

EAN Fact Sheet

Country profile of Uzbekistan

EAN Fact Sheet

Country profile of Uzbekistan

The EAN is pleased to present this fact sheet to each and every national neurological society, offering key insights into the latest epidemiological, economic, and demographic trends. This data aims to support informed decision-making and enhance understanding of neurological conditions on both national and European level with information provided by three EAN projects: the [“Burden of Neurological Disease in Europe”](#) study, the EAN [“COst of Illness in Neurology in EUrope \(COIN-EU\)”](#) project, the EAN NNS 2021-2022 survey.

Burden of Disease in Europe – Collaboration with IHME

Neurological disorders are the second most common cause of disability and premature death in the European Region and their prevalence and burden will likely increase with the progressive ageing of the European population. Greater attention to neurological diseases must be paid by health authorities for prevention and care. For this reason, the European Academy of Neurology is conducting research on gaining and analysing reliable data on the number of patients with neurological diseases.

These data are obtained from the currently most developed data base, the [Global Burden of Disease \(GBD\)](#) study of the Institute for Health Metrics and Evaluation (IHME), University of Washington, Seattle. The burden of neurological disorders in Europe was calculated for the year 2021 as prevalence, mortality, disability-adjusted life-years (DALYs), years of life lost (YLLs), and years lived with disability (YLDs) for the countries in the EU and the WHO European region for a total of 26 neurological disorders.

The study in Europe is run by the EAN and led by Prof. Dr. Günther Deuschl, Dr. Maurizio Leone and Maria Konti, M.Sc., in close collaboration with the leading scientists of the IHME Institute.

In the table below, you will find the national total counts for DALYs, YLDs, YLLs, prevalence, and deaths, the age-standardised rates by neurological disorder category for the years 1990 and 2021, and the percentage change for both of your country and the WHO Europe.

Diseases with counts less than one have been excluded and the number of decimal points has been adjusted individually for each disease.

	Counts	Age-standardized rate		Percentage change, 1990-2021	
	(thousands)	(per 100 000 people)		Uzbekistan	WHO Europe
	2021	1990	2021		
All Neurological Disorders					
DALYs	1,258,736	5,434	4,516	-16.9%	-29.0%
Deaths	28,801	168	137	-18.5%	-43.2%
Prevalence	14,423,801	41,851	42,642	1.9%	0.3%
YLDs	531,931	1,462	1,702	16.4%	2.9%
YLLs	726,736	3,972	2,814	-29.2%	-44.4%
Alzheimer's disease and other dementias					
DALYs	65,994	379	367	-3.0%	-2.5%
Deaths	3,004	20.28	19.32	-4.8%	-2.8%
Prevalence	114,617	609	606	-0.5%	-2.1%
YLDs	23,382	128	126	-1.2%	-2.6%
YLLs	42,612	251	241	-4.0%	-2.5%
Chromosomal abnormalities					
DALYs	1,397	4.27	3.92	-8.2%	-12.3%
Prevalence	15,628	48	44	-8.0%	-12.8%
YLDs	1,397	4.27	3.92	-8.1%	-12.4%
Covid-19 (neurological)					
DALYs	10,933	-	33	-	-
Prevalence	108,493	-	321	-	-
YLDs	10,933	-	33	-	-
Cystic echinococcosis					
DALYs	65	0.21	0.19	-11.7%	-18.3%
Prevalence	202	0.62	0.59	-5.3%	-9.0%
YLDs	65	0.21	0.19	-11.5%	-18.4%
Diabetic neuropathy					
DALYs	105,737	123	359	191.1%	98.1%
Prevalence	823,680	963	2,801	190.9%	97.9%
YLDs	105,737	123	359	191.1%	98.1%

Down syndrome					
DALYs	415	1.59	1.19	-25.2%	-19.6%
Prevalence	4,611	18	13	-25.0%	-20.7%
YLDs	415	1.59	1.19	-24.9%	-19.8%
Encephalitis					
DALYs	31,134	135	86	-36.5%	-30.1%
Deaths	439	1.96	1.24	-36.5%	-15.9%
Prevalence	15,531	58	46	-21.0%	-13.6%
YLDs	1,596	5.80	4.56	-21.4%	-12.0%
YLLs	29,538	129	81	-37.2%	-31.0%
Epilepsy					
DALYs	106,160	296	307	3.7%	-12.6%
Deaths	902	2.63	2.63	0.0%	3.9%
Prevalence	161,910	400	479	19.8%	3.3%
YLDs	54,319	146	161	10.0%	-11.3%
YLLs	51,841	150	146	-2.6%	-14.3%
Guillain-Barre Syndrome					
DALYs	179	0.54	0.55	0.6%	12.4%
Prevalence	604	1.83	1.84	0.5%	12.4%
YLDs	179	0.54	0.55	0.5%	12.4%
Idiopathic intellectual disability					
DALYs	8,105	31	23	-25.2%	-19.7%
Prevalence	206,744	840	591	-29.6%	-21.2%
YLDs	8,105	31	23	-25.2%	-19.7%
Klinefelter syndrome					
DALYs	18	0.03	0.03	5.6%	5.7%
Prevalence	1,346	3.63	3.78	4.2%	5.5%
YLDs	18	0.03	0.03	5.6%	5.5%

	Counts (thousands)		Age-standardized rate (per 100 000 people)		Percentage change, 1990-2021	
	2021	1990	2021	Uzbekistan	WHO Europe	
Meningitis						
DALYs	11,059	319	31	-90.3%	-80.5%	
Deaths	141	4.21	0.41	-90.2%	-75.4%	
Prevalence	21,334	207	63	-69.5%	-66.7%	
YLDs	1,899	17	5	-66.8%	-64.6%	
YLLs	9,160	303	26	-91.6%	-81.3%	
Migraine						
DALYs	176,360	508	507	-0.1%	0.04%	
Prevalence	4,725,170	13,613	13,577	-0.3%	0.3%	
YLDs	176,360	508	507	-0.1%	0.04%	
Motor neuron disease						
DALYs	178	0.51	0.52	2.4%	37.5%	
Prevalence	813	2.39	2.38	-0.4%	19.8%	
YLDs	173	0.51	0.51	-0.4%	19.5%	
YLLs	5	0.00	0.02	765.3%	38.5%	
YLLs	4,721	4.55	8.30	82.4%	38.5%	
Multiple sclerosis						
DALYs	2,188	9	7	-18.4%	-5.0%	
Deaths	19	0.10	0.09	-10.7%	-12.5%	
Prevalence	6,238	24	19	-20.0%	26.4%	
YLDs	1,664	6.33	5.13	-19.0%	25.5%	
YLLs	524	2.28	1.89	-16.8%	-22.2%	
Nervous system cancer						
DALYs	66,740	139	194	39.3%	-3.3%	
Deaths	1,410	3.08	4.37	42.1%	10.8%	
Prevalence	3,831	7	11	60.4%	35.9%	
YLDs	546	1.06	1.62	52.1%	25.3%	
YLLs	66,194	138	192	39.2%	-3.7%	

Neurocysticercosis						
DALYs	149	0.60	0.47	-21.3%	-42.5%	
Prevalence	450	1.58	1.43	-9.5%	-32.8%	
YLDs	144	0.55	0.46	-16.2%	-42.5%	
YLLs	5	0.06	0.02	-71.3%	-70.7%	
Neurosyphilis						
DALYs	38	0.16	0.12	-24.7%	-43.6%	
Prevalence	314	1.25	0.97	-21.9%	-11.7%	
YLDs	38	0.16	0.12	-24.7%	-43.4%	
Other neurological disorders						
DALYs	19,925	34	60	78.4%	25.8%	
Deaths	171	0.32	0.64	98.8%	45.0%	
YLDs	11,987	19	36	88.9%	62.9%	
YLLs	7,870	15	24	65.8%	14.2%	
Parkinson's disease						
DALYs	11,803	52	60	15.7%	5.6%	
Deaths	538	2.62	3.09	17.8%	4.0%	
Prevalence	19,294	80	91	13.0%	21.9%	
YLDs	2,813	12	13	12.9%	21.4%	
YLLs	8,990	41	47	16.5%	2.0%	
Rabies						
DALYs	62	0.42	0.19	-54.5%	-59.7%	
Deaths	1	0.01	0.01	-55.2%	-57.2%	
YLLs	62	0.42	0.19	-54.6%	-59.7%	
Spinal cord injury						
DALYs	16,102	61	46	-24.6%	-26.9%	
Prevalence	49,742	178	142	-20.2%	-21.9%	
YLDs	16,102	61	46	-24.6%	-26.9%	

	Counts (thousands)	Age-standardized rate (per 100 000 people)		Percentage change, 1990-2021	
	2021	1990	2021	Uzbekistan	WHO Europe
Stroke					
DALYs	580,744	3,199	2,302	-28.0%	-52.6%
Deaths	22,175	133	105	-20.8%	-55.6%
Prevalence	391,747	1,394	1,350	-3.2%	-19.2%
YLDs	70,820	257	248	-3.5%	-18.9%
YLLs	509,924	2,942	2,054	-30.2%	-55.3%
Tension-type headache					
DALYs	22,906	66.72	66.79	0.1%	-1.6%
Prevalence	10,345,180	30,285	30,269	-0.1%	-0.8%
YLDs	22,906	66.72	66.79	0.1%	-1.6%
Tetanus					
DALYs	11	0.72	0.04	-94.1%	-97.3%
Traumatic Brain Injury					
DALYs	20,334	74	60	-18.6%	-28.2%
Prevalence	136,516	500	406	-18.7%	-28.0%
YLDs	20,334	74	60	-18.6%	-28.2%

Table 1: National total counts for DALYs, YLDs, YLLs, prevalence, and deaths, age-standardised rates by neurological disorder category for 1990 and 2021, and percentage change of 1990-2021. Diseases with counts less than one have been excluded and the number of decimal points has been adjusted individually for each disease.

Neurological conditions

In figure 1 below, the top 20 neurological disorders are ranked based on the national age-standardised rate of DALYs per 100 000 population in 2021 for all age groups.

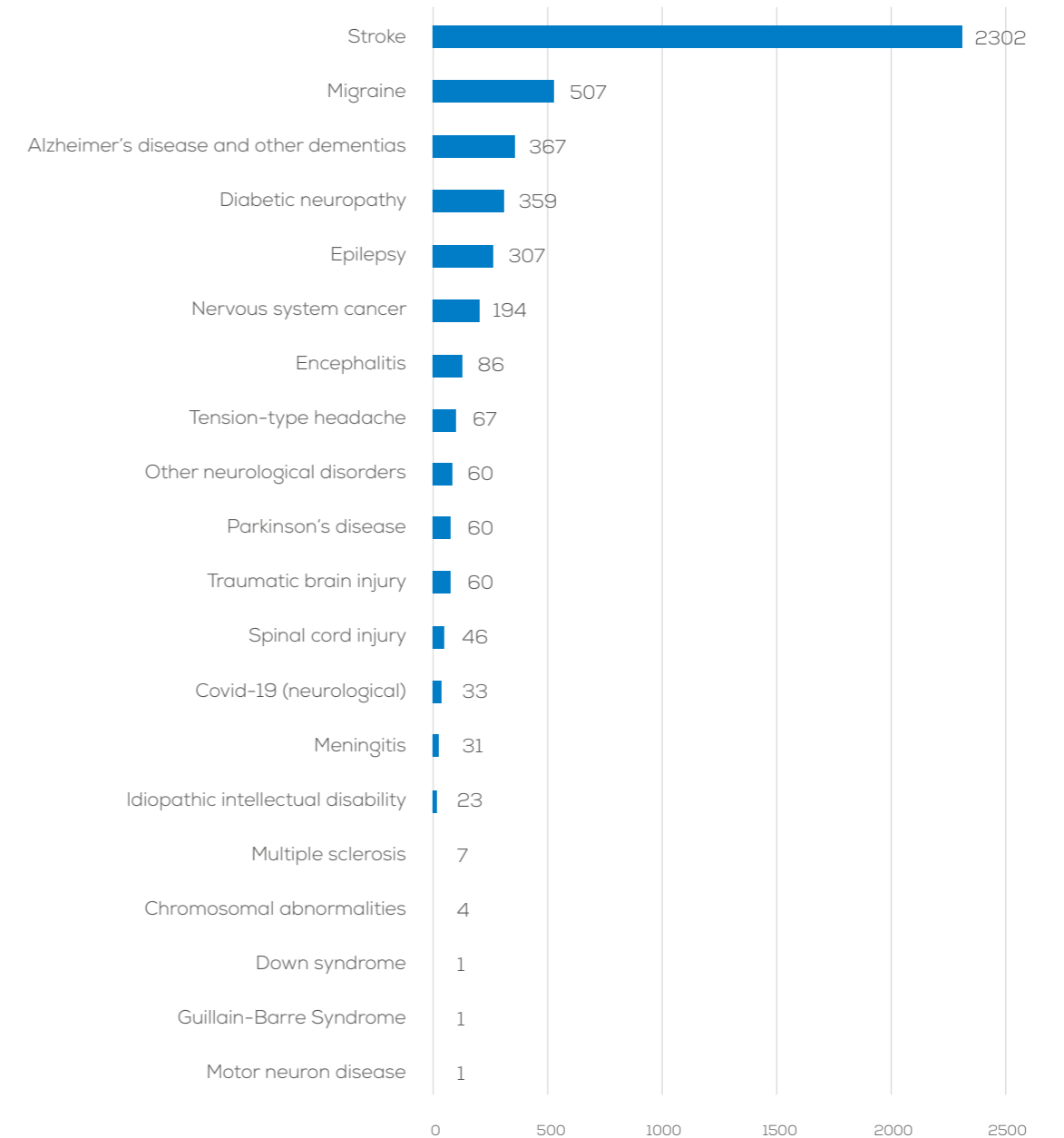


Figure 1: National age-standardised DALYs per 100 000 population by neurological disorder in 2021.

DALYs per 100 000 population

In order to show how the diseases are evolving both in **Uzbekistan** and the European Region, we present the temporal pattern of DALYs per 100 000 population over the last three decades in the figure below:

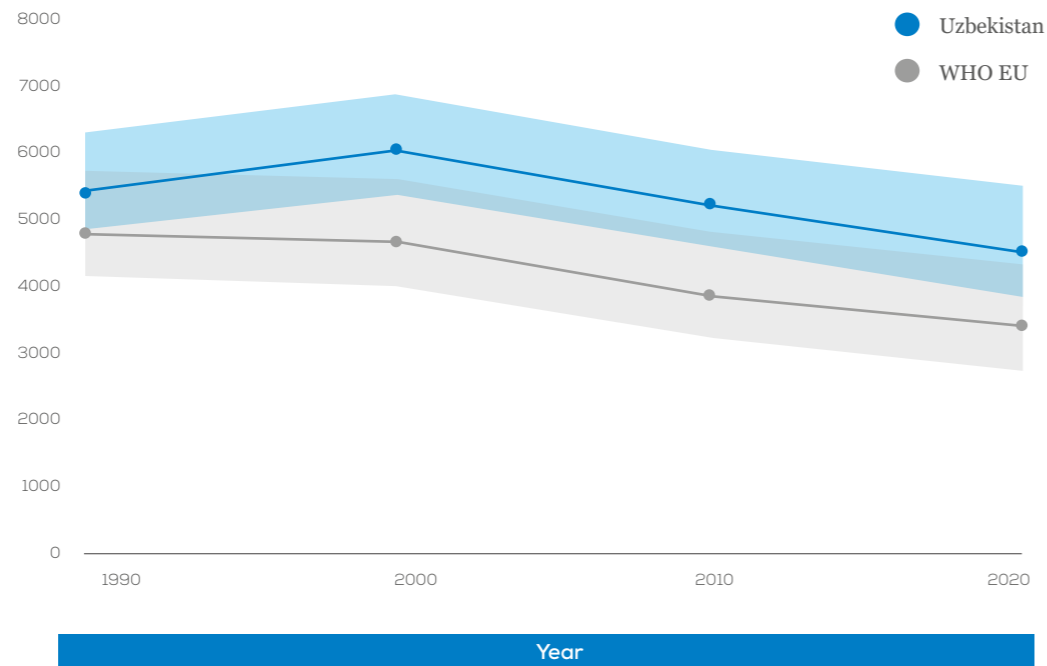


Figure 2: Age-Standardized DALYs per 100 000 population over the last 3 decades.

In figure 3 we show the distribution of DALYs rate per 100 000 population by age group divided in female and male:

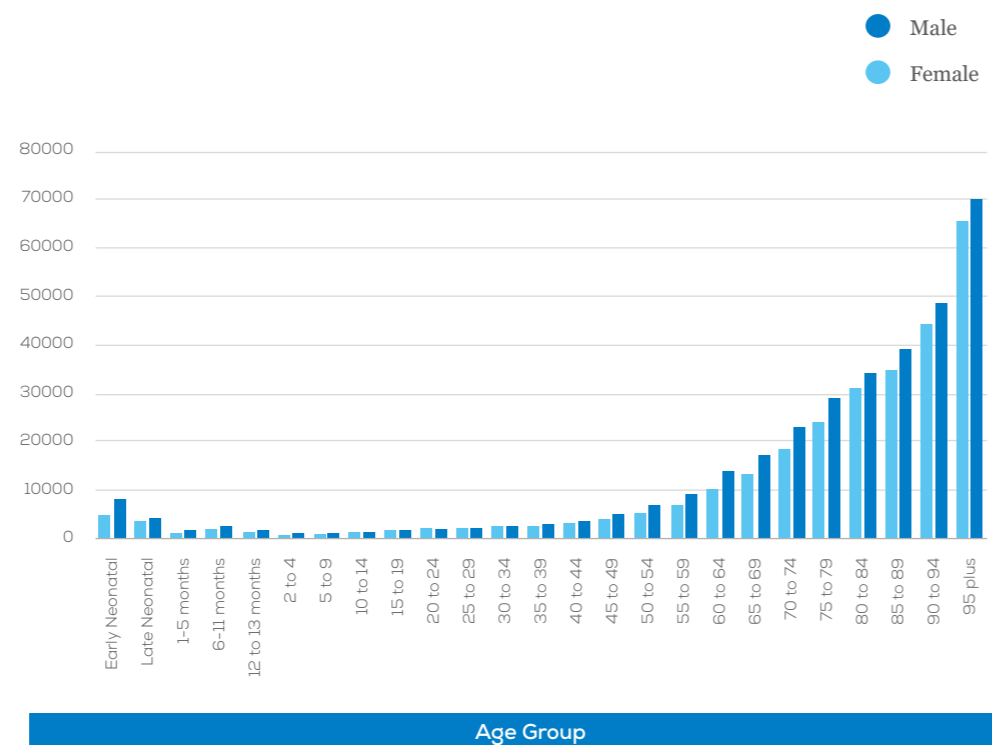


Figure 3: National DALYs per 100 000 population by age group and sex in 2021.

Extensive data and analyses are provided in the published paper and it will be communicated to the National Neurological societies.

COIN-EU (Cost of Illness in Neurology in Europe)

The Cost of Illness in Neurology in Europe (COIN-EU) project, which was launched in 2021, is run by EAN and led by Prof. Richard Dodel, Prof. Uwe Siebert and Prof. Günther Deuschl. This project is overseen at the EAN by Prof. Paul Boon, Prof. Claudio Bassetti and Prof. Thomas Berger.

The aim of the study is to assess disease- and country-specific annual costs for 12 categories of neurological diseases in Europe with a focus on the prevalent adult patient population. Costs have been calculated in three main categories: a) direct health care costs (i.e., all goods and services related to the prevention, diagnosis and treatment of a disorder; e.g. physician visits, hospitalizations and pharmaceuticals), b) informal care costs (i.e. other goods and services related to the disorder; e.g. social services, special accommodation and informal care), and c) indirect costs (i.e., lost productivity due to work absence or early retirement).

As the literature review revealed many gaps in research for many diseases and many countries, the group has developed a method to provide estimations of the above cost categories for the cases where no data are available. Data are imputed for those countries which belong to the same GNI category with countries that do present data. In case none of the countries which belong to the same GNI category present data, then an imputation is not possible.

Unfortunately for **Uzbekistan**, the literature review did not identify any relevant studies, and the GNI category in which Uzbekistan is included also lacked data that could be used for imputation. In the table below, the costs for the 47 EAN European countries have been calculated, in three main categories where the numbers represent millions € PPP 2019.

million € PPP
2019

Informal Care

Neurological Disorder	Total Costs	Direct Costs	Informal Care Costs	Indirect Costs
Headache disorders	814,559.6	256,143.1	93,330.3	465,086.2
Sleep disorders	422,900.9	204,308.2	-	218,592.6
Alzheimer's disease and other dementias	221,391.2	93,210.9	128,121.0	59.4
Stroke	82,938.9	42,643.7	23,441.1	16,854.0
Traumatic brain injury	53,112.5	24,095.1	11,454.6	17,562.8
Polyneuropathies	38,718.6	19,958.8	-	18,759.8
Parkinson's disease	22,786.5	17,308.5	4,442.8	1,035.2
Multiple sclerosis	18,832.2	11,852.7	2,632.0	4,347.5
Idiopathic epilepsy	16,325.9	7,917.2	-	8,408.7
Motor neuron disease	1,101.1	661.6	309.8	129.8
Brain and central nervous system cancer	913.7	557.3	356.4	-
Meningitis	148.9	148.9	-	-
Total Costs:	1,693,730.0	678,806.1	264,088.0	750,835.9

Table 2: Total, direct, informal care and indirect costs per neurological disorder among the 47 European countries.

NNS Survey 2021

In December 2021, the EAN conducted a survey among the national neurological societies. By combining the data from the Burden of Disease in Europe study across all European Region countries, we can provide demographic data regarding the workforce of neurologists in Europe for the 37 countries who took part in the survey.

The figure below represents the number of neurologists, fully specialised and in training per 100 000 population.

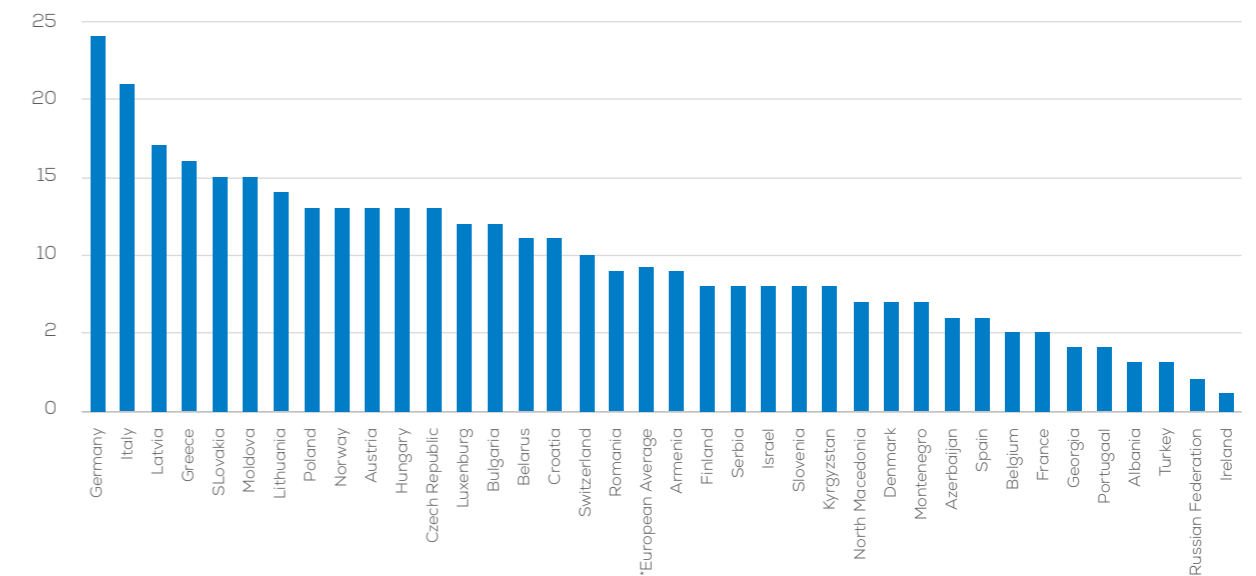


Figure 4: Number of neurologists (fully specialised and in training) per 100 000 population.

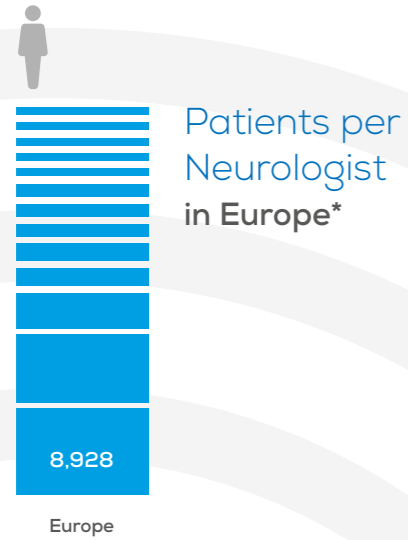
In the last figure the number of patients per neurologist is displayed:



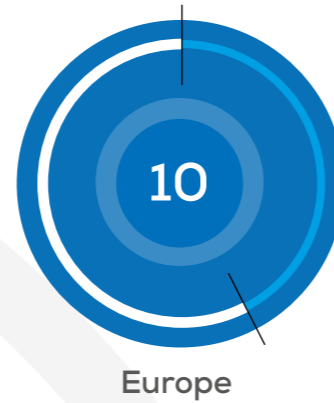
Figure 5: Number of patients per neurologist (fully specialised and in training).

Neurological Diseases in Europe and Uzbekistan:

Key Data and Trends from 2021



Neurologists per 100,000 population in Europe*



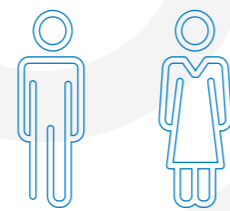
Percentage change of age-standardised DALYs, Deaths and prevalence from 1990 to 2021:

	WHO Europe	vs	Uzbekistan
DALYs	-28.98%		-16.89%
Deaths	-43.19%		-18.49%
Prevalence	0.34%		1.89%

Most prevalent neurological diseases in Uzbekistan in

2021

- 1 Tension-type headache
- 2 Migraine
- 3 Diabetic neuropaty
- 4 Stroke
- 5 Idiopathic intellectual disability



3,513 3,351 WHO Europe
4,958 4,151 Uzbekistan

Age-standardised DALYs rate per 100,000 population in 2021 by sex

Uzbekistan 14,423,801

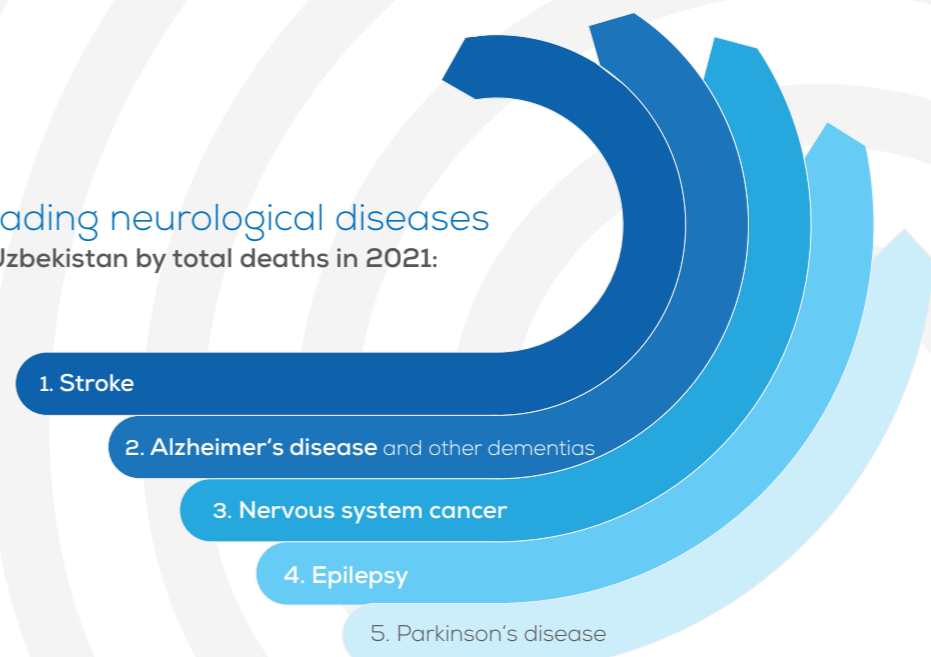
WHO Europe 449.278.770

Number of patients with a neurological disease in 2021 in the WHO Europe and in Uzbekistan.



Annual total costs (in million € PPP 2019) for 12 major neurological diseases:

Leading neurological diseases in Uzbekistan by total deaths in 2021:



*Based on data from 37 countries of the WHO European region
**Cost estimates are derived from country-specific data available for specific diseases.

