

MS in the UK

How many people have MS in the UK?

We estimate 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 of MS in the UK for women and men in different age groups

Age	Number of people with MS			Number of people with MS per 100,000		
	Women	Men	Total	Women	Men	Total
Under 10	10	10	20	<1	<1	<1
10-19	90	70	160	2	2	2
20-29	2,070	710	2,800	48	16	32
30-39	9,680	3,120	12,810	225	73	149
40-49	17,150	5,930	23,100	386	137	263
50-59	23,100	8,740	31,790	524	204	366
60-69	17,990	8,230	26,210	490	235	365
70-79	7,420	3,540	11,000	280	151	220
80-89	1,960	640	2,630	128	60	101
90 plus	260	50	310	65	29	55
Total	79,720	31,050	110,830	237	94	167

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

Table 2: Estimates of incidence of MS in the UK for women and men in different age groups

Age	People newly diagnosed with MS each year			People newly diagnosed with MS each year per 100,000		
	Women	Men	Total	Women	Men	Total
Under 10	-	-	-	<1	<1	<1
10-19	40	10	60	1	<1	1
20-29	410	140	550	10	3	6
30-39	720	250	980	17	6	11
40-49	890	330	1,220	20	8	14
50-59	800	360	1,150	18	8	13
60-69	440	240	680	12	7	9
70-79	220	140	360	8	6	7
80-89	100	50	160	7	5	6
90 plus	20	-	30	6	0	5
Total	3,660	1,530	5,190	11	5	8

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

Table 3: 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	90,590	164	4,120	7
Wales	4,290	138	200	6
Scotland	11,310	209	680	13
Northern Ireland	3,260	175	190	10

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

The nature of estimates

Using different methods to estimate a figure will often produce different answers. Other estimates for MS incidence and prevalence include:

- a study by Grey et al.¹ published in 2008 based in the North-East of Northern Ireland. They found a prevalence of 230.6 per 100,000 (95% CI 207.0–255.4). If this rate was applied to the whole of Northern Ireland, this would result in an estimate of around 4,000 people with MS.
- a study by Hirst et al.² published in 2008 based in South East Wales. They found a prevalence of 146 per 100,000 (95% CI 135-158). If this rate was applied to the whole of Wales, this would result in an estimate of around 4,500 people with MS.

We have used the best evidence available to us to reach our figures. However where other estimates exist it's worth considering any differences and what this can add to our understanding of the true number of people with living MS.

How did we calculate these estimates?

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 currently the most comprehensive study regarding the prevalence and incidence of MS across the UK, and provides a wealth of 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

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. The results are therefore just an estimate, and the true number of people may be higher or lower.

One study in 2007⁴ 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 review⁵, 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 GRPD and HES in 2010, but we have applied our estimates to the most recently available (2016) data from the Office of National Statistics on the population of the UK⁶. 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.

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 2016 and data from the Mackenzie study.

Limitations

The incidence and prevalence rates used in our estimates are based on data from 2010. By applying these rates to the most recent population data we are able to take into account growth in the general population. However it doesn't take into account potential increases in MS prevalence over time. Mackenzie et al. (2013) found that whilst there was a decreasing trend in the number of people being newly diagnosed with MS over time, the total number of people with MS was growing by around 2.4% per year. This was due to people with MS living longer

Therefore it is likely that our figures underestimate the true number of people currently living with MS in the UK

References

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- ⁶Office for National Statistics. 2017. Population Estimates Analysis Tool, Mid-2016.