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Dementia UK prevalence estimate for 2021: methodology

Summary

There are currently around 900,000 people with dementia in the UK.

This is an estimate consistent with both projections from the London School of Economics (LSE) published prior to the pandemic, and Alzheimer's Society analysis adjusting for the impact of excess deaths in people with dementia during 2020.

Excess deaths in people with dementia during 2020 were calculated using the numbers of deaths of people with dementia in England and Wales (published by the Office for National Statistics), comparing deaths in 2020 to an average over the past five years, and then assuming the same mortality rate for Scotland and Northern Ireland, where this data is unavailable. Projections published prior to the pandemic were produced using a model developed by CPEC (Care Policy and Evaluation Centre) for the Modelling Outcome and Cost Impacts of Interventions for Dementia (MODEM) study using the best available up-to-date data on the prevalence of dementia.

Full commentary with calculations

In 2019, CPEC at LSE published *Projections of older people with dementia and costs of dementia care in the United Kingdom, 2019-2040*, presenting new projections of the number of people with dementia in the UK, including an estimate for 2020. Alzheimer's Society had intended on adopting these new prevalence estimates in 2020, to update our current estimate of 850,000 people with dementia in the UK, which is an estimate from 2014. During the course of the Covid-19 pandemic, either directly resulting from a Covid-19 infection or indirectly from the impact of lockdown on the progression of the symptoms of dementia, we have sadly seen a high number of deaths of people with dementia – higher than would have been expected in a 'normal' year. Therefore there will be fewer people with dementia than previously projected. To reach a more accurate up-to-date estimate for the current number of people with dementia, the number of deaths in 2020 *beyond* what would have been expected should be taken into account. This is also known as 'excess deaths'.

The ONS publish data on deaths in England and Wales. We asked the ONS to produce an ad hoc publication with the numbers of deaths of people with dementia – deaths with dementia mentioned anywhere on the death certificate (either as the underlying cause or contributory cause of death). This showed that 115,872 people with dementia in England and Wales died in 2020; compared to 93,534 people in 2019. We looked at the number of deaths of people with dementia from 2015 to 2019 to calculate a five year average. We then compared the number of deaths of people with dementia in 2020 to this five year average, to give the number of excess deaths in 2020. Comparing to a five year average is the method the ONS use to calculate excess deaths.

We estimate there were 21,779 excess deaths in England and 1,158 excess deaths in Wales in people with dementia in 2020. To produce new prevalence estimates for England and Wales as individual nations, we subtracted the number of excess deaths from the LSE estimates for 2020.

England: 769,200 (LSE estimate) – 21,779 (number of excess deaths) = 747,421

Wales: 48,100 (LSE estimate) – 1,158 (number of excess deaths) = 46,942

There are currently around 750,000 people with dementia in England.



There are currently around 47,000 people with dementia in Wales.

Statistics on the number of deaths of people with dementia in Northern Ireland and Scotland for 2015 to 2020 are not available. Therefore we have used an approach of assuming the excess mortality rate for people with dementia in Northern Ireland and Scotland is the same as in England and Wales.

Excess deaths as a % of the number of people with dementia (combined England + Wales)

$$(22,937 / 817,300) \times 100 = 2.8\%$$

In England and Wales in 2020 the number of excess mortalities was 2.8% of the estimated number of people with dementia. Applying the same rate of 2.8% to the number of people with dementia in NI and Scotland to give estimates for the individual nations:

$$\text{NI: } 22,700 - 637 = 22,064$$

$$\text{Scotland: } 67,900 - 1901 = 65,999$$

There are currently around 22,000 people with dementia in Northern Ireland.

There are currently around 66,000 people with dementia in Scotland.

Applying the same rate of 2.8% to the number of people with dementia in the UK as a whole:

$$2.8\% \text{ of } 907,900 = 25,421 \text{ excess mortalities}$$

A new prevalence estimate for the UK is therefore:

$$907,900 \text{ (LSE estimate)} - 25,421 \text{ (2.8\% excess mortalities)} = 882,479$$

There were an estimated 882,479 people with dementia in the UK in 2020.

We also considered that this figure is for 2020, and we are now in 2021. The LSE report provides an estimate for the UK for 2025 of 1,060,100. This is an increase of 152,200 over five years; with an average increase of 30,440 per year. Taking this into account would provide an estimate of 912,919 for 2021. We note however that this doesn't take into account excess deaths during 2021, as there isn't currently data available on this.

We conclude that a reasonable rounded figure for the number of people with dementia in the UK in 2021 is around 900,000. This is consistent with:

- The LSE projection for 2020 published prior to the pandemic (907,900)
- Our own analysis of an adjusted estimate for 2020, taking into account excess deaths (882,479)
- Our own analysis of an adjusted estimate for 2021, taking into account excess deaths in 2020 (912,919).

There are currently around 900,000 people with dementia in the UK.

Sources

[Care Policy and Evaluation Centre at the London School of Economics and Political Science. Projections of older people with dementia and costs of dementia care in the United Kingdom, 2019-2040. \(2019\)](#)
[Office for National Statistics \(ONS\). Number of deaths involving or due to dementia and Alzheimer's disease, registered in England and Wales, 2015 to 2020. \(2020\)](#)



Further information on the projections from CPEC at LSE

The projections were produced using models developed by Newcastle University and by CPEC at LSE for the MODEM study, using the best available up-to-date data on the prevalence of dementia. The Newcastle University PACSim model draws on data from three longitudinal studies: Cognitive Function and Ageing Study II (CFAS II), ELSA (English Longitudinal Study of Ageing) and Understanding Society (the UK household longitudinal study). Combining the three studies maximises the strengths and minimises the limitations of any one study.

Contact: policy@alzheimers.org.uk