

EAN Fact Sheet

Country profile of Azerbaijan

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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 (thousands)		Age-standardized rate (per 100 000 people)		Percentage change, 1990-2021	
	2021	1990	2021	Azerbaijan	WHO Europe	
All Neurological Disorders						
DALYs	409,987	4,994	4,211	-15.7%	-29.0%	
Deaths	10,532	164	135	-17.8%	-43.2%	
Prevalence	4,714,409	41,565	42,253	1.7%	0.3%	
YLDs	172,849	1,429	1,595	11.6%	2.9%	
YLLs	237,116	3,566	2,616	-26.6%	-44.4%	
Alzheimer's disease and other dementias						
DALYs	27,685	397	384	-3.2%	-2.5%	
Deaths	1,286	21	21	-3.1%	-2.8%	
Prevalence	47,757	650	630	-3.2%	-2.1%	
YLDs	9,783	137	131	-4.5%	-2.6%	
YLLs	17,902	260	253	-2.6%	-2.5%	
Chromosomal abnormalities						
DALYs	354	3.89	3.94	1.3%	-12.3%	
Prevalence	3,914	43	44	1.1%	-12.8%	
YLDs	354	3.89	3.94	1.1%	-12.4%	
Covid-19 (neurological)						
DALYs	6,634	-	57	-	-	
Prevalence	67,054	-	588	-	-	
YLDs	6,634	-	57	-	-	
Cystic echinococcosis						
DALYs	15	0.16	0.13	-21.1%	-18.3%	
Prevalence	49	0.45	0.43	-5.8%	-9.0%	
YLDs	15	0.16	0.13	-21.2%	-18.4%	
Diabetic neuropathy						
DALYs	34,692	128	307	139.6%	98.1%	
Prevalence	270,615	999	2,402	140.3%	97.9%	
YLDs	34,692	128	307	139.6%	98.1%	

Down syndrome						
DALYs	120	1.33	1.31	-1.5%	-19.6%	
Prevalence	1,333	14.76	14.59	-1.1%	-20.7%	
YLDs	120	1.33	1.31	-1.1%	-19.8%	
Encephalitis						
DALYs	8,400	117	103	-11.5%	-30.1%	
Deaths	116	1.47	1.35	-8.8%	-15.9%	
Prevalence	3,803	42	34	-18.2%	-13.6%	
YLDs	390	4.08	3.48	-14.8%	-12.0%	
YLLs	8,009	113	100	-11.4%	-31.0%	
Epilepsy						
DALYs	28,343	310	271	-12.7%	-12.6%	
Deaths	261	2.65	2.35	-11.2%	3.9%	
Prevalence	45,999	420	450	7.0%	3.3%	
YLDs	14,387	156	141	-10.1%	-11.3%	
YLLs	13,957	154	130	-15.4%	-14.3%	
Guillain-Barre Syndrome						
DALYs	58	0.54	0.55	0.6%	12.4%	
Prevalence	197	1.83	1.84	0.6%	12.4%	
YLDs	58	0.54	0.55	0.6%	12.4%	
Idiopathic intellectual disability						
DALYs	1,834	22	18	-19.0%	-19.7%	
Prevalence	39,340	517	383	-25.9%	-21.2%	
YLDs	1,834	22	18	-19.0%	-19.7%	
Klinefelter syndrome						
DALYs	5	0.03	0.03	5.5%	5.7%	
Prevalence	346	3.50	3.68	5.2%	5.5%	
YLDs	5	0.03	0.03	5.4%	5.5%	

	Counts	Age-standardized rate		Percentage change, 1990-2021	
	(thousands)	1990	2021	Azerbaijan	WHO Europe
Meningitis					
DALYs	3,483	203	40	-80.3%	-80.5%
Deaths	46	3	1	-80.2%	-75.4%
Prevalence	7,129	138	65	-53.3%	-66.7%
YLDs	593	11	5	-49.3%	-64.6%
YLLs	2,890	192	35	-82.0%	-81.3%
Migraine					
DALYs	58,295	513	507	-1.3%	0.0%
Prevalence	1,551,485	13,692	13,533	-1.2%	0.3%
YLDs	58,295	513	507	-1.3%	0.0%
Motor neuron disease					
DALYs	94	0.63	0.90	42.9%	37.5%
Deaths	1	0.00	0.01	323.6%	54.1%
Prevalence	262	2.47	2.45	-0.9%	19.8%
YLDs	56	0.53	0.52	-0.9%	19.5%
YLLs	39	0.10	0.37	270.0%	38.5%
Multiple sclerosis					
DALYs	777	6.79	6.73	-0.9%	-5.0%
Deaths	6	0.10	0.08	-21.6%	-12.5%
Prevalence	2,257	17	19	10.7%	26.4%
YLDs	604	4.57	5.03	10.1%	25.5%
YLLs	173	2.22	1.70	-23.4%	-22.2%
Nervous system cancer					
DALYs	21,815	201	201	0.0%	-3.3%
Deaths	505	4.44	4.55	2.6%	10.8%
Prevalence	1,252	9	12	26.7%	35.9%
YLDs	189	1.50	1.73	14.7%	25.3%
YLLs	21,626	199	199	-0.1%	-3.7%

Neurocysticercosis					
DALYs	36	0.46	0.32	-31.2%	-42.5%
Deaths	0	0.00	0.00	-69.5%	-69.2%
Prevalence	116	1.16	1.02	-11.9%	-32.8%
YLDs	35	0.41	0.30	-26.2%	-42.5%
YLLs	2	0.05	0.01	-72.4%	-70.7%
Neurosyphilis					
DALYs	14	0.23	0.13	-45.2%	-43.6%
Prevalence	133	1.75	1.18	-32.6%	-11.7%
YLDs	14	0.23	0.13	-45.1%	-43.4%
Other neurological disorders					
DALYs	5,006	34	52	52.9%	25.8%
Deaths	42	0.26	0.49	90.3%	45.0%
YLDs	3,322	21	33	58.6%	62.9%
YLLs	1,662	13	18	44.4%	14.2%
Parkinson's disease					
DALYs	5,199	73	69	-5.9%	5.6%
Deaths	263	4.36	3.86	-11.4%	4.0%
Prevalence	7,339	75	89	18.6%	21.9%
YLDs	1,065	11	13	17.2%	21.4%
YLLs	4,134	63	56	-10.0%	2.0%
Rabies					
DALYs	88	2.28	0.84	-63.0%	-59.7%
Prevalence	1	0.04	0.01	-63.1%	-57.2%
YLDs	88	2.28	0.84	-63.0%	-59.7%
Spinal cord injury					
DALYs	6,099	63	53	-16.5%	-26.9%
Prevalence	19,464	181	167	-7.6%	-21.9%
YLDs	6,099	63	53	-16.5%	-26.9%

	Counts (thousands)		Age-standardized rate (per 100 000 people)		Percentage change, 1990-2021	
	2021	1990	2021	Azerbaijan	WHO Europe	
Stroke						
DALYs	186,714	2,771	2,012	-27.4%	-52.6%	
Deaths	8,004	127	101	-20.4%	-55.6%	
Prevalence	110,330	1,100	1,031	-6.3%	-19.2%	
YLDs	20,081	204	191	-6.3%	-18.9%	
YLLs	166,633	2,567	1,821	-29.1%	-55.3%	
Tension-type headache						
DALYs	7,766	67.21	67.04	-0.3%	-1.6%	
Prevalence	3,385,802	30,292	30,267	-0.1%	-0.8%	
YLDs	7,766	67.21	67.04	-0.3%	-1.6%	
Traumatic Brain Injury						
DALYs	6,459	78	55	-29.2%	-28.2%	
Prevalence	43,590	521	372	-28.6%	-28.0%	
YLDs	6,459	78	55	-29.2%	-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.

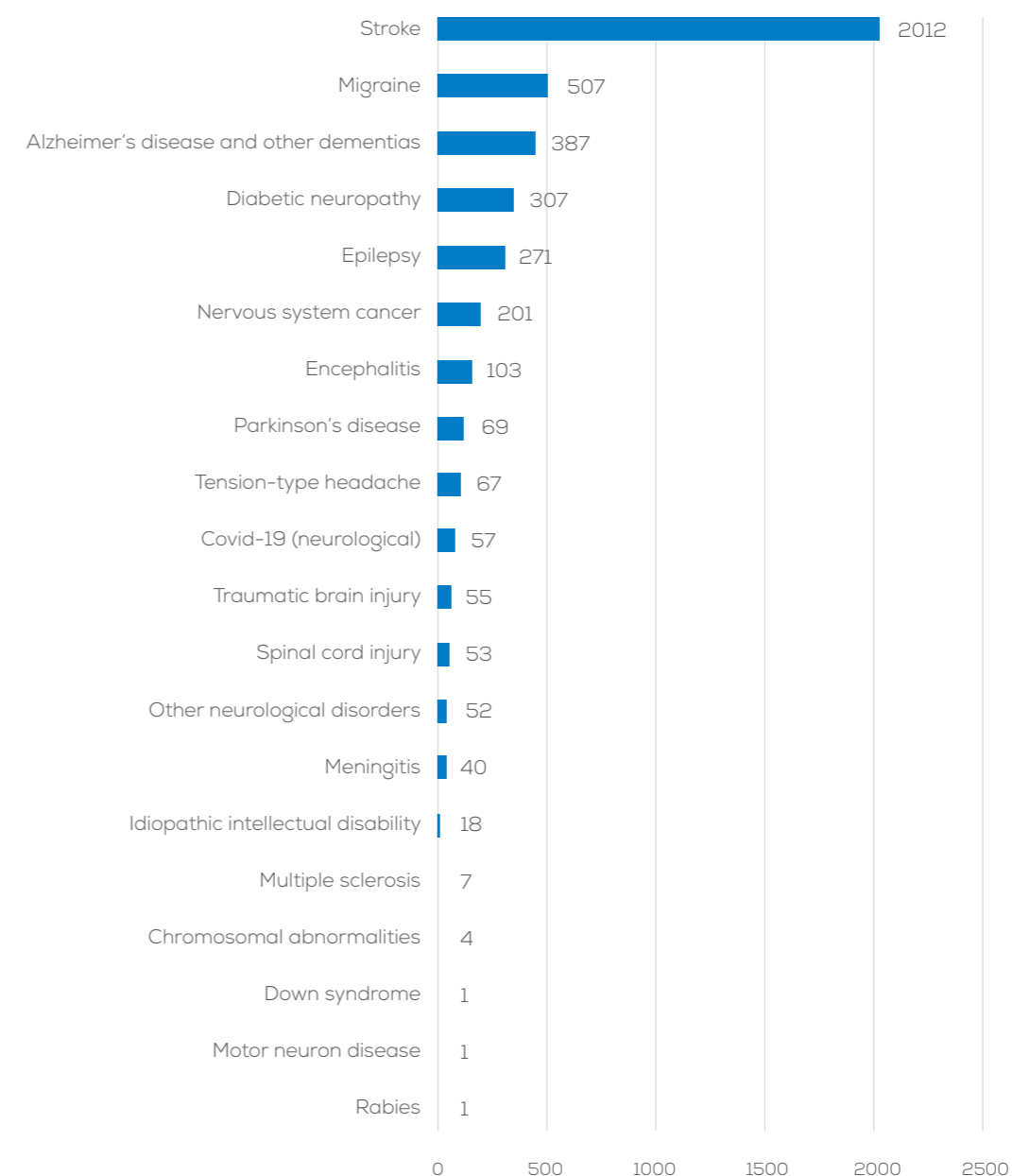


Figure 1: National age-standardised DALYs per 100 000 population by neurological disorder in 2021.

DALYs per 100 000 population

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

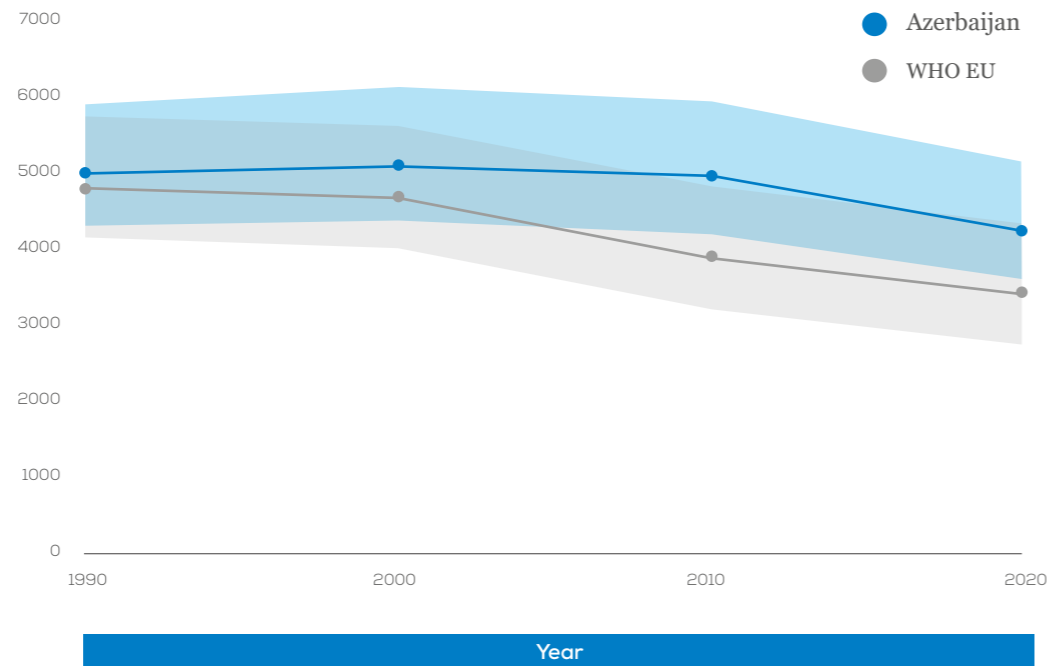


Figure 2: Age-Standardized DALYs per 100 000 population over the last 3 decades.

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

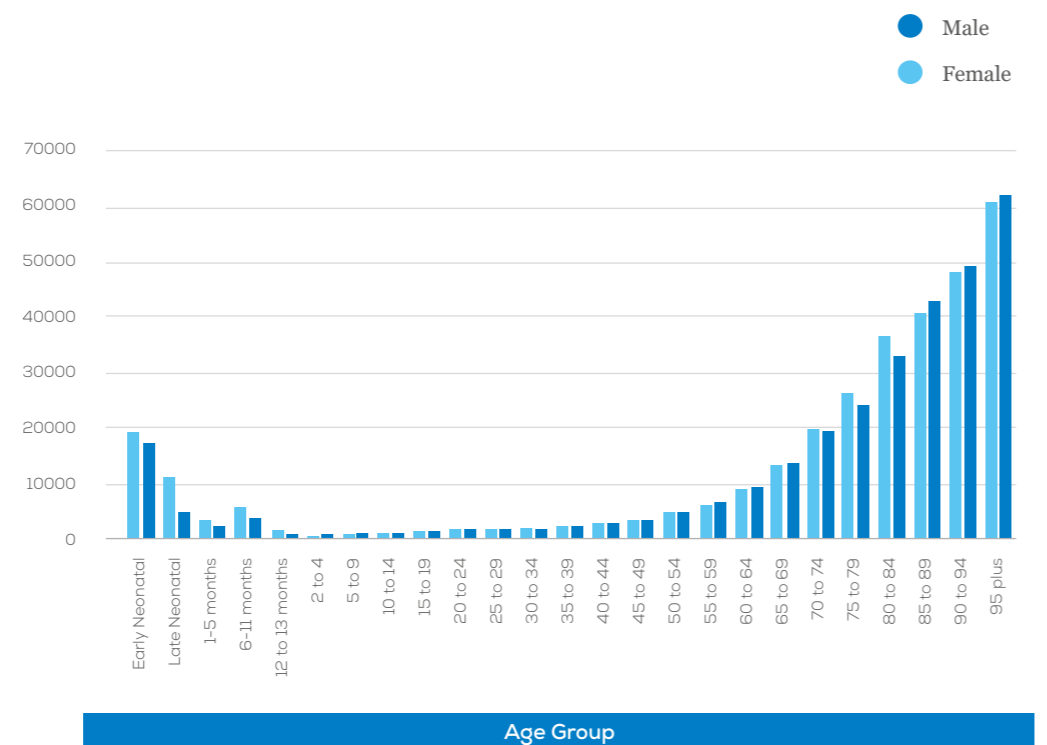


Figure 3: National DALYs per 100 000 population by age group and sex in 2021.

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.

In the table below, costs for **Azerbaijan** have been calculated for the diseases with available data, 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
Stroke	226.6	78.3	35.9	112.4
Traumatic brain injury	54.8	54.8	-	-
Idiopathic epilepsy	33.4	29.3	-	4.1
Multiple sclerosis	24.2	19.7	1.9	2.6
Parkinson's disease	20.0	11.8	6.4	1.8
Total Costs:	359.0	193.9	44.2	120.9

Table 2: Total, direct, informal care and indirect costs per neurological disorder. Number of diseases depends on the availability of original studies and imputation of data.

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.

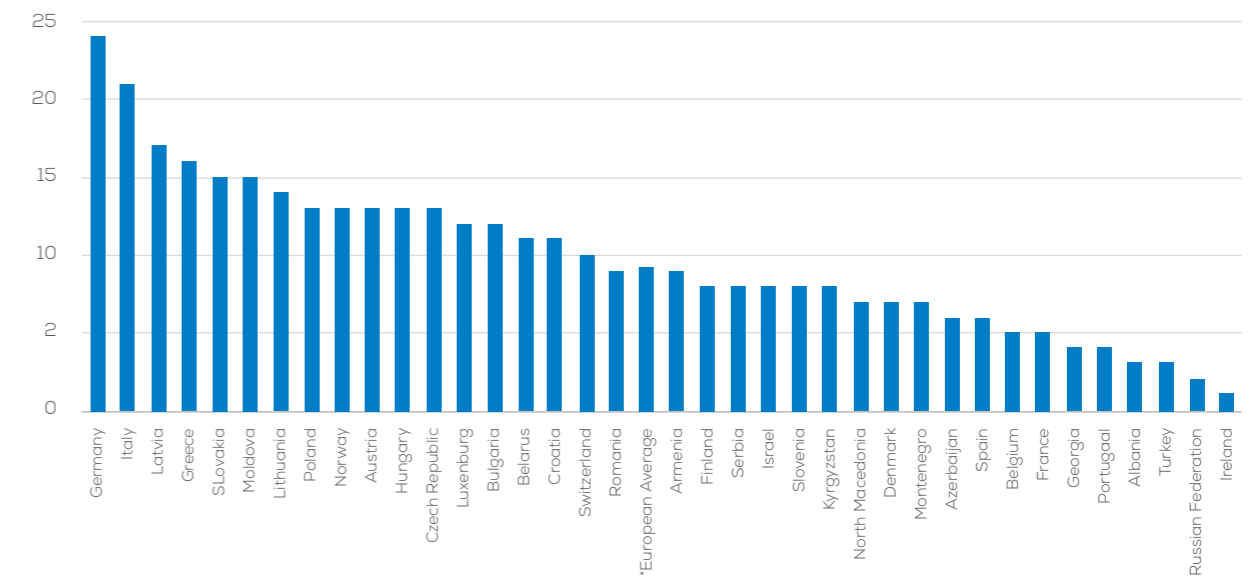


Figure 4: Number of neurologists (fully specialised and in training) per 100 000 population.

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

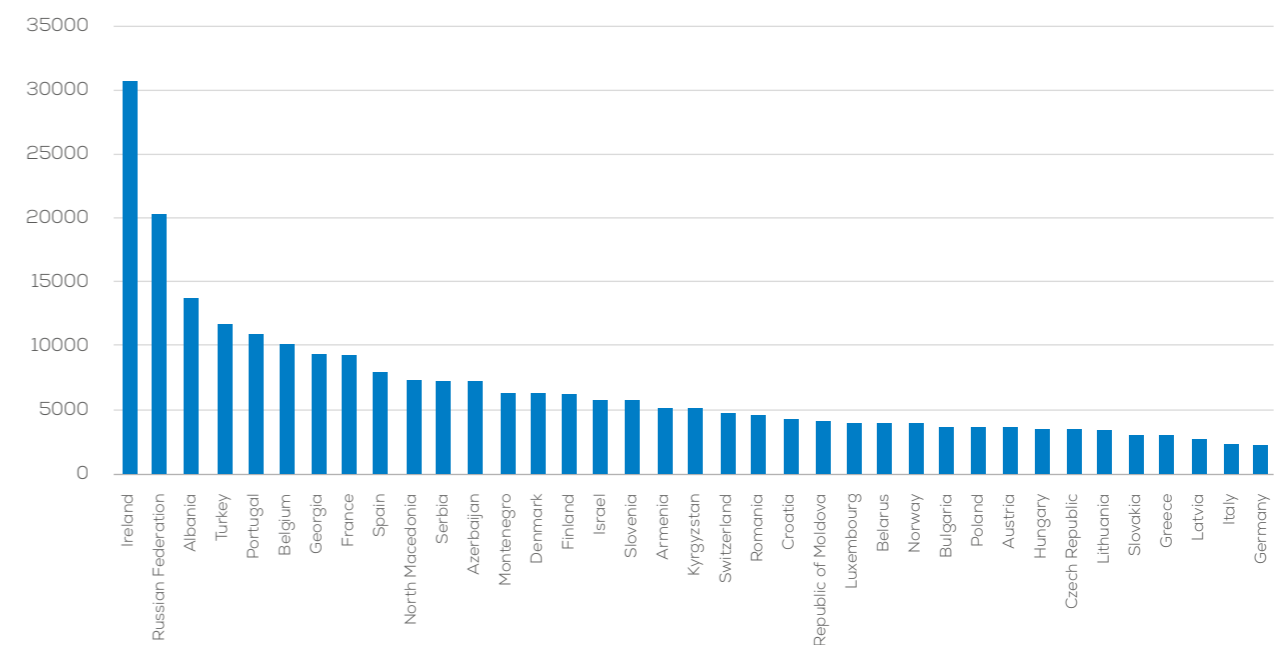
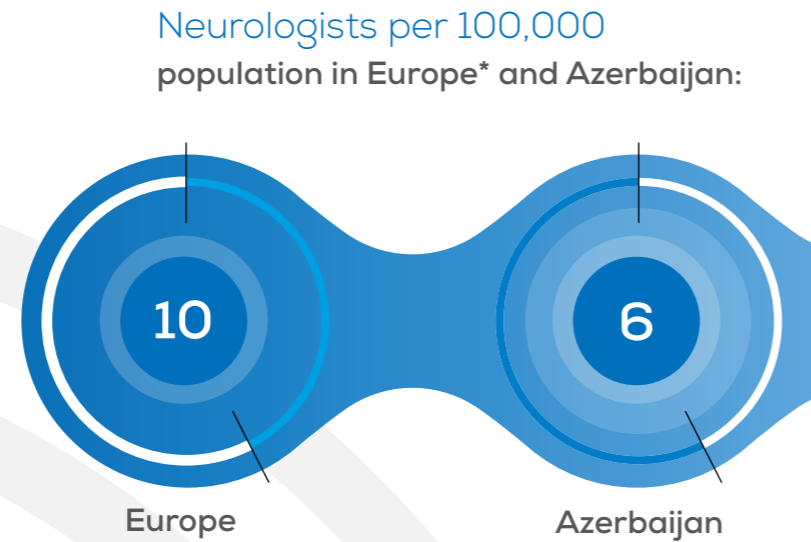
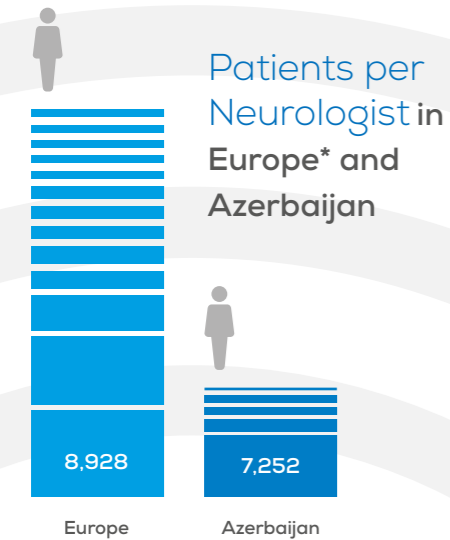


Figure 5: Number of patients per neurologist (fully specialised and in training).

Neurological Diseases in Europe and Azerbaijan:

Key Data and Trends from 2021



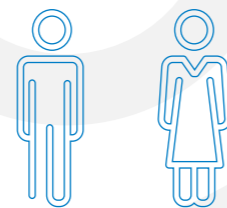
Percentage change of age-standardised DALYs, Deaths and prevalence from 1990 to 2021:

	WHO Europe	vs	Azerbaijan
DALYs	-28.98%		-15.69%
Deaths	-43.19%		-17.82%
Prevalence	0.34%		1.65%

Most prevalent neurological diseases in Azerbaijan in

2021

- 1 Tension-type headache
- 2 Migraine
- 3 Diabetic neuropathy
- 4 Stroke
- 5 Covid-19 (neurological)



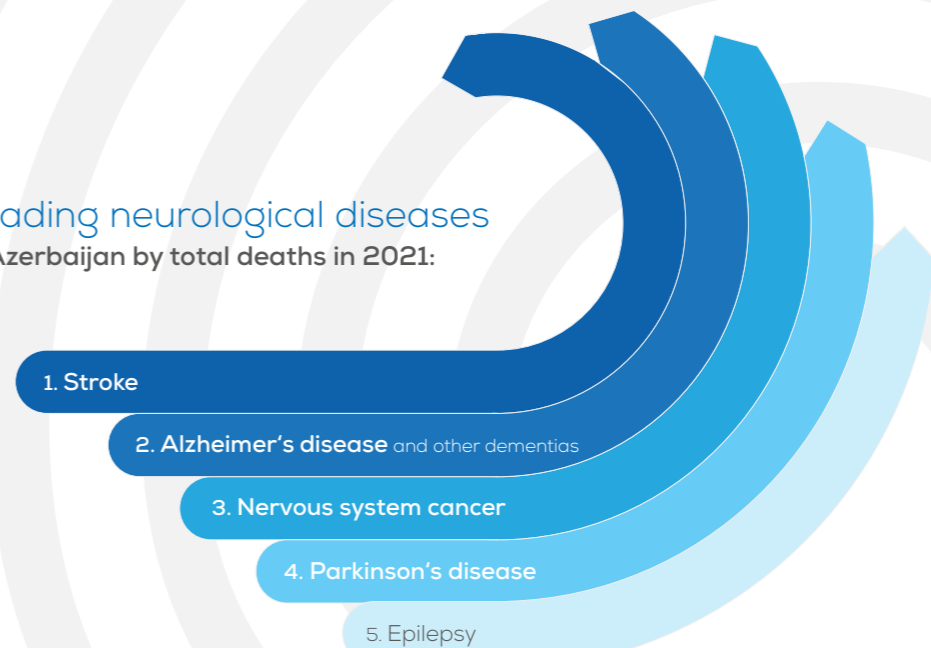
Sex	WHO Europe	Azerbaijan
Male	3,513	3,351
Female	4,171	4,241

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



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

Leading neurological diseases in Azerbaijan 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.

