

EAN Fact Sheet

Country profile of Cyprus

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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	Cyprus	WHO Europe
All Neurological Disorders					
DALYs	47,177	4,774	2,721	-43.0%	-29.0%
Deaths	1,447	228	86	-62.5%	-43.2%
Prevalence	687,166	45,630	45,593	-0.1%	0.3%
YLDs	25,288	1,554	1,508	-2.9%	2.9%
YLLs	21,886	3,220	1,213	-62.3%	-44.4%
Alzheimer's disease and other dementias					
DALYs	8,470	495	441	-10.8%	-2.5%
Deaths	440	29	26	-10.8%	-2.8%
Prevalence	13,694	690	662	-4.1%	-2.1%
YLDs	2,802	142	137	-3.6%	-2.6%
YLLs	5,667	352	304	-13.6%	-2.5%
Chromosomal abnormalities					
DALYs	81	8.41	7.28	-13.4%	-12.3%
Prevalence	883	93	81	-13.9%	-12.8%
YLDs	81	8.41	7.28	-13.5%	-12.4%
Covid-19 (neurological)					
DALYs	173	-	11	-	-
Prevalence	1,551	-	100	-	-
YLDs	173	-	11	-	-
Diabetic neuropathy					
DALYs	5,115	202	250	24.0%	98.1%
Prevalence	40,274	1,592	1,966	23.4%	97.9%
YLDs	5,115	202	250	24.0%	98.1%

Down syndrome					
DALYs	52	5.40	4.33	-19.8%	-19.6%
Prevalence	560	59	47	-20.5%	-20.7%
YLDs	52	5.40	4.33	-19.8%	-19.8%
Encephalitis					
DALYs	41	3.93	2.22	-43.5%	-30.1%
Deaths	2	0.17	0.08	-53.7%	-15.9%
Prevalence	74	5.34	4.59	-14.0%	-13.6%
YLDs	8	0.57	0.50	-12.4%	-12.0%
YLLs	33	3.36	1.73	-48.7%	-31.0%
Epilepsy					
DALYs	1,297	139	92	-34.0%	-12.6%
Deaths	12	1.45	0.70	-51.9%	3.9%
Prevalence	3,908	304	288	-5.5%	3.3%
YLDs	914	88	67	-23.4%	-11.3%
YLLs	382	51	24	-52.2%	-14.3%
Guillain-Barre Syndrome					
DALYs	8	0.52	0.52	0.0%	12.4%
Prevalence	29	1.76	1.76	-0.1%	12.4%
YLDs	8	0.52	0.52	-0.1%	12.4%
Idiopathic intellectual disability					
DALYs	199	20	16	-20.8%	-19.7%
Prevalence	4,094	410	323	-21.0%	-21.2%
YLDs	199	20	16	-20.8%	-19.7%
Klinefelter syndrome					
DALYs	1	0.03	0.03	2.3%	5.7%
Prevalence	51	4.34	4.52	4.3%	5.5%
YLDs	1	0.03	0.03	2.3%	5.5%

	Counts (thousands)	Age-standardized rate (per 100 000 people)		Percentage change, 1990-2021	
	2021	1990	2021	Cyprus	WHO Europe
Meningitis					
DALYs	83	56	7	-88.1%	-80.5%
Deaths	2	1.03	0.16	-84.8%	-75.4%
Prevalence	34	10	2	-75.4%	-66.7%
YLDs	3	0.84	0.21	-74.5%	-64.6%
YLLs	80	56	6	-88.3%	-81.3%
Migraine					
DALYs	9,732	655	657	0.5%	0.0%
Prevalence	258,628	17,528	17,623	0.5%	0.3%
YLDs	9,732	655	657	0.5%	0.0%
Motor neuron disease					
DALYs	446	19.77	23.42	18.5%	37.5%
Deaths	18	0.74	0.87	18.3%	54.1%
Prevalence	112	5.58	6.38	14.4%	19.8%
YLDs	24	1.19	1.36	14.4%	19.5%
YLLs	422	18.59	22.07	18.7%	38.5%
Multiple sclerosis					
DALYs	463	21	25	20.2%	-5.0%
Deaths	8	0.43	0.41	-4.4%	-12.5%
Prevalence	883	32	49	52.1%	26.4%
YLDs	226	8	13	50.2%	25.5%
YLLs	237	13	13	-0.1%	-22.2%
Nervous system cancer					
DALYs	2,224	142	130	-8.4%	-3.3%
Deaths	75	4.22	3.94	-6.7%	10.8%
Prevalence	560	18	35	94.8%	35.9%
YLDs	60	2.24	3.54	58.1%	25.3%
YLLs	2,164	140	127	-9.4%	-3.7%

Neurosyphilis					
DALYs	1	0.03	0.04	21.1%	-43.6%
Prevalence	32	1.22	2.08	70.3%	-11.7%
YLDs	1	0.03	0.04	21.0%	-43.4%
Other neurological disorders					
DALYs	903	58	59	0.5%	25.8%
Deaths	24	1.34	1.34	-0.5%	45.0%
YLDs	279	13	20	54.4%	62.9%
YLLs	621	45	39	-14.6%	14.2%
Parkinson's disease					
DALYs	1,789	180	84	-53.4%	5.6%
Deaths	95	13	5	-63.3%	4.0%
Prevalence	3,321	127	152	19.6%	21.9%
YLDs	471	18	22	20.1%	21.4%
YLLs	1,317	162	62	-61.6%	2.0%
Spinal cord injury					
DALYs	1,662	127	99	-21.9%	-26.9%
Prevalence	5,976	423	355	-16.2%	-21.9%
YLDs	1,662	127	99	-21.9%	-26.9%
Stroke					
DALYs	12,329	2,497	685	-72.6%	-52.6%
Deaths	770	177	48	-73.1%	-55.6%
Prevalence	9,959	858	522	-39.2%	-19.2%
YLDs	1,368	118	71	-39.7%	-18.9%
YLLs	10,960	2,379	614	-74.2%	-55.3%

	Counts (thousands)		Age-standardized rate (per 100 000 people)		Percentage change, 1990-2021	
	2021	1990	2021	Cyprus	WHO Europe	
Tension-type headache						
DALYs	1,111	69	70	0.8%	-1.6%	
Prevalence	486,411	32,397	32,412	0.05%	-0.8%	
YLDs	1,111	69	70	0.8%	-1.6%	
Traumatic Brain Injury						
DALYs	997	74	57	-23.0%	-28.2%	
Prevalence	7,500	556	427	-23.2%	-28.0%	
YLDs	997	74	57	-23.0%	-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.

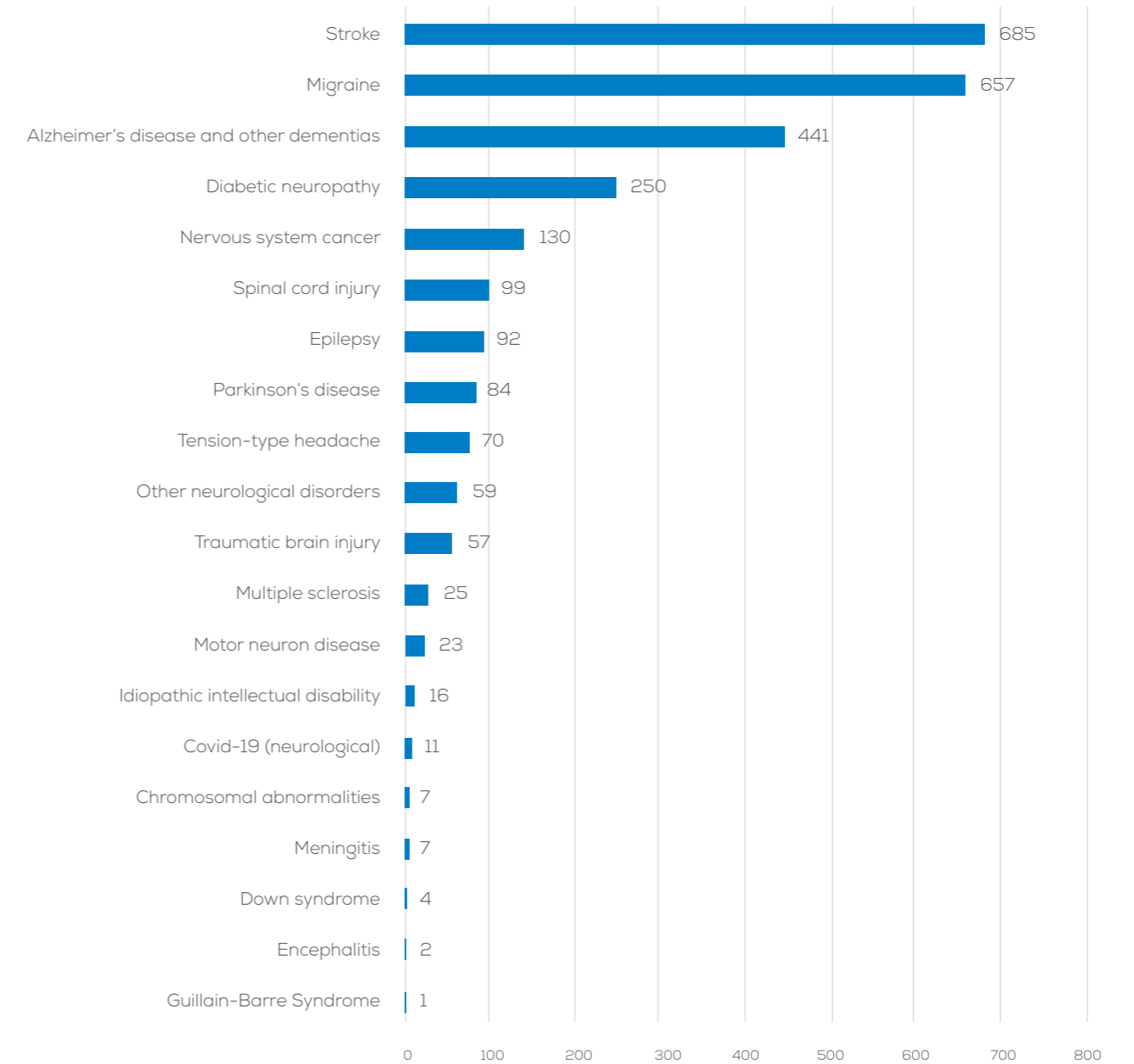


Figure 1: National age-standardised DALYs per 100 000 population by neurological disorder in 2021.

DALYs per 100 000 population

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

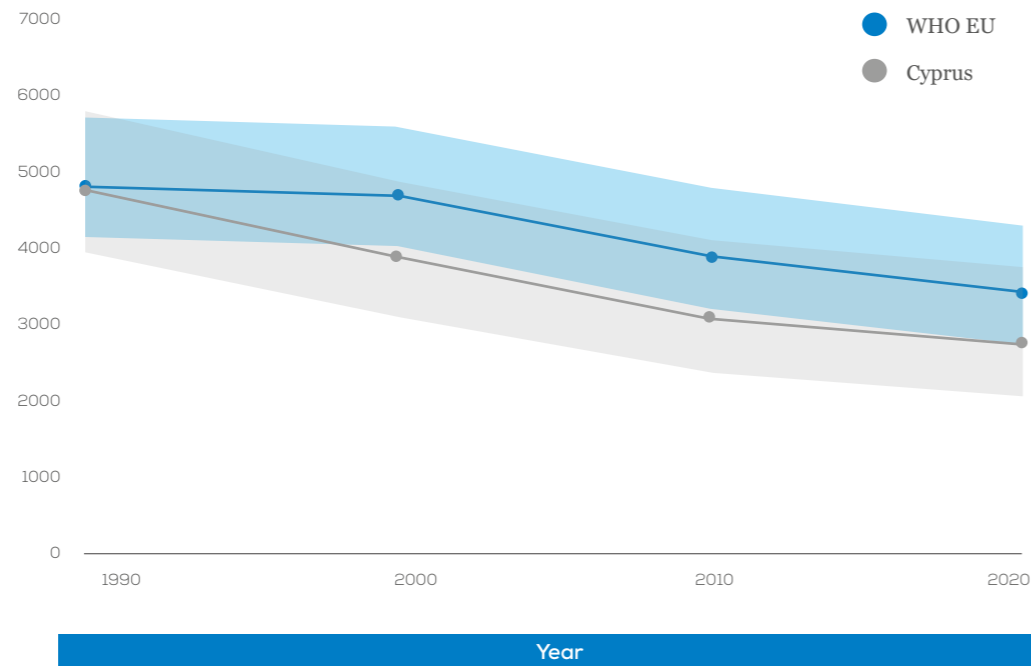


Figure 2: Age-Standardized DALYs per 100 000 population over the last 3 decades.

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

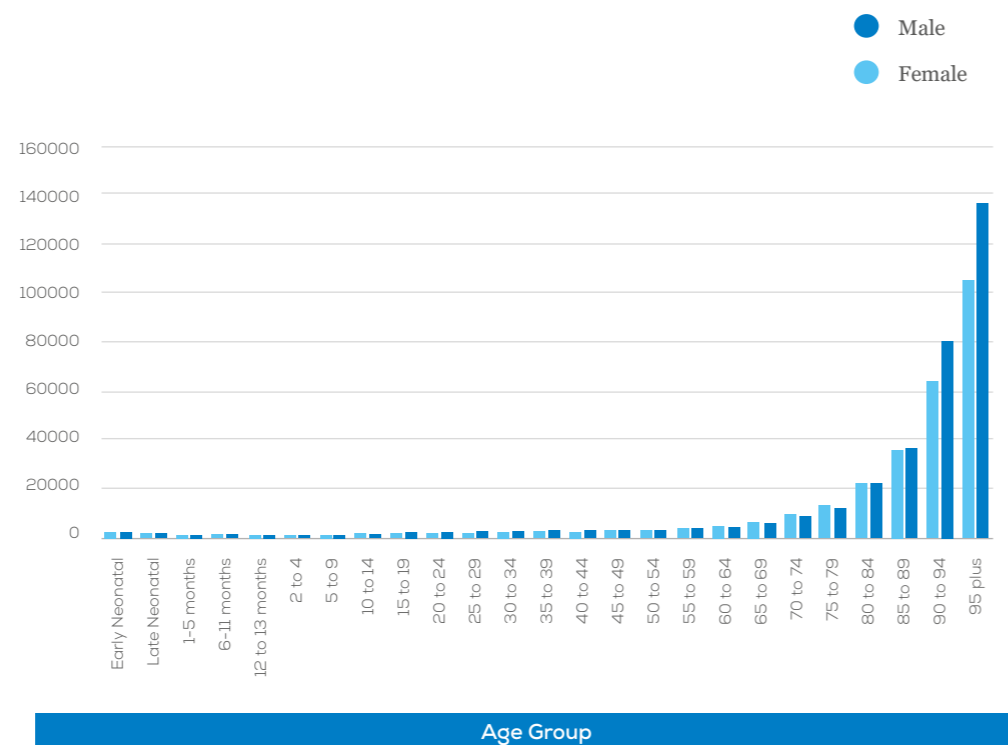


Figure 3: National DALYs per 100 000 population by age group and sex in 2021.

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 **Cyprus** 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
Headache disorders	1,184.0	465.1	168.7	550.2
Sleep disorders	748.7	335.1	-	413.6
Alzheimer's disease and other dementias	187.3	80.8	106.4	0.0
Traumatic brain injury	92.9	33.3	20.1	39.5
Polyneuropathies	67.9	32.3	-	35.6
Stroke	25.5	10.6	10.6	4.3
Parkinson's disease	18.4	12.2	4.9	1.3
Multiple sclerosis	13.8	7.6	1.7	4.5
Idiopathic epilepsy	13.4	4.1	-	9.3
Brain and central nervous system cancer	1.4	0.9	0.6	-
Motor neuron disease	1.0	0.5	0.3	0.2
Meningitis	0.1	0.1	-	-
Total Costs:	2,354.3	982.6	313.3	1,058.5

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.

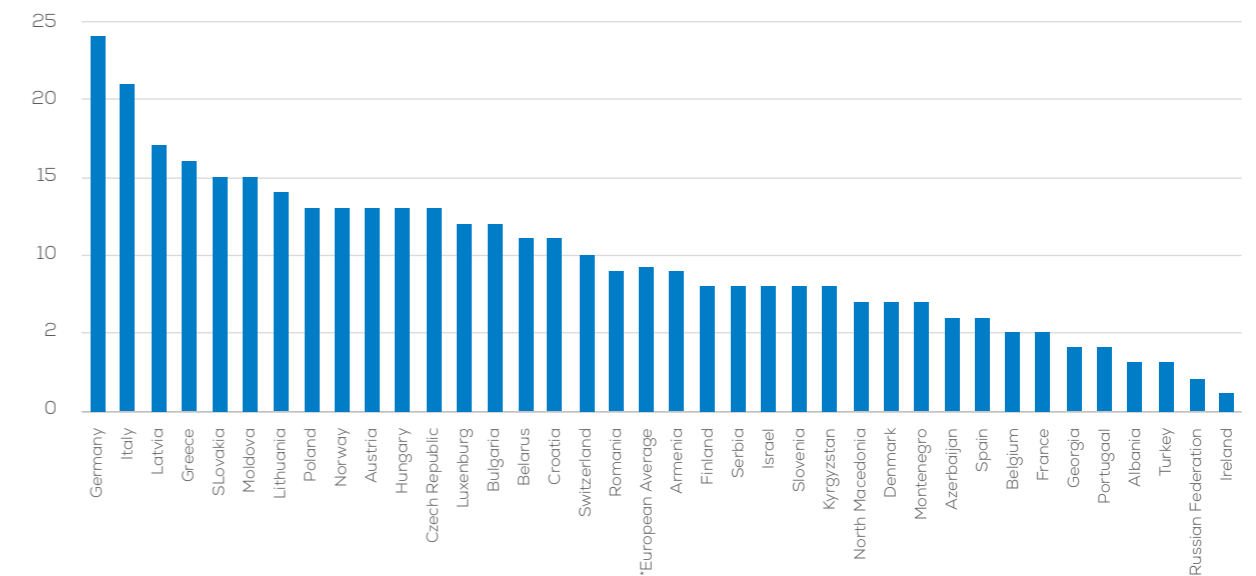


Figure 4: Number of neurologists (fully specialised and in training) per 100 000 population.

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

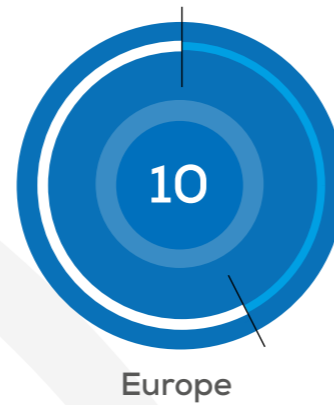


Figure 5: Number of patients per neurologist (fully specialised and in training).

Neurological Diseases in Europe and Cyprus:

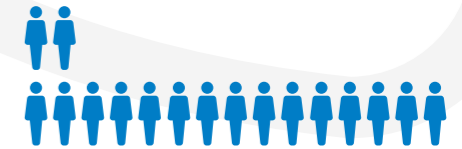
Key Data and Trends from 2021

Neurologists per 100,000 population in Europe*

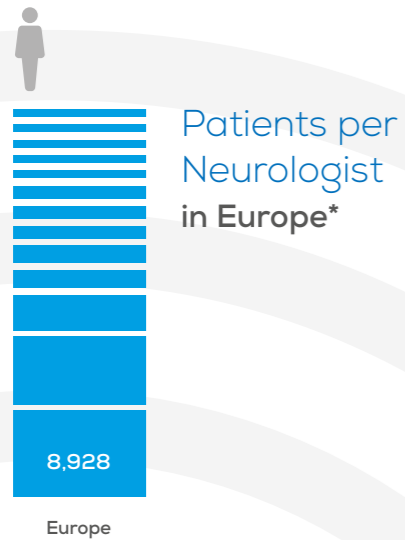


Cyprus 687,166

WHO Europe 449.278.770



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



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

	WHO Europe	vs	Cyprus
DALYs	-28.98%		-43.00%
Deaths	-43.19%		-62.45%
Prevalence	0.34%		-0.08%

WHO Europe



Cyprus**

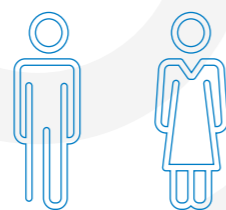


Annual total costs (in million € PPP 2019) for 12 major neurological diseases:

Most prevalent neurological diseases in Cyprus in

2021

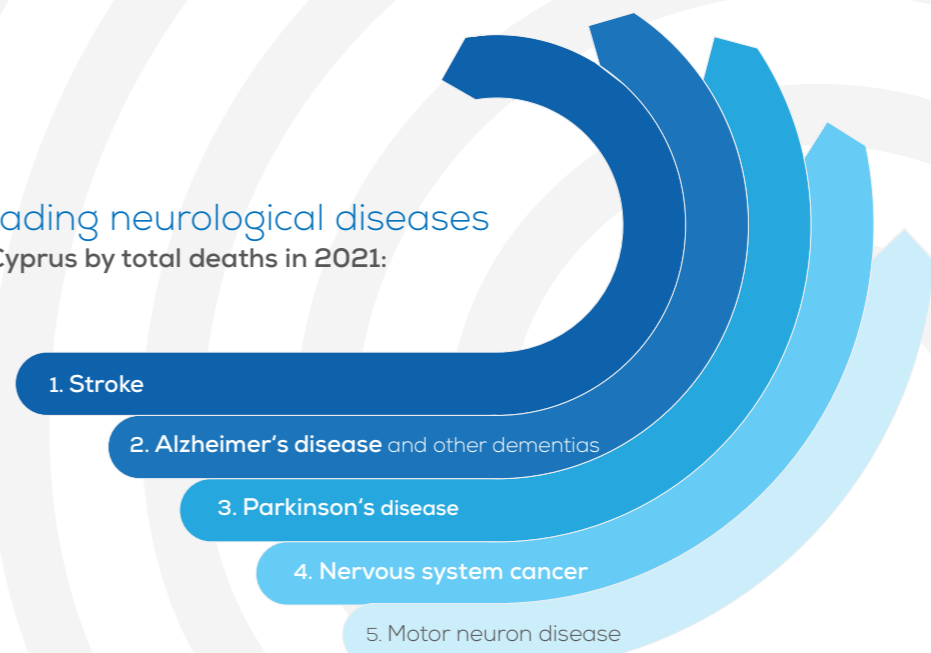
- 1 Tension-type headache
- 2 Migraine
- 3 Diabetic neuropaty
- 4 Alzheimer's disease and other dementias
- 5 Stroke



3,513 3,351 WHO Europe
2,583 2,822 Cyprus

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

Leading neurological diseases in Cyprus 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.

