

EAN Fact Sheet

Country profile of Slovenia

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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	Age-standardized rate		Percentage change, 1990-2021	
	(thousands)				
	2021	1990	2021	Slovenia	WHO Europe
All Neurological Disorders					
DALYs	98,007	4,281	2,621	-38.8%	-29.0%
Deaths	3,608	144	67	-53.6%	-43.2%
Prevalence	979,663	42,047	41,872	-0.4%	0.3%
YLDs	48,493	1,630	1,556	-4.5%	2.9%
YLLs	49,510	2,651	1,064	-59.9%	-44.4%
Alzheimer's disease and other dementias					
DALYs	20,971	382	386	1.0%	-2.5%
Deaths	1,220	20.17	20.80	3.2%	-2.8%
Prevalence	33,191	634	636	0.2%	-2.1%
YLDs	6,847	129	130	0.3%	-2.6%
YLLs	14,123	253	256	1.3%	-2.5%
Chromosomal abnormalities					
DALYs	73	6.26	5.63	-10.1%	-12.3%
Prevalence	807	70	63	-9.8%	-12.8%
YLDs	73	6.26	5.63	-10.0%	-12.4%
Covid-19 (neurological)					
DALYs	754	-	30	-	-
Prevalence	7,706	-	304	-	-
YLDs	754	-	30	-	-
Cystic echinococcosis					
DALYs	1	0.08	0.06	-22.4%	-18.3%
Prevalence	6	0.27	0.25	-7.9%	-9.0%
YLDs	1	0.08	0.06	-22.4%	-18.4%
Diabetic neuropathy					
DALYs	11,801	222	291	31.0%	98.1%
Prevalence	93,303	1,762	2,296	30.3%	97.9%
YLDs	11,801	222	291	31.0%	98.1%

	Counts	Age-standardized rate		Percentage change, 1990-2021	
	(thousands)	(per 100 000 people)		Slovenia	WHO Europe
	2021	1990	2021		
Down syndrome					
DALYs	45	4.13	3.53	-14.5%	-19.6%
Prevalence	500	46	39	-14.7%	-20.7%
YLDs	45	4.13	3.53	-14.4%	-19.8%
Encephalitis					
DALYs	159	8	5	-28.3%	-30.1%
Deaths	5	0.16	0.13	-18.8%	-15.9%
Prevalence	349	15	13	-13.5%	-13.6%
YLDs	35	1.64	1.46	-10.6%	-12.0%
YLLs	124	6	4	-33.2%	-31.0%
Epilepsy					
DALYs	3,367	200	146	-26.7%	-12.6%
Deaths	44	1.42	1.39	-2.2%	3.9%
Prevalence	8,358	462	377	-18.5%	3.3%
YLDs	1,981	133	90	-32.3%	-11.3%
YLLs	1,387	67	57	-15.6%	-14.3%
Guillain-Barre Syndrome					
DALYs	10	0.42	0.42	0.7%	12.4%
Prevalence	35	1.41	1.42	0.7%	12.4%
YLDs	10	0.42	0.42	0.7%	12.4%
Idiopathic intellectual disability					
DALYs	191	14	11	-24.8%	-19.7%
Prevalence	4,247	318	241	-24.3%	-21.2%
YLDs	191	14	11	-24.8%	-19.7%
Klinefelter syndrome					
DALYs	1	0.02	0.02	8.0%	5.7%
Prevalence	43	2.53	2.78	9.8%	5.5%
YLDs	1	0.02	0.02	8.4%	5.5%

	Counts	Age-standardized rate		Percentage change, 1990-2021	
	(thousands)	(per 100 000 people)		Slovenia	WHO Europe
	2021	1990	2021		
Meningitis					
DALYs	211	57	10	-83.4%	-80.5%
Deaths	6	0.90	0.17	-81.5%	-75.4%
Prevalence	659	62	27	-56.6%	-66.7%
YLDs	54	5.34	2.46	-54.0%	-64.6%
YLLs	157	52	7	-86.4%	-81.3%
Migraine					
DALYs	11,517	518	514	-0.9%	0.04%
Prevalence	298,681	13,686	13,531	-1.1%	0.3%
YLDs	11,517	518	514	-0.9%	0.04%
Motor neuron disease					
DALYs	262	7.66	8.44	10.2%	37.5%
Deaths	9	0.17	0.24	38.2%	54.1%
Prevalence	84	4.58	3.97	-13.4%	19.8%
YLDs	18	0.97	0.84	-13.4%	19.5%
YLLs	244	6.68	7.60	13.7%	38.5%
Multiple sclerosis					
DALYs	884	51	29	-43.6%	-5.0%
Deaths	20	1.15	0.54	-53.1%	-12.5%
Prevalence	1,265	37	44	19.4%	26.4%
YLDs	322	9.70	11.45	18.0%	25.5%
YLLs	563	41	17	-58.2%	-22.2%
Nervous system cancer					
DALYs	3,854	144	120	-16.3%	-3.3%
Deaths	149	3.78	3.83	1.1%	10.8%
Prevalence	416	10	16	55.5%	35.9%
YLDs	62	1.52	1.99	30.7%	25.3%
YLLs	3,793	142	118	-16.8%	-3.7%

Other neurological disorders					
DALYs	1,995	101	78	-22.8%	25.8%
Deaths	56	1.75	1.53	-12.8%	45.0%
YLDs	543	17	24	39.8%	62.9%
YLLs	1,448	84	54	-35.5%	14.2%
Parkinson's disease					
DALYs	4,048	80	80	-0.6%	5.6%
Deaths	251	4.41	4.63	5.0%	4.0%
Prevalence	4,849	97	101	4.8%	21.9%
YLDs	675	13	14	5.6%	21.4%
YLLs	3,373	67	65	-1.8%	2.0%
Spinal cord injury					
DALYs	2,647	120	96	-19.9%	-26.9%
Prevalence	10,268	431	365	-15.4%	-21.9%
YLDs	2,647	120	96	-19.9%	-26.9%
Stroke					
DALYs	28,778	2,095	591	-71.8%	-52.6%
Deaths	1,848	110	33	-69.5%	-55.6%
Prevalence	24,286	903	624	-30.8%	-19.2%
YLDs	4,483	162	114	-29.7%	-18.9%
YLLs	24,295	1,933	477	-75.3%	-55.3%
Tension-type headache					
DALYs	1,786	73	73	0.0%	-1.6%
Prevalence	667,491	29,995	29,927	-0.2%	-0.8%
YLDs	1,786	73	73	0.0%	-1.6%
Traumatic Brain Injury					
DALYs	4,646	197	142	-27.9%	-28.2%
Prevalence	32,377	1,347	975	-27.7%	-28.0%
YLDs	4,646	197	142	-27.9%	-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.

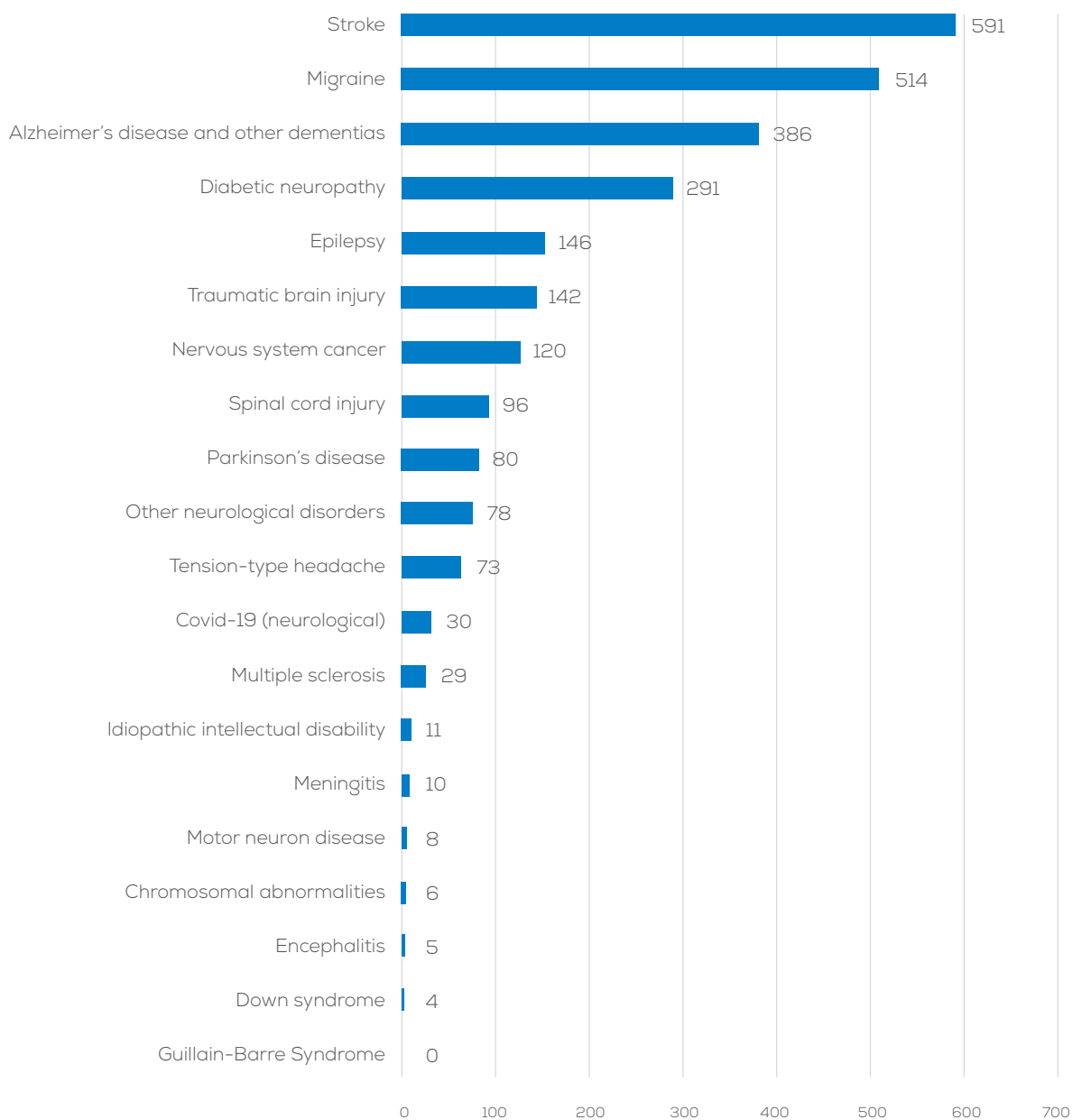


Figure 1: National age-standardised DALYs per 100 000 population by neurological disorder in 2021.

DALYs per 100 000 population

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

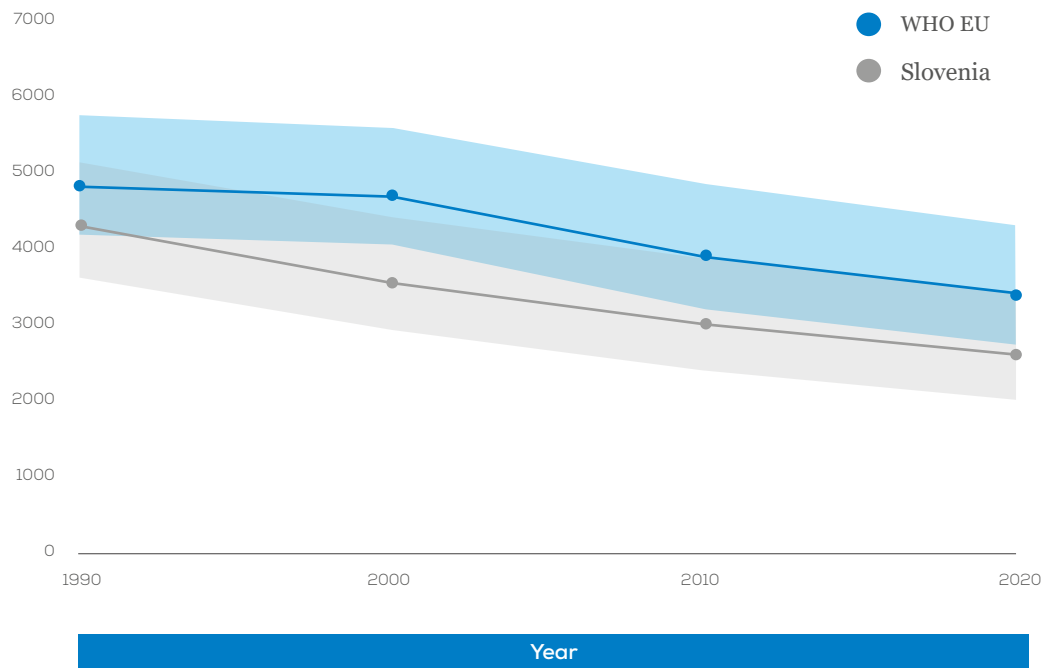


Figure 2: Age-Standardized DALYs per 100 000 population over the last 3 decades.

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

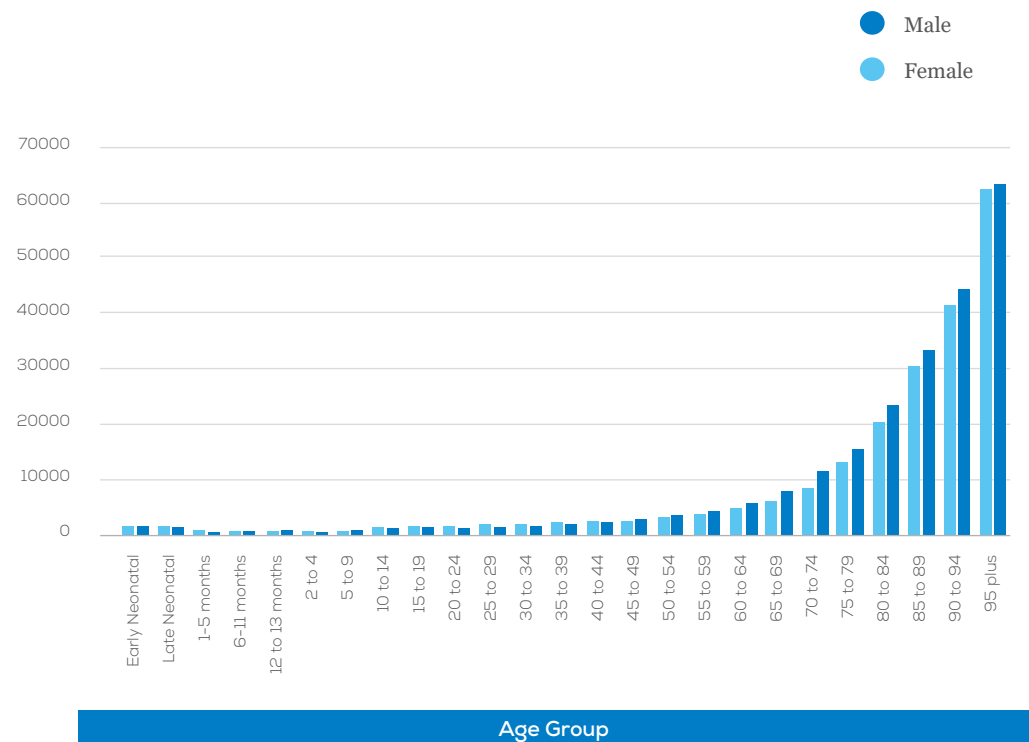


Figure 3: National DALYs per 100 000 population by age group and sex in 2021.

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 **Slovenia** 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				
Headache disorders	1,682.4	787.0	285.4	610.0
Sleep disorders	1,625.6	894.6	-	731.0
Alzheimer's disease and other dementias	647.1	252.7	394.3	0.1
Traumatic brain injury	359.0	169.2	102.3	87.6
Polyneuropathies	99.9	57.5	-	42.4
Stroke	68.1	34.8	27.5	5.8
Parkinson's disease	34.0	23.0	9.3	1.6
Idiopathic epilepsy	29.2	10.3	-	18.9
Multiple sclerosis	22.8	13.8	3.1	5.9
Brain and central nervous system cancer	2.5	1.5	1.0	-
Meningitis	0.9	0.9	-	-
Motor neuron disease	0.8	0.4	0.2	0.1
Total Costs:	4,572.4	2,245.8	823.1	1,503.4

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.

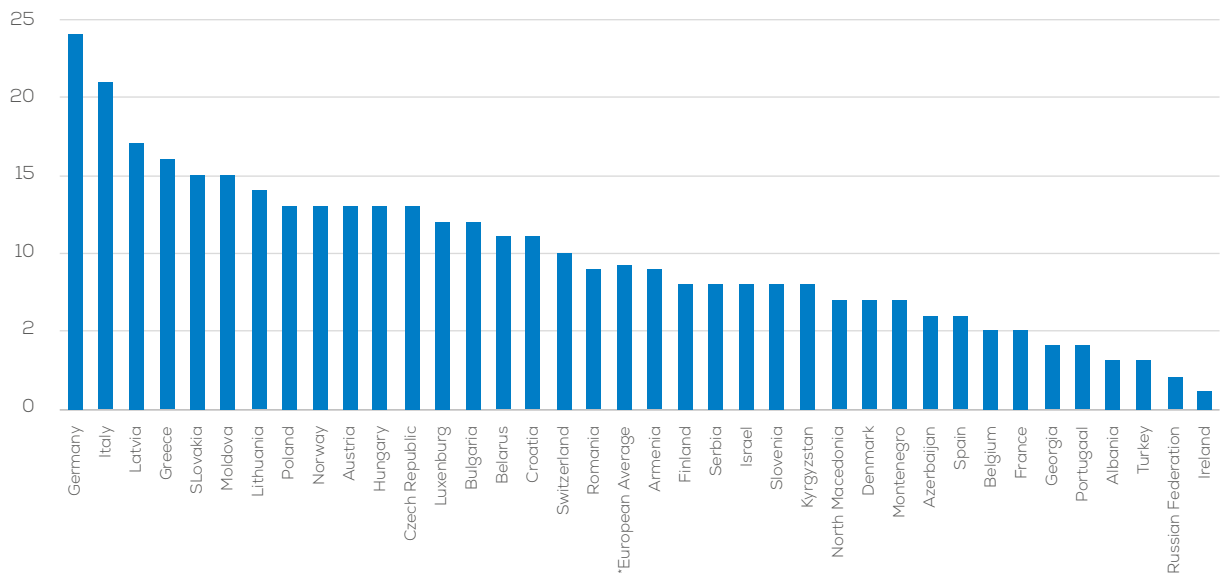


Figure 4: Number of neurologists (fully specialised and in training) per 100 000 population.

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

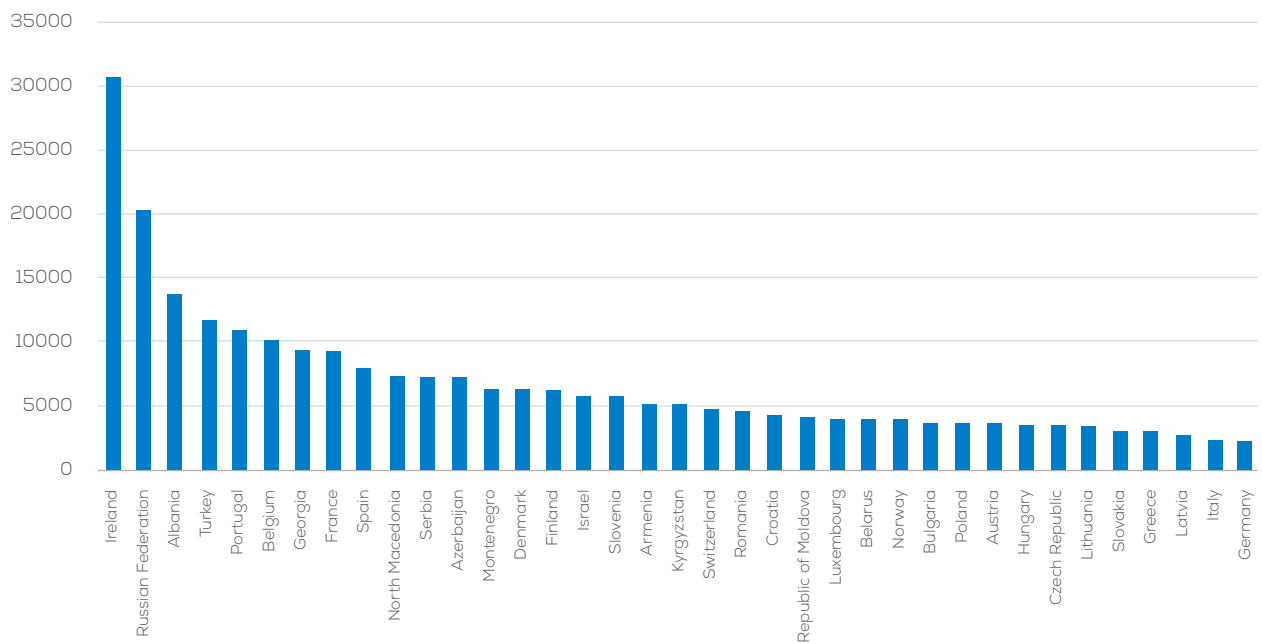
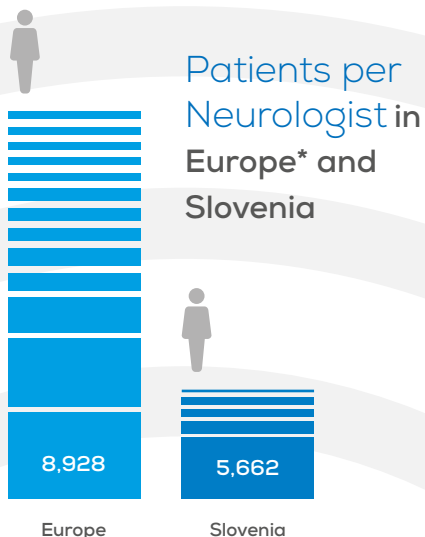


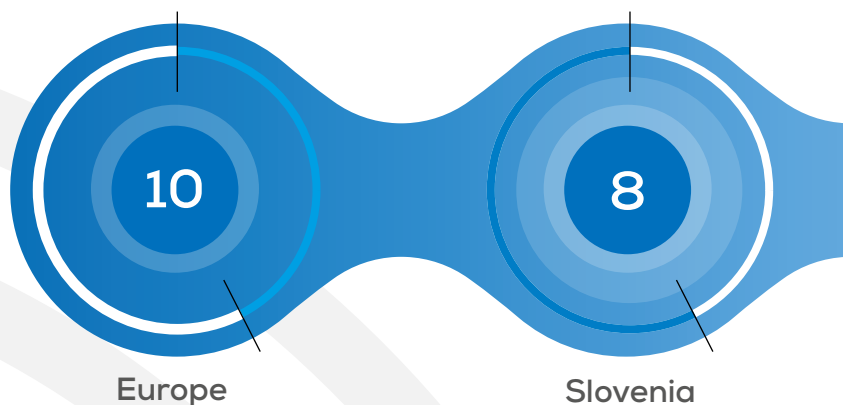
Figure 5: Number of patients per neurologist (fully specialised and in training).

Neurological Diseases in Europe and Slovenia:

Key Data and Trends from 2021



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



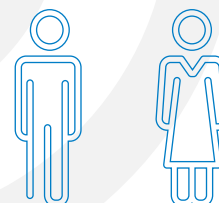
Percentage change of age-standardised DALYs, Deaths and prevalence from 1990 to 2021:

	WHO Europe	vs	Slovenia
DALYs	-28.98%		-38.79%
Deaths	-43.19%		-53.56%
Prevalence	0.34%		-0.42%

Most prevalent neurological diseases in Slovenia in

2021

- 1 Tension-type headache
- 2 Migraine
- 3 Diabetic neuropathy
- 4 Alzheimer's disease and other dementias
- 5 Traumatic brain injury

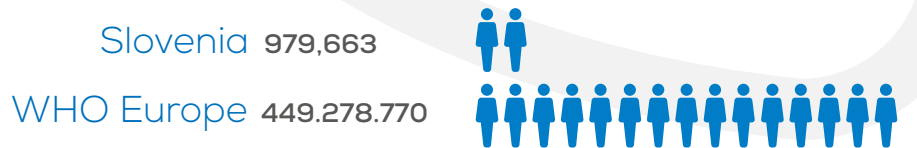


	Male	Female
WHO Europe	3,513	3,351
Slovenia	2,734	2,542

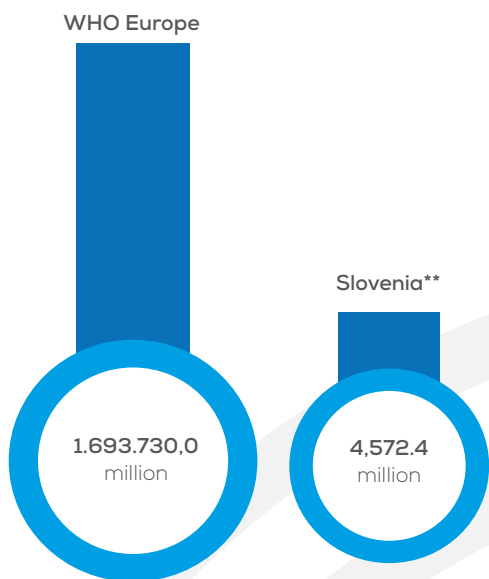
Age-standardised DALYs rate per 100,000 population in 2021 by sex

*Based on data from 37 countries of the WHO European region

**Cost estimates are derived from country-specific data available for specific diseases.



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



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

Leading neurological diseases in Slovenia by total deaths in 2021:

