

MS in the UK

How many people have MS in the UK?

We estimate that there are over 100,000 people with MS in the UK, and that each year around 5,000 people are newly diagnosed with the condition.

This means that around one in every 600 people in the UK has MS, and that each week, 100 people are diagnosed with MS.

Table 1: Estimates of the prevalence and incidence of MS in the UK for women and men in different age groups

Age	People with MS			People newly diagnosed with MS each year		
	Women	Men	Total	Women	Men	Total
Under 10	10	10	20	-	-	-
10-19	90	70	160	40	10	50
20-29	2,070	710	2,780	410	140	550
30-39	9,430	3,020	12,450	700	250	950
40-49	17,690	6,110	23,810	920	340	1,260
50-59	22,000	8,360	30,340	760	340	1,100
60-69	17,740	8,120	25,850	440	230	670
70-79	7,110	3,360	10,490	210	130	340
80-89	1,930	610	2,550	100	50	150
90 plus	250	50	300	20	-	20
Total	77,790	29,960	107,800	3,620	1,490	5,110

*Figures rounded to the nearest 10

Table 2: Estimates of the prevalence and incidence of MS in the nations of the UK

Nation	People with MS		People newly diagnosed with MS each year	
	Number of people	Number of people per 100,000	Number of people	Number of people per 100,000
England	89,030	164	4,040	7
Wales	4,260	138	200	6
Scotland	11,190	209	670	13
Northern Ireland	3,220	175	180	10
UK	107,740	167	5,110	8

* Numbers of people rounded to the nearest 10, rates per 100,000 rounded to 0 decimal places

How were these estimates calculated?

These estimates are based on research published in 2013, by Dr Isla Mackenzie and colleagues at the University of Dundee³. This study used data from two different large medical databases - the General Practice Research Database (GPRD) and Hospital Episode Statistics (HES) – to estimate how many people have MS in the UK, and how many people are newly diagnosed each year. This is the most comprehensive study we're aware of regarding the prevalence and incidence of MS in the UK, and provides a wealth of incredibly useful information. This study estimated that there are 127,000 people with MS in the UK (203.4 per 100,000 population), and that each year 6,000 people are newly diagnosed with the condition (9.64 per 100,000/year).

Recognising the potential for error

However, any study of this kind which relies on automated searching of electronic records will inevitably mistakenly include some people who do not actually have MS. For example a GP might record that someone has 'possible MS', and even though this is later ruled out the code may stay on the database. These studies will also miss some people who do have MS, because their diagnosis hasn't been recorded in the correct way on the database. Any estimate is therefore just an estimate, and the true number of people may be higher or lower.

One study in 2007¹ attempted to retrieve the full anonymised medical records for everyone who was recorded on the GPRD as being diagnosed

with MS between 1993 and 2000. This study found that the diagnoses could only be confirmed in 82% of cases. Although this study is now quite old, it is the only estimate that we're aware of regarding the accuracy of GPRD diagnoses of MS. This estimate is also similar to a figure given in a more recent review², which stated that across all neurological conditions, 81% of cases identified on the GPRD could be confirmed. Unfortunately, we're not aware of any published research which estimates how many genuine cases of MS would be missed through a search of these electronic databases.

Addressing the potential for error

Based on consultation with our medical advisors, we have formed our estimates by assuming that only 82% of diagnoses identified in the Mackenzie study can be assumed to be correct. It is likely that the true number is higher than this, but we think this is the most accurate estimate possible with the information available. Therefore we estimate that in the UK there are 166.8 people with MS per 100,000 population, and 7.9 people are newly diagnosed with the condition per 100,000/year.

Estimating the incidence and prevalence of MS in the UK

The Mackenzie study looked at data on the GPRD and HES in 2010, but we have applied our estimates to the most recently available (2014) data from the Office of National Statistics on the population of the UK. Using more up to date population data does introduce some additional uncertainty into our estimate, but is likely to result in an estimate which is closer to the current 'true'

figure, and therefore more useful to those planning and delivering services.

Estimating the prevalence of MS in different genders and age groups

As well as overall estimates for the whole UK, we've used the same methodology (and data from the Mackenzie study) to estimate the prevalence and incidence of MS in the UK for women and men in different age groups. These estimates are in the tables at the beginning of this document.

References

¹Alonso A, Jick SS, Olek MJ, Hernán MA. Incidence of multiple sclerosis in the United Kingdom : findings from a population-based cohort. *J Neurol*. 2007 Dec;254(12):1736-41. Epub 2007 Oct 1

²Herrett E, Thomas SL, Schoonen WM, Smeeth L, Hall AJ. Validation and validity of diagnoses in the General Practice Research Database: a systematic review. *Br J Clin Pharmacol*. 2010 Jan; 69(1):4-14. doi: 10.1111/j.1365-2125.2009.03537.x

³Mackenzie IS, Morant SV, Bloomfield GA, et al. Incidence and prevalence of multiple sclerosis in the UK 1990–2010: a descriptive study in the General Practice Research Database. *J Neurol Neurosurg Psychiatry* Published Online First: 19 September 2013 doi:10.1136/jnnp-2013-305450

Estimating the number of people with MS in the different nations of the UK

We have also used the same methodology to estimate the number of people with MS in the different nations of the UK, again using ONS population estimates from 2014 and data from the Mackenzie study.

Because these estimates don't take into account the different age structures of the different nations of the UK in 2014, they don't precisely match the breakdown by age given above.