european academy of neurology

EAN Fact Sheet

Country profile of Georgia

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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	Georgia	WHO Europe
All Neurological Disorders					
DALYs	293,641	5,916	5,306	-10.3%	-29.0%
Deaths	12,637	223	194	-12.9%	-43.2%
Prevalence	1,669,088	41,929	42,880	2.3%	0.3%
YLDs	82,367	1,533	1,760	14.8%	2.9%
YLLs	211,265	4,383	3,546	-19.1%	-44.4%
Alzheimer's disease and other dementias					
DALYs	27,729	392	399	1.8%	-2.5%
Deaths	1,568	20.59	21.11	2.5%	-2.8%
Prevalence	43,615	651.05	651.46	0.1%	-2.1%
YLDs	9,164	137	135	-1.2%	-2.6%
YLLs	18,565	255	264	3.4%	-2.5%
Chromosomal abnormalities					
DALYs	135	3.70	4.96	34.1%	-12.3%
Prevalence	1,497	41	56	35.0%	-12.8%
YLDs	135	3.70	4.96	34.0%	-12.4%
Covid-19 (neurological)					
DALYs	2,611	-	62	-	-
Prevalence	26,280	-	632	-	-
YLDs	2,611	-	62	-	-
Cystic echinococcosis					
DALYs	8	0.20	0.19	-2.0%	-18.3%
Prevalence	28	0.65	0.66	0.9%	-9.0%
YLDs	8	0.20	0.19	-1.9%	-18.4%
Diabetic neuropathy					
DALYs	19,702	147	354	140.8%	98.1%
Prevalence	154,566	1,147	2,776	142.1%	97.9%
YLDs	19,702	147	354	140.8%	98.1%
Down syndrome					
DALYs	61	1.26	2.29	81.7%	-19.6%
Prevalence	676	14	25	81.6%	-20.7%
YLDs	61	1.26	2.29	81.3%	-19.8%
Encephalitis					
DALYs	1,035	33	28	-15.5%	-30.1%
Deaths	25	0.49	0.55	12.7%	-15.9%
Prevalence	1,061	31	26	-16.1%	-13.6%
YLDs	103	3.10	2.68	-13.3%	-12.0%
YLLs	933	30	25	-15.7%	-31.0%
Epilepsy					
DALYs	6,737	217	184	-15.4%	-12.6%
Deaths	64	1.45	1.53	5.6%	3.9%
Prevalence	13,235	423	358	-15.5%	3.3%
YLDs	4,033	137	109	-20.1%	-11.3%
YLLs	2,705	80	75	-7.4%	-14.3%
Guillain-Barre Syndrome					
DALYs	22	0.54	0.53	-2.4%	12.4%
Prevalence	75	1.83	1.79	-2.3%	12.4%
YLDs	22	0.54	0.53	-2.4%	12.4%
Idiopathic intellectual disability					
DALYs	709	23	22	-5.0%	-19.7%
Prevalence	16,351	547	509	-7.0%	-21.2%
YLDs	709	23	22	-5.0%	-19.7%
Klinefelter syndrome					
DALYs	1	0.03	0.03	8.7%	5.7%
Prevalence	109	3.44	3.78	10.0%	5.5%
YLDs	1	0.03	0.03	8.7%	5.5%

	Counts (thousands)	Age-standardized rate (per 100 000 people)		Percentage change, 1990-2021	
	2021	1990	2021	Georgia	WHO Europe
Meningitis					
DALYs	611	147	18	-88.0%	-80.5%
Deaths	12	2.06	0.29	-86.0%	-75.4%
Prevalence	1,545	95	40	-58.0%	-66.7%
YLDs	122	7	3	-54.2%	-64.6%
YLLs	489	140	14	-89.8%	-81.3%
Migraine					
DALYs	19,123	515	506	-1.7%	0.0%
Prevalence	508,335	13,711	13,554	-1.1%	0.3%
YLDs	19,123	515	506	-1.7%	0.0%
Motor neuron disease					
DALYs	352	0.71	8.12	1037.3%	37.5%
Deaths	10	0.003	0.197	7629.7%	54.1%
Prevalence	98	2.75	2.75	0.0%	19.8%
YLDs	21	0.58	0.58	0.0%	19.5%
YLLs	331	0.13	7.54	5715.2%	38.5%
Multiple sclerosis					
DALYs	445	7	9	20.9%	-5.0%
Deaths	7	0.10	0.12	16.8%	-12.5%
Prevalence	1,225	19	24	28.1%	26.4%
YLDs	318	5.01	6.36	27.1%	25.5%
YLLs	127	2.16	2.31	6.8%	-22.2%
Nervous system cancer					
DALYs	11,242	86	251	193.3%	-3.3%
Deaths	347	2	7	239.9%	10.8%
Prevalence	588	5	15	212.5%	35.9%
YLDs	107	0.72	2.32	220.6%	25.3%
YLLs	11,135	85	249	193.1%	-3.7%
Neurocysticercosis					
DALYs	1,328	33.13	25.55	-22.9%	-42.5%
Deaths	0	0.00	0.00	-41.1%	-69.2%
Prevalence	5,173	120.66	98.51	-18.4%	-32.8%
YLDs	1,327	33.08	25.52	-22.9%	-42.5%
YLLs	1	0.05	0.03	-45.1%	-70.7%
Neurosyphilis					
DALYs	5	0.106	0.112	5.7%	-43.6%
Prevalence	70	1.65	1.69	2.4%	-11.7%
YLDs	5	0.106	0.112	5.0%	-43.4%
Other neurological disorders					
DALYs	2,113	21	53	151.9%	25.8%
Deaths	46	0.06	0.82	1338.7%	45.0%
YLDs	987	19	27	45.1%	62.9%
YLLs	1,118	2	26	1106.8%	14.2%
Parkinson's disease					
DALYs	4,651	73.79	73.79	0.0%	5.6%
Deaths	272	4.07	4.17	2.4%	4.0%
Prevalence	4,584	82	74	-9.5%	21.9%
YLDs	650	11.77	10.56	-10.3%	21.4%
YLLs	4,001	62	63	1.9%	2.0%
Rabies					
DALYs	30	1.15	0.84	-27.2%	-59.7%
Deaths	1	0.021	0.016	-20.4%	-57.2%
YLDs	30	1.15	0.84	-27.2%	-59.7%
Spinal cord injury					
DALYs	3,283	75	80	7.4%	-26.9%
Prevalence	11,039	235	266	13.1%	-21.9%
YLDs	3,283	75	80	7.4%	-26.9%

	Counts (thousands)	Age-standardized rate (per 100 000 people)		Percentage change, 1990-2021	
	2021	1990	2021	Georgia	WHO Europe
Stroke					
DALYs	184,349	3,976	3,054	-23.2%	-52.6%
Deaths	10,284	192	159	-17.4%	-55.6%
Prevalence	68,177	1,365	1,287	-5.7%	-19.2%
YLDs	12,546	252	235	-6.8%	-18.9%
YLLs	171,803	3,724	2,819	-24.3%	-55.3%
Tension-type headache					
DALYs	2,684	67.44	66.84	-0.9%	-1.6%
Prevalence	1,140,979	30,296	30,275	-0.1%	-0.8%
YLDs	2,684	67.44	66.84	-0.9%	-1.6%
Tetanus					
DALYs	28.57	0.75	0.55	-26.8%	-97.3%
Prevalence	1.17	0.02	0.02	-16.9%	-95.8%
YLDs	28.54	0.75	0.55	-26.8%	-97.5%
Traumatic Brain Injury					
DALYs	4,646	95	103	8.7%	-28.2%
Prevalence	31,858	640	700	9.4%	-28.0%
YLDs	4,646	95	103	8.7%	-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.

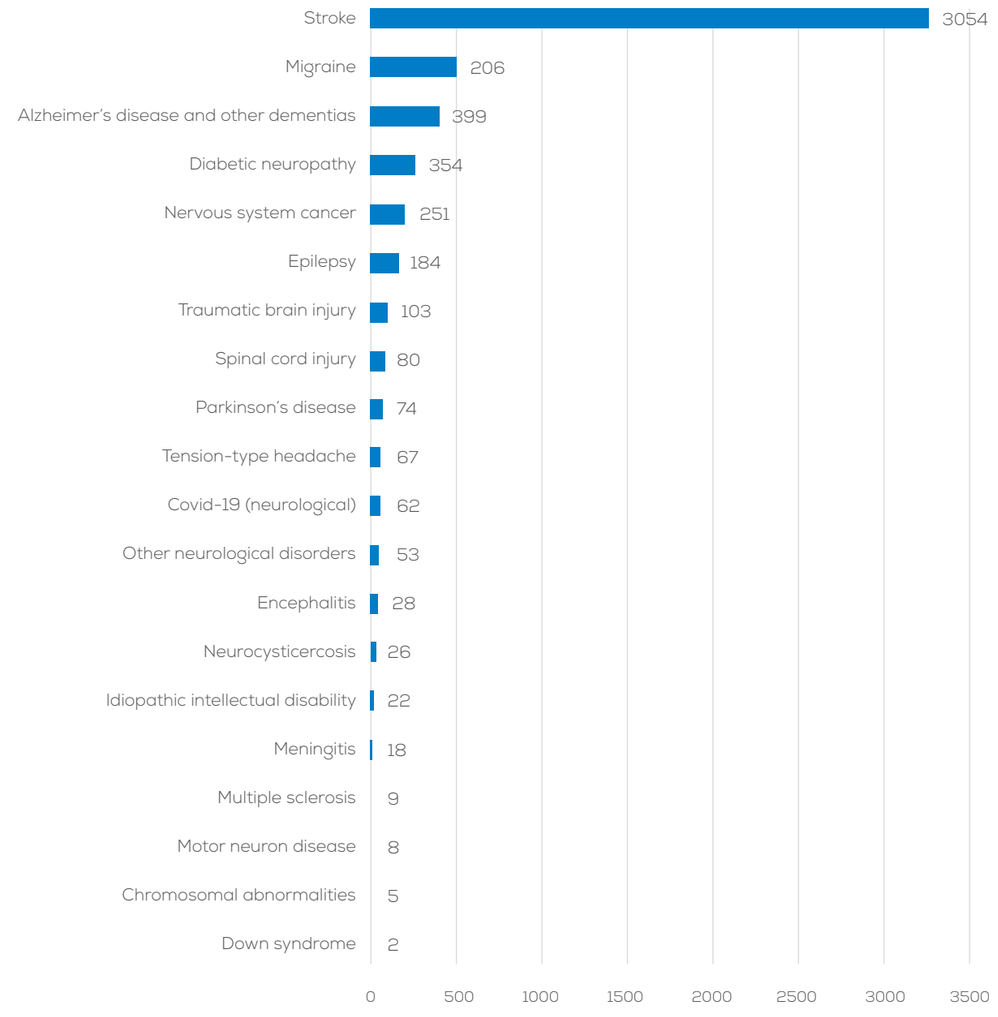


Figure 1: National age-standardised DALYs per 100 000 population by neurological disorder in 2021.

DALYs per 100 000 population

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

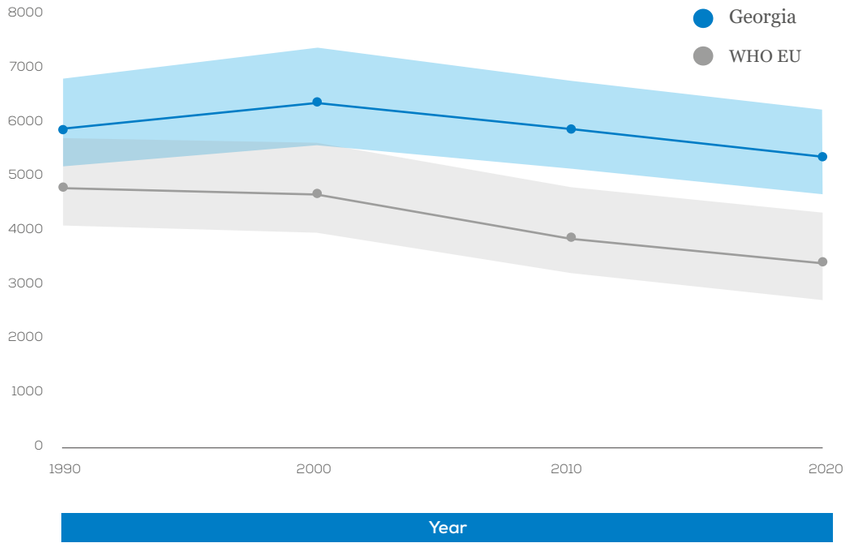


Figure 2: Age-Standardized DALYs per 100 000 population over the last 3 decades.

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

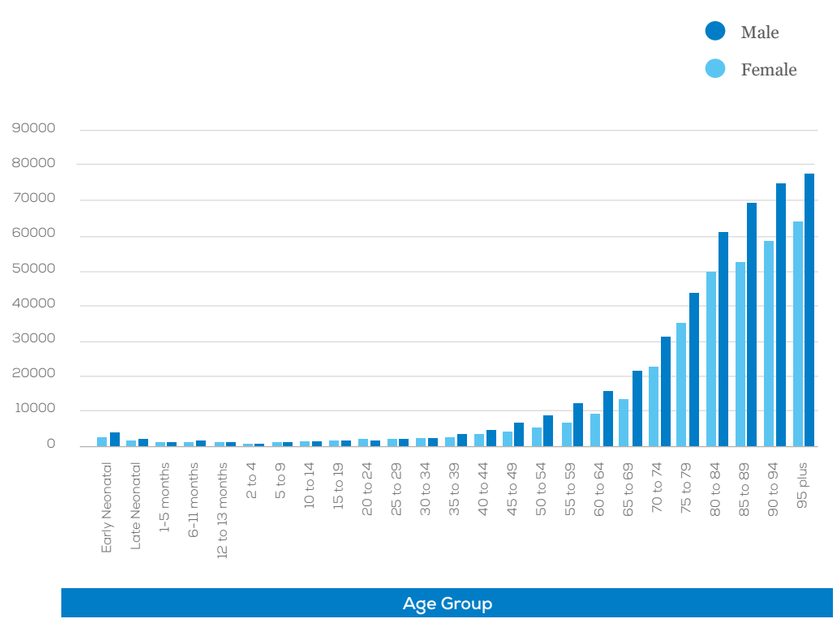


Figure 3: National DALYs per 100 000 population by age group and sex in 2021.

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 be 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 **Georgia** 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			
	Total Costs	**Direct Costs**	**Informal Care Costs**	**Indirect Costs**
Neurological Disorder				
Stroke	179.2	84.4	38.8	56.0
Traumatic brain injury	67.4	67.4	-	-
Parkinson's disease	21.0	13.0	7.1	0.8
Idiopathic epilepsy	10.6	9.6	-	1.0
Multiple sclerosis	9.9	6.9	1.8	1.2
Total Costs:	**288.0**	**181.4**	**47.6**	**59.0**

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.

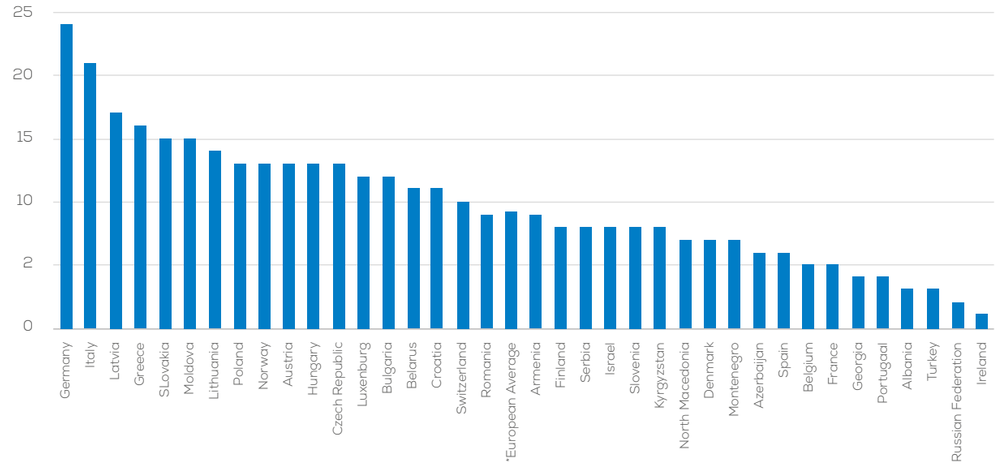


Figure 4: Number of neurologists (fully specialised and in training) per 100 000 population.

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

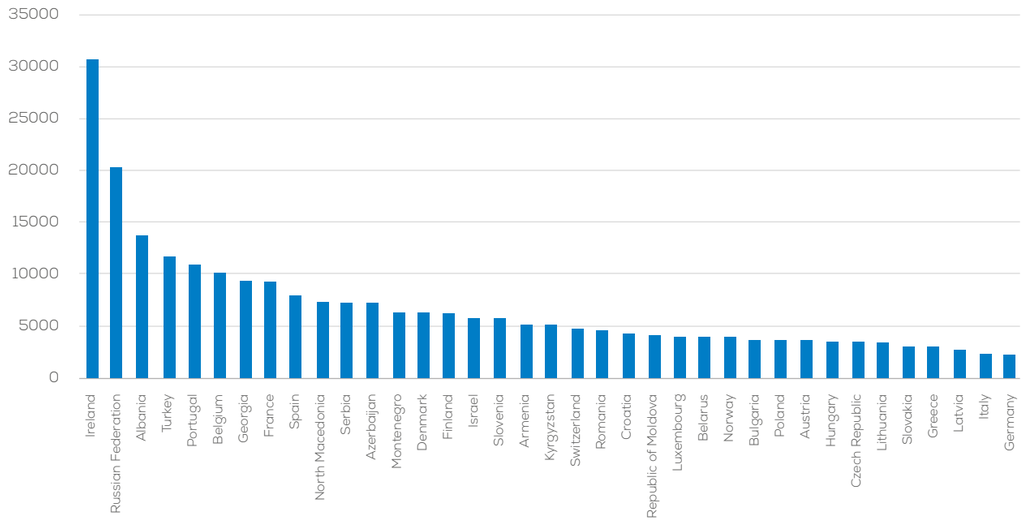
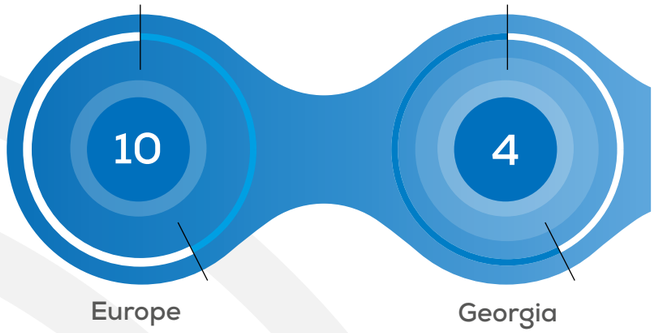


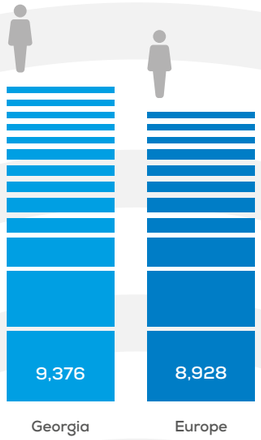
Figure 5: Number of patients per neurologist (fully specialised and in training).

Neurological Diseases in Europe and Georgia:

Key Data and Trends from 2021

Neurologists per 100,000 population in Europe* and Georgia:



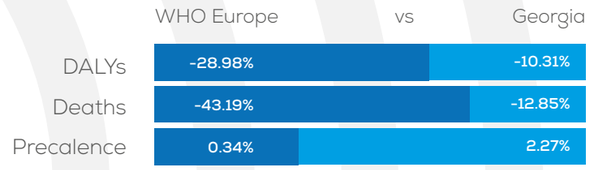


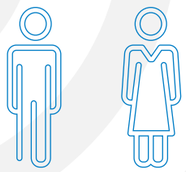
Patients per Neurologist in Europe* and Georgia

Most prevalent neurological diseases in Georgia in 2021

1. Tension-type headache
2. Migraine
3. Diabetic neuropathy
4. Stroke
5. Alzheimer's disease and other dementias

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





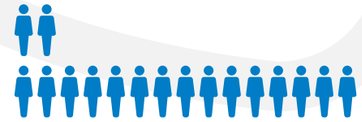
WHO Europe	3.513	3.351
Georgia	6,375	4,535

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

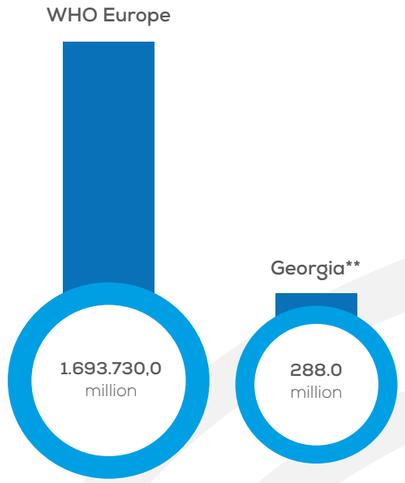
*Based on data from 37 countries of the WHO European region
**Cost estimates are derived from country-specific data available for specific diseases.

Georgia 1,669,088

WHO Europe 449.278.770



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



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

Leading neurological diseases in Georgia by total deaths in 2021: