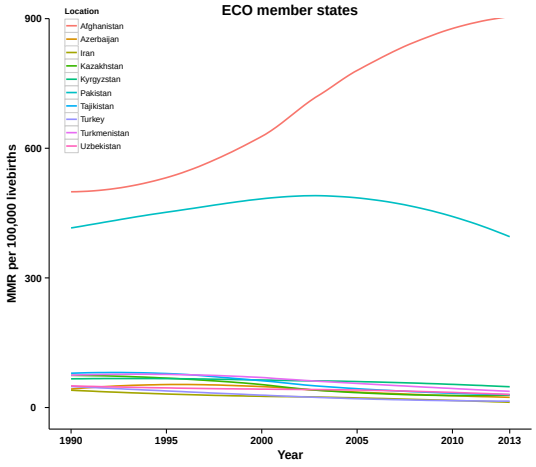


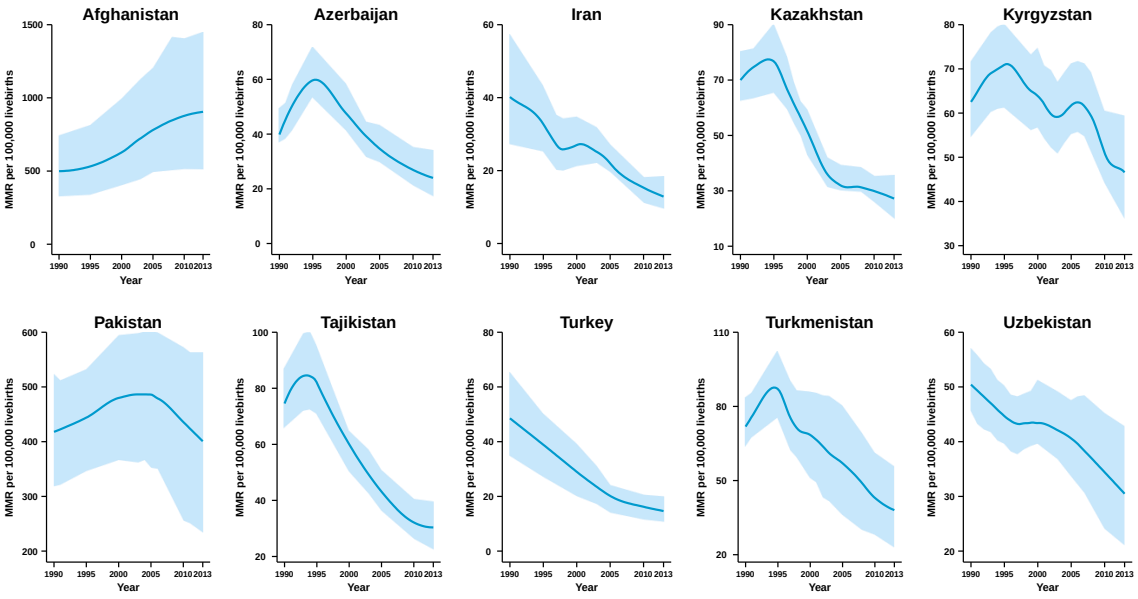
- The map below demonstrate the under-5 mortality rates in 2013 in ECO member states:



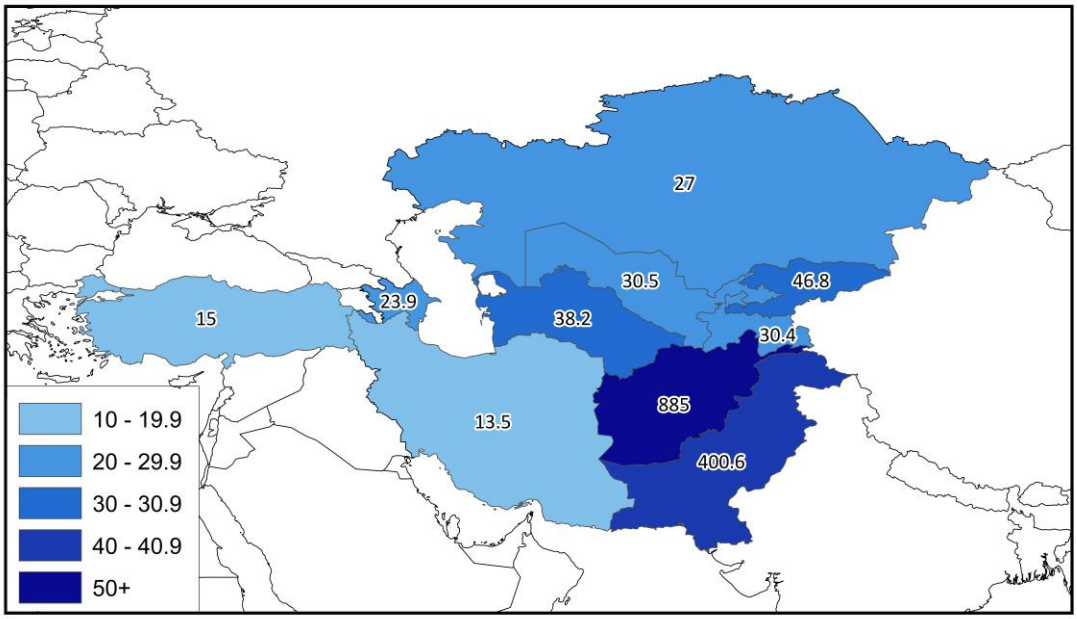
Maternal Mortality Rates

Maternal mortality rates per 100,000 live births are demonstrated in the following graphs:

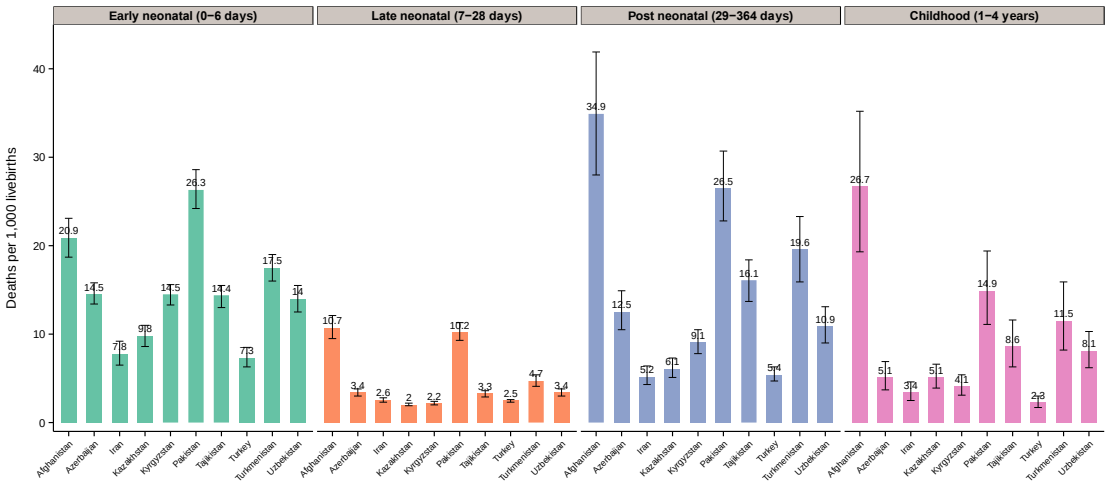




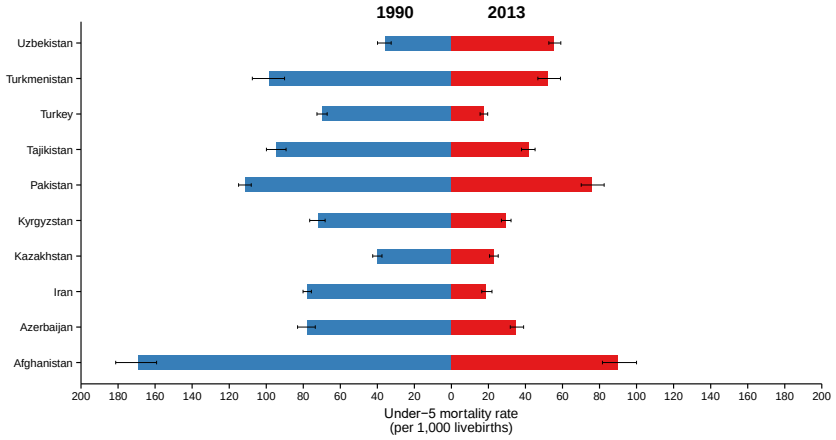
- The following map demonstrate the maternal mortality rates in 2013 in ECO member states:

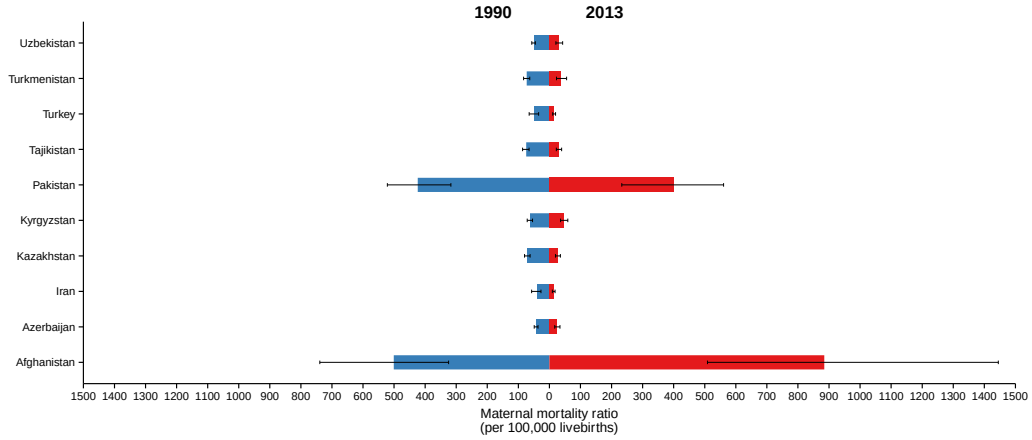


- The following chart compares the rates of mortality relevant to the early, late, post-neonatal, and childhood (1-4 years) per 1000 live births in the ECO member states in 2013:

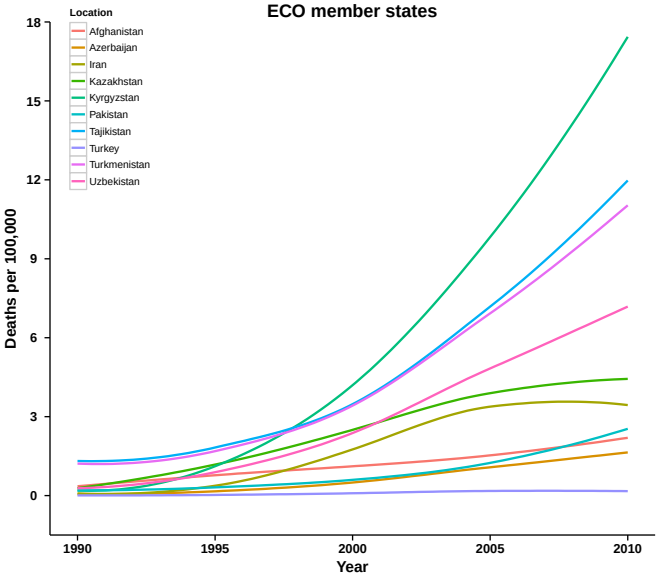


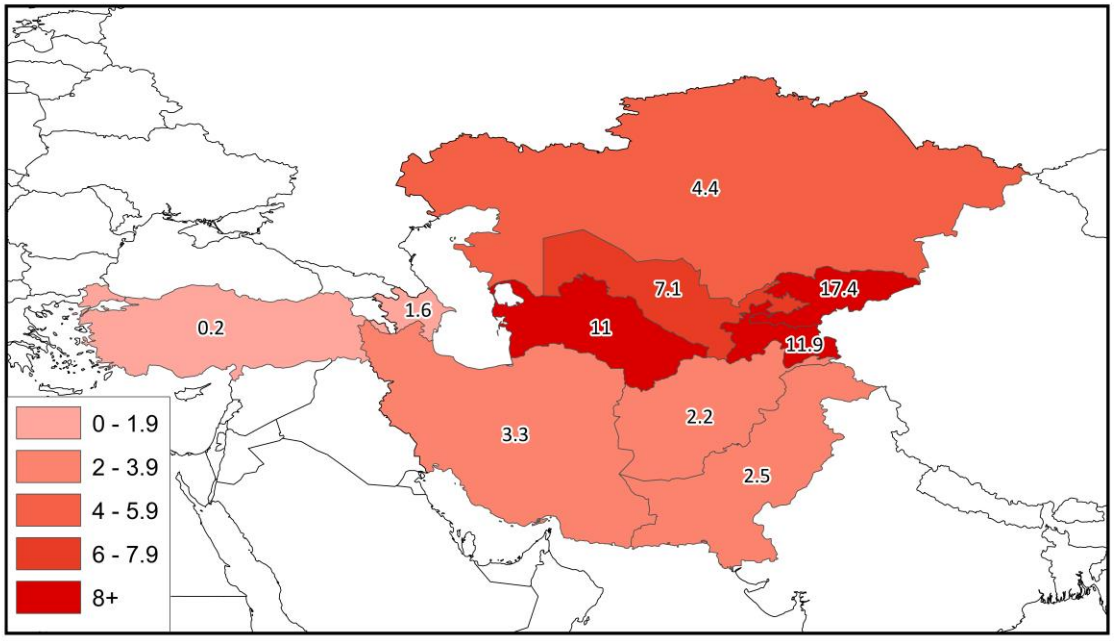
- The pyramid charts below compares the under-5 and maternal mortality ratio in 1990 and 2013 in ECO member states:



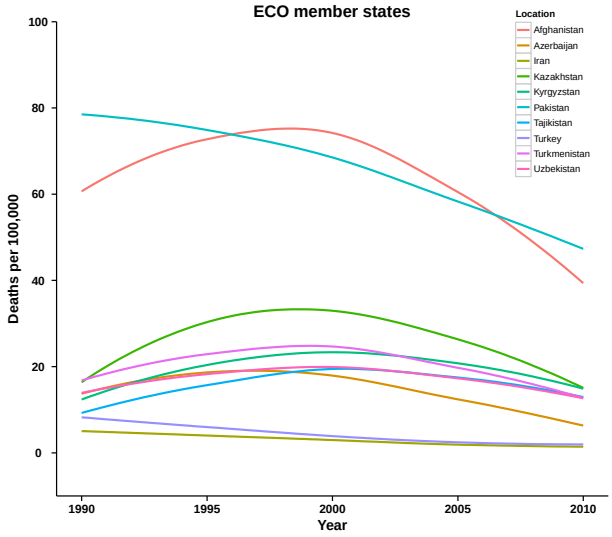


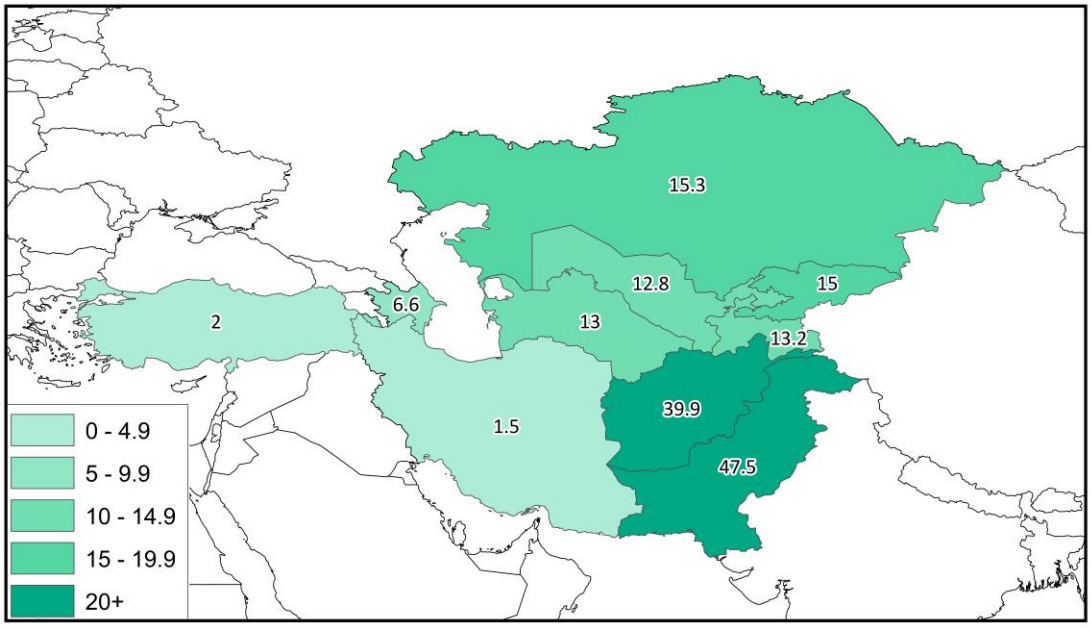
- The following figures demonstrate the trend, and the status of mortality rates (in 2010) per 100,000 due to HIV in ECO member states:



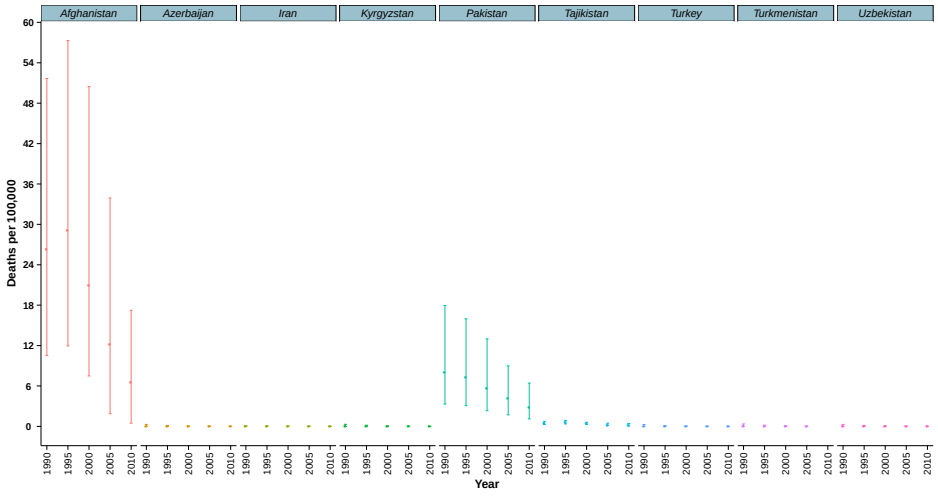


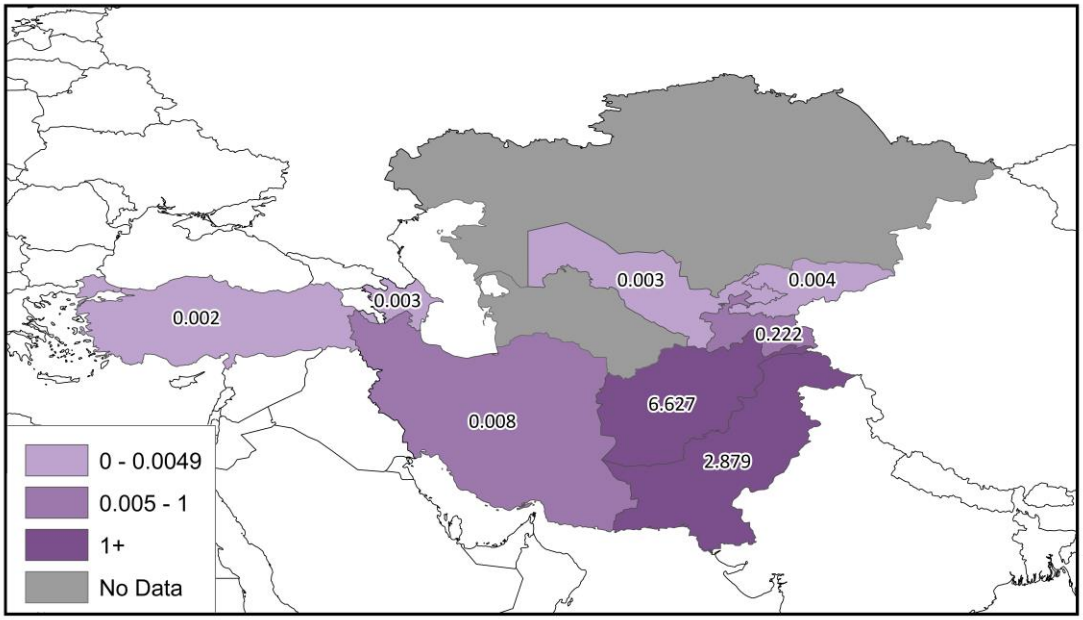
- The following figures demonstrate the trend, and the status of mortality rates (in 2010) per 100,000 due to TB in ECO member states:



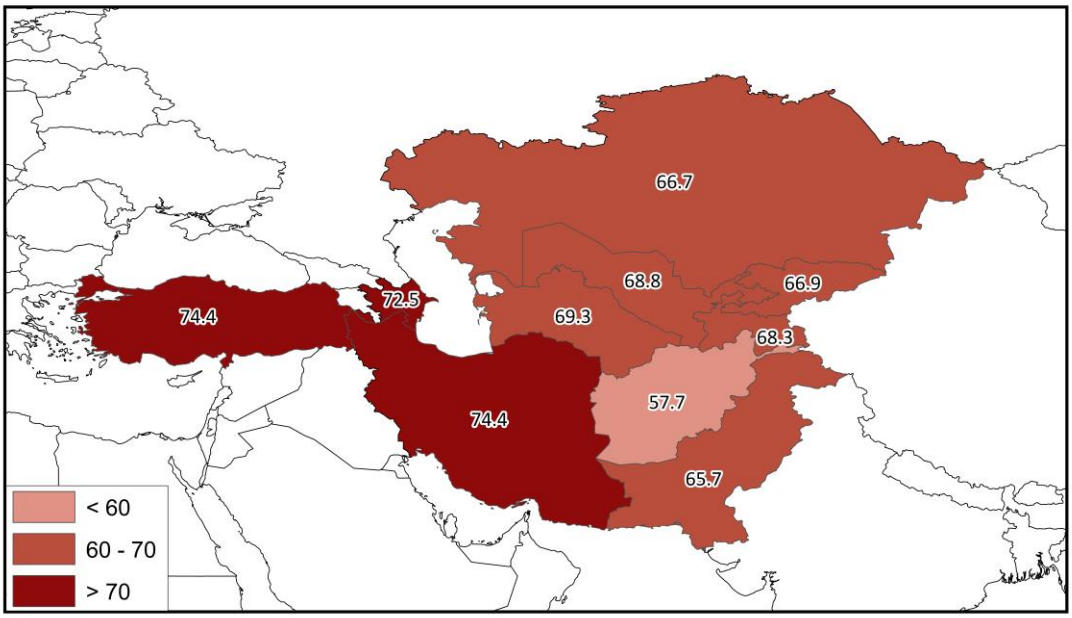


- The following figures demonstrate the trend, and the status of mortality rates (in 2010) per 100,000 due to Malaria in ECO member states:





- The following map demonstrate the status of Life Expectancy in 2010 in the ECO member states:



Conclusion:

Prevention of mortality and morbidity and reduction of the expenses based on the MDG could be the main goals of ECO member states agenda for health in next decade. A multilevel approach that integrates policies, regulations, training staff and population, and effective health interventions to achieve these goals could be the mission of the meeting of ECO countries' Ministers of Health. The ECO member states can benefit by sharing experience and pooling expertise for the prevention and control of the communicable and non-communicable diseases.

References

1. ECO Secretariat. About ECO. Available from: http://www.ecosecretariat.org/in2.htm

2. ECO Secretariat. First ECO Health Ministerial Meeting. Available from: http://www.ecosecretariat.org/Upcomming_Meetings/the%20First%20ECO%20Health%20Ministerial%20Meeting/final%20Baku%20declaration(10.02.2010).doc

3. Encyclopedia of the nations. Asia and the pacific. Available from: http://www.nationsencyclopedia.com/economies/Asia-and-the-Pacific/

4. Wikipedia. Afghanistan. Available from: http://en.wikipedia.org/wiki/Afghanistan

5. Afghanistan Online. Afghanistan: An Introduction. Available from: http://www.afghan-web.com/facts.html

6. Wikipedia. Culture of Afghanistan. Available from: http://en.wikipedia.org/wiki/Afghanistan#Culture

7. Omar Sial. Islamic Republic of Afghanistan Legal System and Research. Available from: http://www.nyulawglobal.org/globalex/afghanistan.htm

8. Institute for the study of war. Afghan government. Available from: https://www.understandingwar.org/afghan-government

9. Wikipedia. Economy of Afghanistan. Available from: http://en.wikipedia.org/wiki/Afghanistan#Economy

10. WHO. Afghanistan. Available from: http://www.who.int/hac/donorinfo/afg/en/index1.html

11. Nations Online. Azerbaijan. Available from: http://www.nationsonline.org/oneworld/azerbaijan.htm

12. Azerbaijan. The history of Azerbaijan general information. Available from: http://www.azerbaijan.az/portal/History/General/generalInfo_e.html

13. Azerbaijan. General information on Azeri culture. Available from: http://www.azerbaijan.az/portal/Culture/General/general_e.html

14. Azerbaijan. General information on state power of Azerbaijan republic. Available from: http://www.azerbaijan.az/portal/StatePower/General/generalInfo_e.html

15. Azerbaijan. General information on Azerbaijani economy. Available from: http://www.azerbaijan.az/portal/Economy/General/general_e.html

16. Ibrahimov, Fuad, Aybaniz Ibrahimova, and Erica Richardson. "Health financing in Azerbaijan." Measuring the quality of long-term care 16.2 (2010): 25.

17. United Nations. Islamic Republic of Iran. Available from: http://iran-un.org/en/15966-2/

18. Wikipedia. Government and Politics. Available from: http://en.wikipedia.org/wiki/Iran#Government_and_politics

19. Infoplease. Iranian political geography. Available from: http://www.infoplease.com/encyclopedia/world/iran-government.html

20. The World Bank. Iran overview. Available from: http://www.worldbank.org/en/country/iran/overview

21. Mehrdad R. Health system in Iran. JMAJ 52.1 (2009): 69-73.

22. America Registry. Kazakhstan country information. Available from: http://www.americaregistry.com/domain-names/whois/kz-domain-whois.htm

23. About Kazakhstan. Kazakhstan history. Available from: http://aboutkazakhstan.com/about-kazakhstan-history

24. Wikipedia. Culture of Kazakhstan. Available from: http://en.wikipedia.org/wiki/Culture_of_Kazakhstan

25. Visit Kazakhstan. Kazakh traditions. Available from: http://visitkazakhstan.kz/en/about/78/

26. About Kazakhstan. Kazakhstan government features. Available from: http://aboutkazakhstan.com/about-kazakhstan-government

27. The World Bank. Kazakhstan Overview. Available from: http://www.worldbank.org/en/country/kazakhstan/overview

28. Katsaga, A., Kulzhanov, M., Karanikolos, M., & Rechel, B. (2011). Kazakhkstan health system review. Health systems in transition, 14(4), 1-154.

29. Wikipedia. Kyrgyzstan. Available from: http://en.wikipedia.org/wiki/Kyrgyzstan

30. Britannica. Kyrgyzstan history. Available from: http://www.britannica.com/EBchecked/topic/326091/Kyrgyzstan/214569/History#ref599002

31. Wikipedia. History of Kyrgyzstan. Available from: http://en.wikipedia.org/wiki/History_of_Kyrgyzstan

32. Advantour. Kyrgyzstan culture, people and traditions. Available from: http://www.advantour.com/kyrgyzstan/culture.htm

33. Asian History. Kyrgyzstan fact and history. Available from: http://asianhistory.about.com/od/kyrgyzstan/p/kyrgyzstanprof.htm

34. The World Bank. Kyrgyz Republic Overview. Available from: http://www.worldbank.org/en/country/kyrgyzrepublic/overview

35. Ibraimova, A., E. Manzhieva, and B. Rechel. "Health systems in transition–Kyrgyzstan: health system review 2011." Copenhagen: WHO Regional Office for Europe (2011).

36. Wikipedia. Pakistan. Available from: http://en.wikipedia.org/wiki/Pakistan

37. Wikipedia. History of Pakistan. Available from: http://en.wikipedia.org/wiki/History_of_Pakistan

38. Wikipedia. Culture of Pakistan. Available from: http://en.wikipedia.org/wiki/Culture_of_Pakistan

39. Princeton. Politics of Pakistan. Available from: http://www.princeton.edu/~achaney/tmve/wiki100k/docs/Politics_of_Pakistan.html

40. The World Bank. Pakistan Overview. Available from: http://www.worldbank.org/en/country/pakistan/overview

41. WHO. Pakistan Health system strengthening. Available from: http://www.emro.who.int/pak/programmes/health-system-strengthening-hss.html

42. UNDP. About Tajikistan. Available from: http://www.tj.undp.org/content/tajikistan/en/home/countryinfo/

43. Wikipedia. History of Tajikistan. Available from: http://en.wikipedia.org/wiki/History_of_Tajikistan

44. Central Asia Cultures. Tajikistan Customs and Traditions. http://www.centralasiacultures.com/tajikistan

45. Princeton. Politics of Tajikistan. Available from: https://www.princeton.edu/~achaney/tmve/wiki100k/docs/Politics_of_Tajikistan.html

46. The World Bank. Tajikistan Overview. Available from: http://www.worldbank.org/en/country/tajikistan/overview

47. Khodjamurodov, G., & Rechel, B. (2009). Tajikistan: health system review. Health Systems in transition, 12(2), v-xix.

48. Wikipedia. Turkey. Available from: http://en.wikipedia.org/wiki/Turkey

49. Lonely Planet. History of Turkey. Available from: http://www.lonelyplanet.com/turkey/history

50. Wikipedia. Culture of Turkey. Available from: http://en.wikipedia.org/wiki/Culture_of_Turkey

51. Wikipedia. Politics of Turkey. Available from: http://en.wikipedia.org/wiki/Politics_of_Turkey

52. The World Bank. Turkey Overview. Available from: http://www.worldbank.org/en/country/turkey/overview

53. Tatar, M., Mollahaliloglu, S., Sahin, B., Aydın, S., Maresso, A., & Hernández-Quevedo, C. (2011). Health Systems in Transition. Health, 13(6).

54. Wikipedia. Turkmenistan. Available from: http://en.wikipedia.org/wiki/Turkmenistan

55. Infoplease. Turkmenistan. Available from: http://www.infoplease.com/country/turkmenistan.html

56. Advantour. Culture of Turkmenistan. Available from: http://www.advantour.com/turkmenistan/culture.htm

57. Turkmenistan Embassy. Government and politics. Available from: http://turkmenistanembassy.org/government-politics/

58. The World Bank. Turkmenistan Overview. Available from: http://www.worldbank.org/en/country/turkmenistan/overview

59. Global Medicine. Turkmenistan: health system challenges. Available from: http://www.globalmedicine.nl/images/stories/GM9/pdf/gm9-turkmenistan.pdf

60. Wikipedia. Uzbekistan. Available from: http://en.wikipedia.org/wiki/Uzbekistan

61. Infoplease. History of Uzbekistan. Available from: http://www.infoplease.com/country/uzbekistan.html

62. Embassy of Uzbekistan to the United States. About Uzbekistan. http://www.uzbekistan.org/uzbekistan/culture/

63. Wikipedia. Politics of Uzbekistan. Available from: http://en.wikipedia.org/wiki/Politics_of_Uzbekistan

64. The World Bank. Uzbekistan Overview. Available from: http://www.worldbank.org/en/country/uzbekistan/overview

65. Ahmedov M, Azimov R, Alimova V, Rechel B: Uzbekistan: Health system review. In Health Systems in Transition. Volume 9. Copenhagen: European Observatory on Health Systems and Policies; 2007::1-210.