

# EAN Fact Sheet

Country profile of Latvia

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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)	(per 100 000 people)		Latvia	WHO Europe
	2021	1990	2021		
<b>All Neurological Disorders</b>					
DALYs	146,213	5,968	4,111	-31.1%	-29.0%
Deaths	6,707	236	144	-39.1%	-43.2%
Prevalence	879,464	41,762	41,931	0.4%	0.3%
YLDs	45,578	1,607	1,626	1.2%	2.9%
YLLs	100,630	4,361	2,485	-43.0%	-44.4%
<b>Alzheimer's disease and other dementias</b>					
DALYs	19,068	393	392	-0.2%	-2.5%
Deaths	1,053	20.83	20.79	-0.2%	-2.8%
Prevalence	31,569	659	661	0.2%	-2.1%
YLDs	6,606	137	137	0.3%	-2.6%
YLLs	12,461	256	255	-0.4%	-2.5%
<b>Chromosomal abnormalities</b>					
DALYs	85	8.19	7.25	-11.5%	-12.3%
Prevalence	938	92	81	-12.2%	-12.8%
YLDs	85	8.19	7.25	-11.4%	-12.4%
<b>Covid-19 (neurological)</b>					
DALYs	838	-	36	-	-
Prevalence	8,548	-	377	-	-
YLDs	838	-	36	-	-
<b>Cystic echinococcosis</b>					
DALYs	3	0.11	0.10	-11.4%	-18.3%
Prevalence	10	0.38	0.37	-2.8%	-9.0%
YLDs	3	0.11	0.10	-11.7%	-18.4%
<b>Diabetic neuropathy</b>					
DALYs	9,478	121	272	125.1%	98.1%
Prevalence	75,047	956	2,144	124.3%	97.9%
YLDs	9,478	121	272	125.1%	98.1%

<b>Down syndrome</b>					
DALYs	46	4.89	3.99	-18.4%	-19.6%
Prevalence	510	55	45	-19.1%	-20.7%
YLDs	46	4.89	3.99	-18.3%	-19.8%
<b>Encephalitis</b>					
DALYs	656	83	29	-65.2%	-30.1%
Deaths	20	1.50	0.68	-54.8%	-15.9%
Prevalence	440	28	19	-31.2%	-13.6%
YLDs	41	2.75	1.99	-27.6%	-12.0%
YLLs	615	81	27	-66.5%	-31.0%
<b>Epilepsy</b>					
DALYs	3,419	213	168	-21.2%	-12.6%
Deaths	36	2.20	1.48	-32.7%	3.9%
Prevalence	7,464	311	363	16.5%	3.3%
YLDs	2,056	96	100	4.3%	-11.3%
YLLs	1,363	117	68	-42.0%	-14.3%
<b>Guillain-Barre Syndrome</b>					
DALYs	11	0.50	0.50	0.2%	12.4%
Prevalence	37	1.68	1.68	0.2%	12.4%
YLDs	11	0.50	0.50	0.2%	12.4%
<b>Idiopathic intellectual disability</b>					
DALYs	197	18	12	-29.6%	-19.7%
Prevalence	4,517	427	289	-32.3%	-21.2%
YLDs	197	18	12	-29.6%	-19.7%
<b>Klinefelter syndrome</b>					
DALYs	1	0.03	0.03	5.1%	5.7%
Prevalence	58	4.27	4.48	4.8%	5.5%
YLDs	1	0.03	0.03	5.2%	5.5%

	Counts (thousands)		Age-standardized rate (per 100 000 people)		Percentage change, 1990-2021	
	2021	1990	2021	Latvia	WHO Europe	
<b>Meningitis</b>						
DALYs	617	141	33	-76.3%	-80.5%	
Deaths	17	1.98	0.64	-67.5%	-75.4%	
Prevalence	673	115	33	-71.5%	-66.7%	
YLDs	52	9	3	-67.5%	-64.6%	
YLLs	564	132	31	-76.9%	-81.3%	
<b>Migraine</b>						
DALYs	10,761	530	526	-0.8%	0.04%	
Prevalence	259,186	13,106	12,978	-1.0%	0.3%	
YLDs	10,761	530	526	-0.8%	0.04%	
<b>Motor neuron disease</b>						
DALYs	768	3.29	25.43	672.8%	37.5%	
Deaths	28	0.07	0.81	1071.5%	54.1%	
Prevalence	76	3.79	3.94	4.0%	19.8%	
YLDs	16	0.81	0.84	4.0%	19.5%	
YLLs	752	2.48	24.59	891.3%	38.5%	
<b>Multiple sclerosis</b>						
DALYs	667	51	27	-47.2%	-5.0%	
Deaths	16	1.15	0.57	-50.3%	-12.5%	
Prevalence	466	17	20	15.6%	26.4%	
YLDs	125	4.67	5.33	14.1%	25.5%	
YLLs	542	47	22	-53.3%	-22.2%	
<b>Nervous system cancer</b>						
DALYs	5,635	132	215	62.7%	-3.3%	
Deaths	192	3	6	91.2%	10.8%	
Prevalence	390	9	18	92.8%	35.9%	
YLDs	67	1	3	91.5%	25.3%	
YLLs	5,568	131	212	62.4%	-3.7%	

<b>Neurocysticercosis</b>						
DALYs	614	26.69	21.28	-20.3%	-42.5%	
Prevalence	2,640	100.77	89.97	-10.7%	-32.8%	
YLDs	614	26.61	21.26	-20.1%	-42.5%	
YLLs	0	0.08	0.02	-80.3%	-70.7%	
<b>Neurosyphilis</b>						
DALYs	5	0.25	0.17	-32.3%	-43.6%	
Prevalence	43	2.00	1.75	-12.7%	-11.7%	
YLDs	5	0.25	0.17	-32.0%	-43.4%	
<b>Other neurological disorders</b>						
DALYs	2,209	40	92	131.6%	25.8%	
Deaths	75	0.57	2.11	268.9%	45.0%	
YLDs	510	13	24	83.3%	62.9%	
YLLs	1,695	27	68	156.4%	14.2%	
<b>Parkinson's disease</b>						
DALYs	3,580	80	77	-4.3%	5.6%	
Deaths	219	4.56	4.37	-4.3%	4.0%	
Prevalence	4,044	94	93	-0.8%	21.9%	
YLDs	566	13.27	13.22	-0.4%	21.4%	
YLLs	3,014	67	63	-5.1%	2.0%	
<b>Spinal cord injury</b>						
DALYs	1,574	120	68	-43.8%	-26.9%	
Prevalence	5,927	400	248	-38.1%	-21.9%	
YLDs	1,574	120	68	-43.8%	-26.9%	

	Counts	Age-standardized rate		Percentage change, 1990-2021	
	(thousands)	(per 100 000 people)		Latvia	WHO Europe
	2021	1990	2021		
<b>Stroke</b>					
DALYs	81,239	3,723	1,913	-48.6%	-52.6%
Deaths	5,052	200	106	-46.9%	-55.6%
Prevalence	38,723	1,227	1,085	-11.6%	-19.2%
YLDs	7,186	222	198	-10.7%	-18.9%
YLLs	74,053	3,501	1,714	-51.0%	-55.3%
<b>Tension-type headache</b>					
DALYs	1,952	88.01	87.86	-0.2%	-1.6%
Prevalence	602,992	30,345	30,338	0.0%	-0.8%
YLDs	1,952	88.01	87.86	-0.2%	-1.6%
<b>Traumatic Brain Injury</b>					
DALYs	2,789	189	104	-44.9%	-28.2%
Prevalence	19,310	1,287	711	-44.8%	-28.0%
YLDs	2,789	189	104	-44.9%	-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.

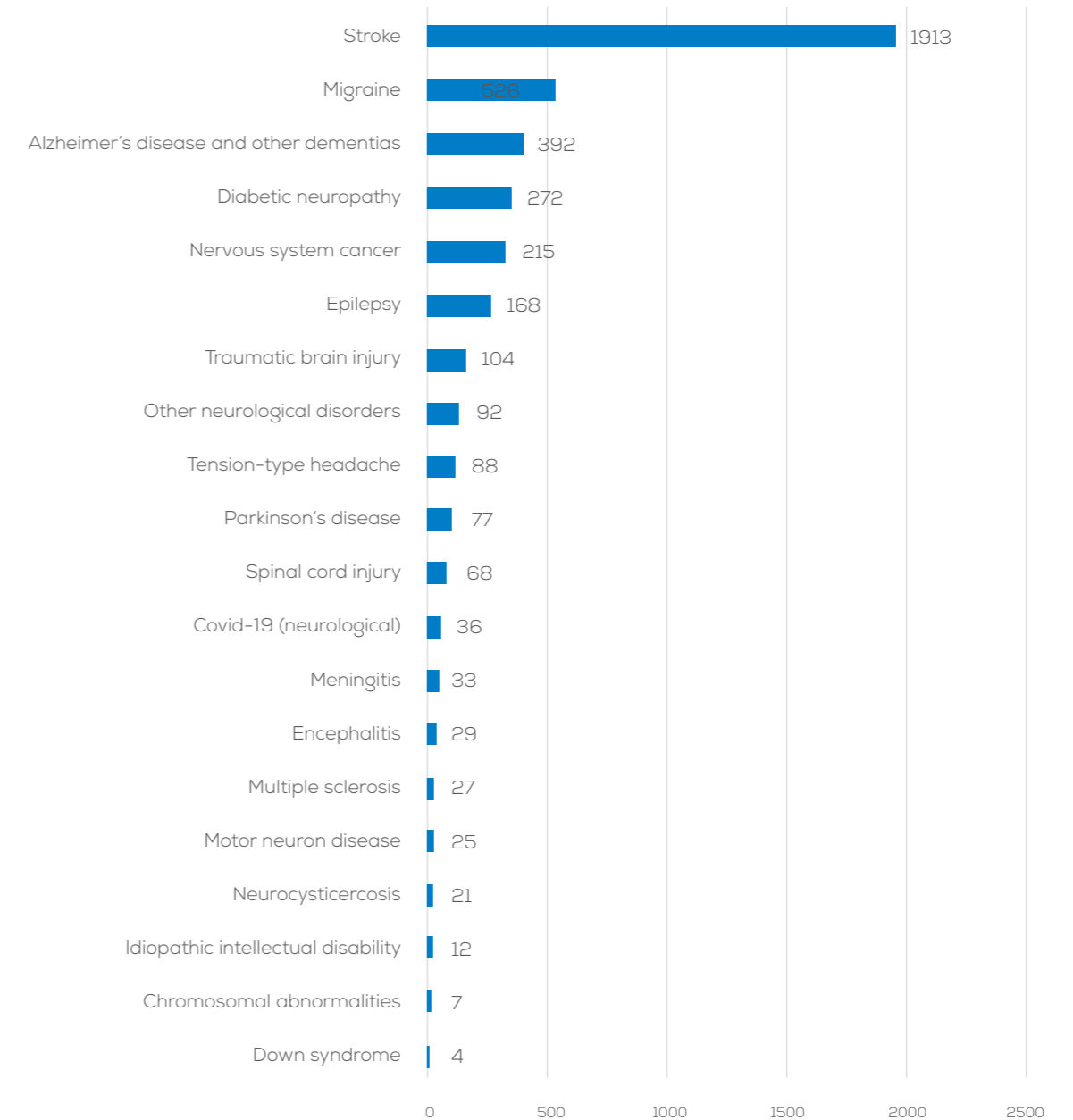


Figure 1: National age-standardised DALYs per 100 000 population by neurological disorder in 2021.

## DALYs per 100 000 population

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

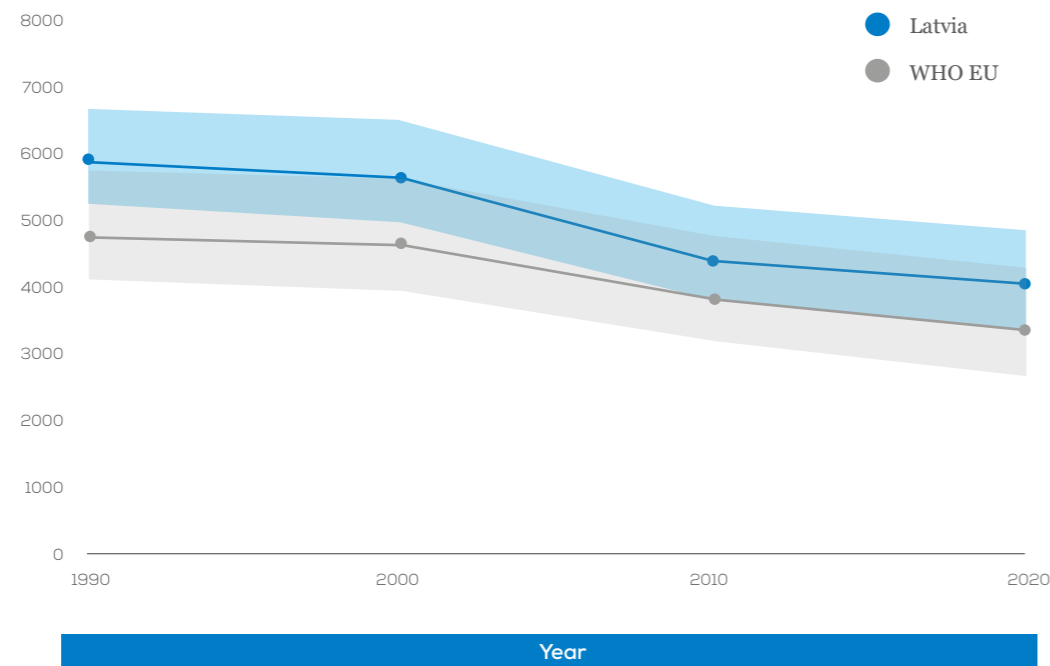


Figure 2: Age-Standardized DALYs per 100 000 population over the last 3 decades.

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

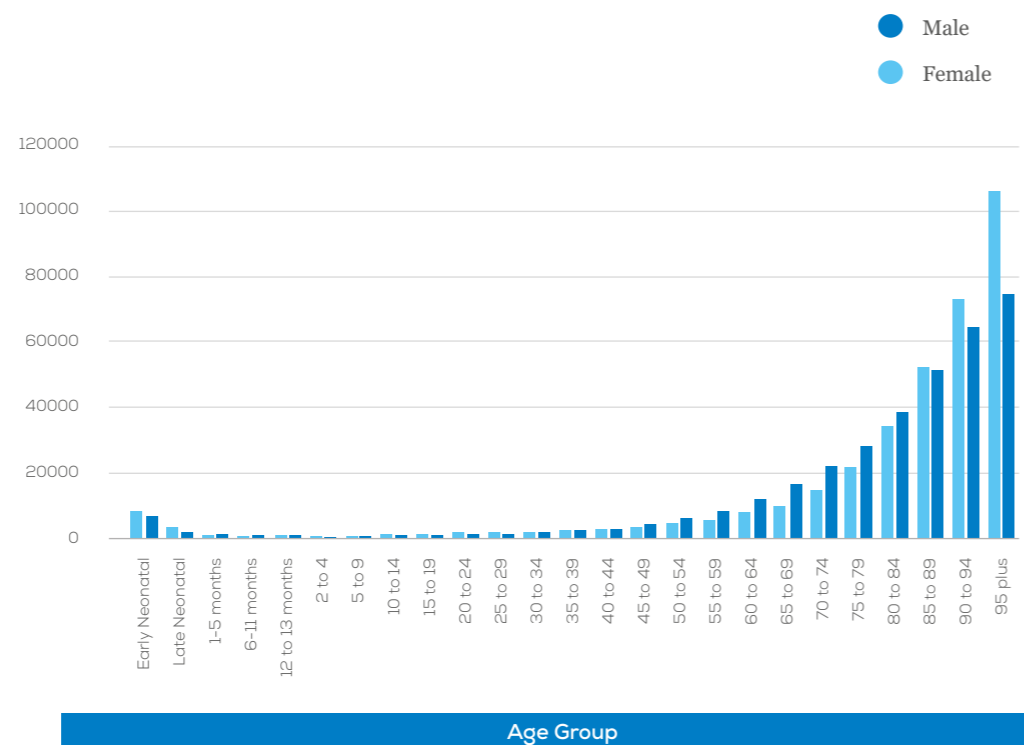


Figure 3: National DALYs per 100 000 population by age group and sex in 2021.

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 **Latvia** 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
<b>Neurological Disorder</b>				
Headache disorders	866.4	210.2	200.8	455.5
Sleep disorders	752.8	436.9	-	315.9
Alzheimer's disease and other dementias	438.7	189.3	249.3	0.1
Traumatic brain injury	168.7	71.1	43.0	54.6
Polyneuropathies	67.7	39.3	-	28.3
Stroke	64.6	19.3	34.5	10.7
Parkinson's disease	23.4	15.9	6.4	1.1
Idiopathic epilepsy	18.7	4.9	-	13.8
Multiple sclerosis	6.6	4.0	0.9	1.6
Brain and central nervous system cancer	2.3	1.4	0.9	-
Meningitis	0.8	0.8	-	-
Motor neuron disease	0.6	0.3	0.2	0.1
<b>Total Costs:</b>	<b>2,411.0</b>	<b>993.4</b>	<b>535.9</b>	<b>881.8</b>

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.

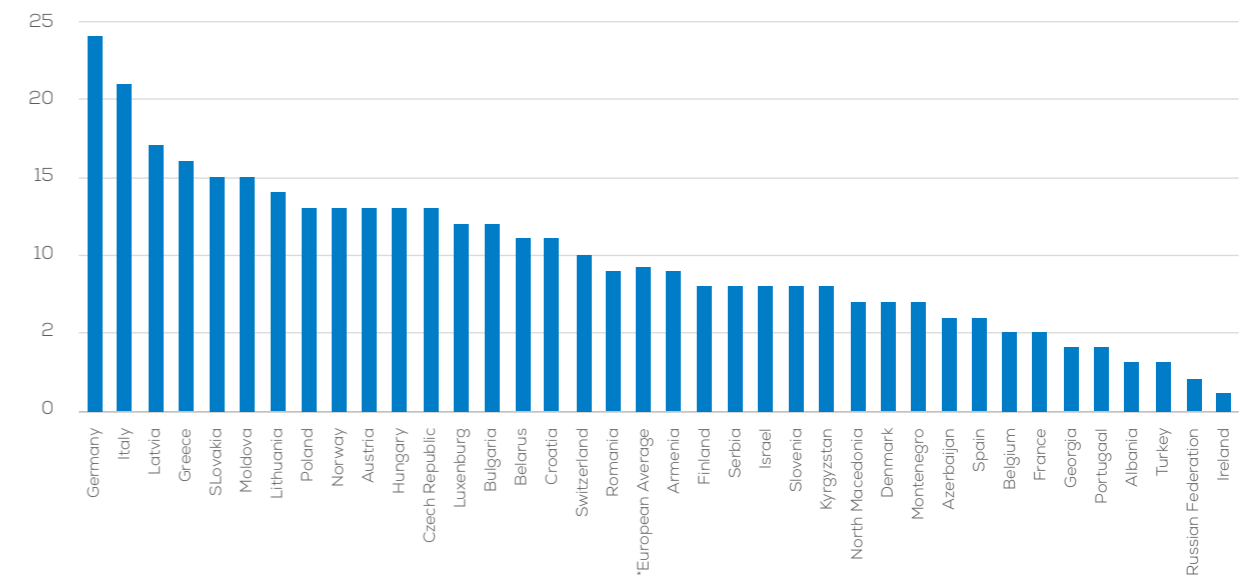


Figure 4: Number of neurologists (fully specialised and in training) per 100 000 population.

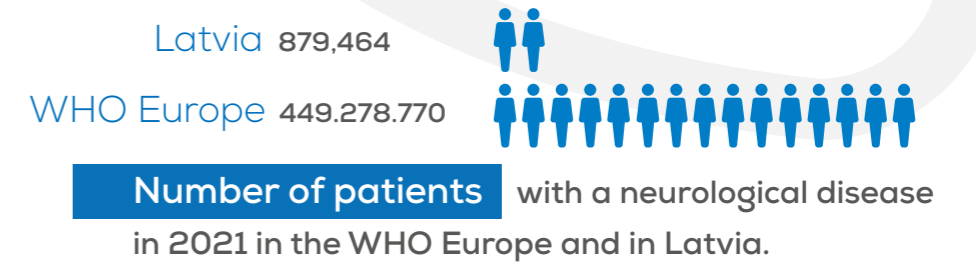
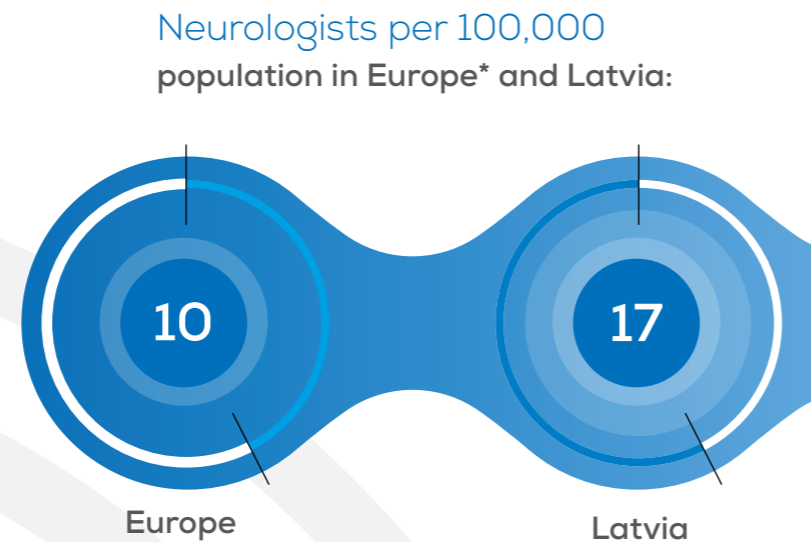
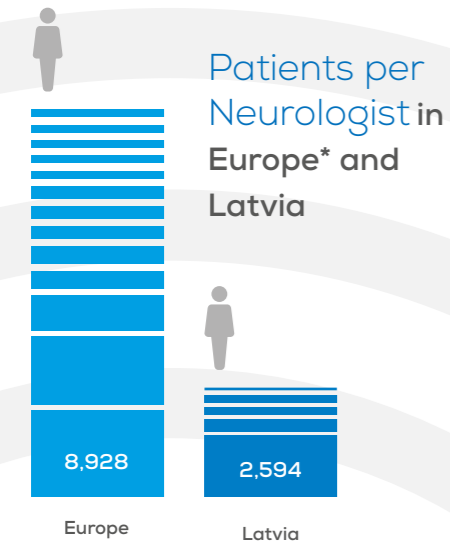
In the last figure the number of patients per neurologist is displayed:



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

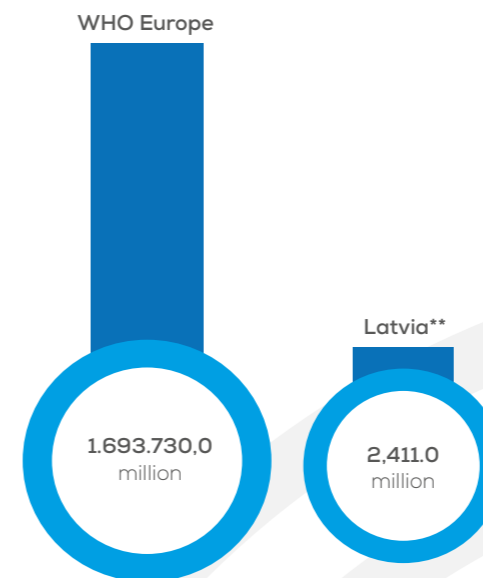
# Neurological Diseases in Europe and Latvia:

Key Data and Trends from 2021



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

	WHO Europe	vs	Latvia
DALYs	-28.98%		-31.11%
Deaths	-43.19%		-39.13%
Prevalence	0.34%		0.40%

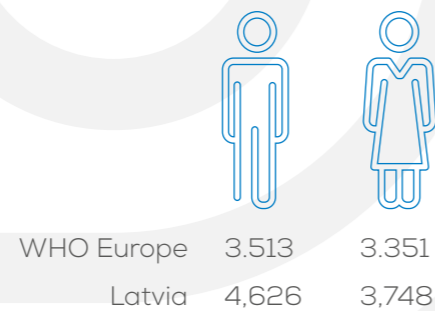


Annual total costs (in million € PPP 2019) for 12 major neurological diseases:

Most prevalent neurological diseases in Latvia in

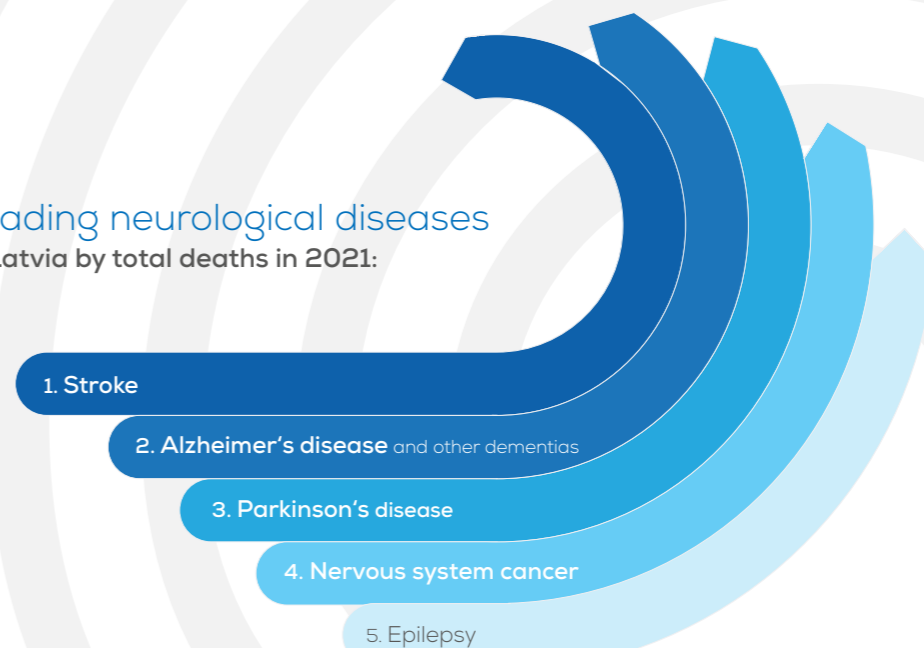
# 2021

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



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

Leading neurological diseases in Latvia 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.

