

Deaths from Alzheimer's disease and other dementias, 2021

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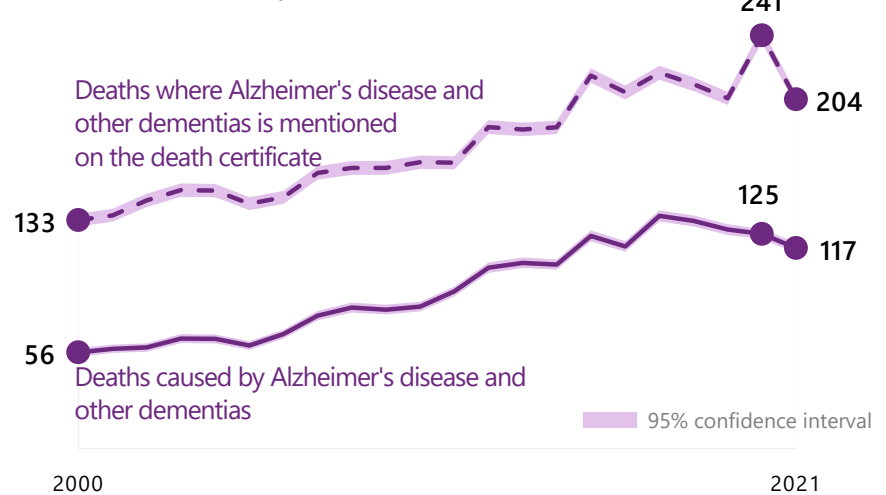
This statistical report details information on the number of deaths that were registered in Scotland in 2021 from Alzheimer's disease and other dementias.

It also includes breakdowns by sex, age, cause of death and deprivation.

Mortality rate falls for dementias over past four years

The mortality rate (adjusting for age) for deaths from Alzheimer's disease and other dementias fell to 117 per 100,000 people in 2021. Mentions of these causes also fell, after being higher during 2020.

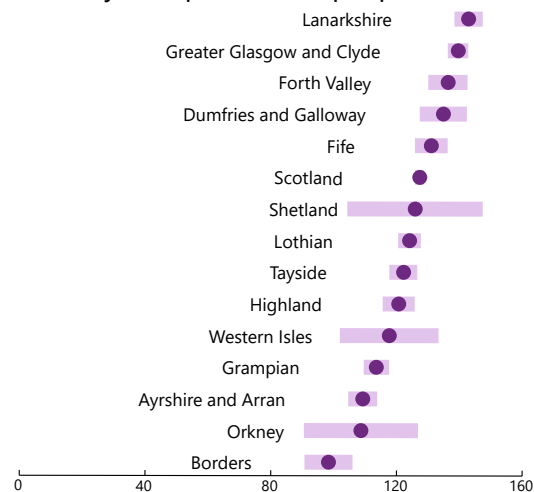
Age-standardised mortality rate (per 100,000 people)



Mortality rates differ across Scotland

Age-standardised rate of deaths in 2021 were highest in Lanarkshire (143 deaths per 100,000 people) and Greater Glasgow and Clyde (140 per 100,000), 40% higher than the lowest (Borders, 99 deaths per 100,000).

Age-standardised mortality rate (per 100,000 people)



Older females have the highest rates of mortality

Age-standardised rate of deaths in 2021 were highest in the oldest age-group (5,494 deaths per 100,000 and 3,990 deaths per 100,000 in females and in males, respectively).

Age-specific rate

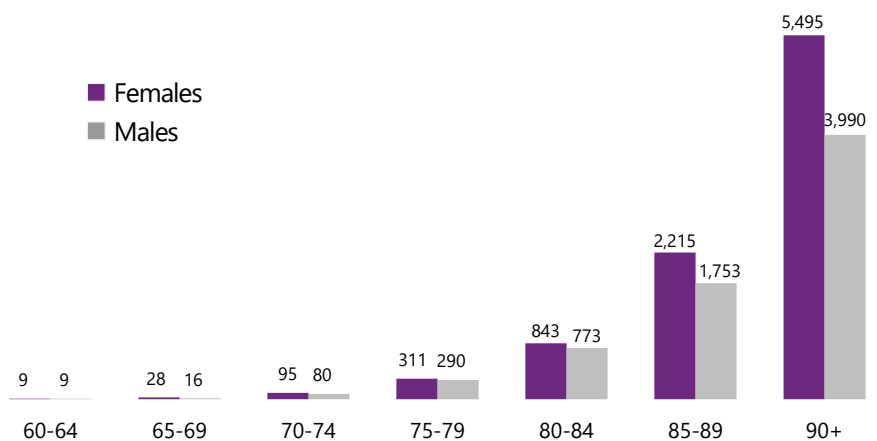


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1. Key Findings

- There were 6,046 deaths caused by Alzheimer's disease and other dementias in Scotland in 2021, a decrease of 5% (306 deaths) on 2020.
- The rate of mortality caused by Alzheimer's disease and other dementias was 117 deaths per 100,000 people in 2021. This makes these conditions one of the highest causes of death in Scotland, with a mortality rate similar to ischaemic (coronary) heart disease (126 per 100,000 in 2020).
- This is a statistically significant decrease from 125 deaths per 100,000 in 2020. The rate is lower than 2017, but the current rate is still more than twice as high as it was in 2000 (56 deaths per 100,000).
- Of the 6,046 deaths caused by Alzheimer's disease and other dementias in 2021, 3,893 (64%) took place within care homes, 1,197 (20%) within NHS hospitals, and 904 (15%) within a home/non-institution.
- Where Alzheimer's disease and other dementias are mentioned on the death certificate, but are not necessarily the underlying cause, there was 10,626 deaths in 2021, with a rate of mortality of 204 per 100,000 people (an increase of 53% in since 2000). In 2020, deaths in this category peaked at 241 deaths per 100,000. This is most likely due the effect of deaths caused by COVID-19 during this year.
- Two thirds of deaths caused by Alzheimer's disease and other dementias were females - there were 4,060 (67%) female deaths and 1,986 (33%) male deaths.
- Over 4 in 5 (84%) of deaths caused by Alzheimer's disease and other dementias occur over the age of 80, with an average age of 87.
- After adjusting for age, the mortality rate for deaths caused by Alzheimer's disease and other dementias was highest in the Lanarkshire, Greater Glasgow and Clyde, and Forth Valley NHS board areas.
- Deaths caused by Alzheimer's disease and other dementias were 1.3 times as likely in the most deprived areas of Scotland compared to the least deprived areas. The same disparity from deaths of all causes is 1.9, which indicates that deprivation has less of an impact in Alzheimer's disease and dementia deaths versus other causes of death.

What are Alzheimer's and other dementia deaths?

Dementia is a general term for cognitive decline and can result in death. Alzheimer's disease is a specific disease that accounts for many of the cases of dementia that occur.

These are deaths which are defined by the International Classification of Diseases (ICD), which is maintained by the World Health Organisation (WHO), as the following:

- **Vascular dementia (ICD code F01)**
- **Unspecified dementia (ICD code F03)**
- **Alzheimer's disease (ICD code G30)**

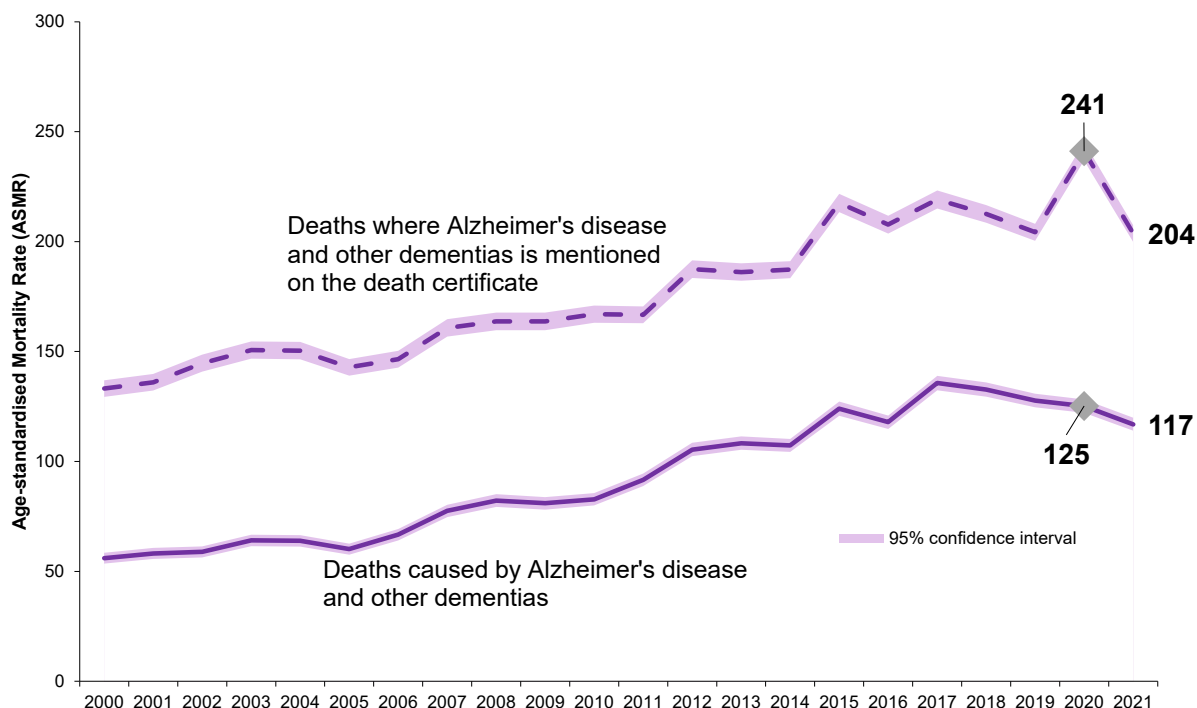
2. Deaths caused by Alzheimer's disease and other dementias in Scotland

There were 6,046 deaths caused by Alzheimer's disease and other dementias in Scotland in 2021, a decrease of 5% (306 deaths) on 2020. The highest number of deaths was seen in 2017, with 6,549 deaths.

The rate of mortality from deaths caused by Alzheimer's disease and other dementias was 117 deaths per 100,000 people in 2021 ([Figure 1](#)).

This is a statistically significant decrease from 125 deaths per 100,000 in 2020. The rate is lower than 2017, but the current rate is still more than twice as high as it was in 2000 (56 deaths per 100,000).

Figure 1: Age standardised mortality rate for deaths caused by Alzheimer’s disease and other dementias¹, 2000-2021



- Please note that within this report “Deaths caused by Alzheimer’s disease and other dementias” refers to deaths where these conditions are listed as the underlying cause of death on the death certificate. “Deaths where Alzheimer’s disease and other dementias is mentioned” refers to deaths where these conditions are listed on the death certificate (this includes both deaths where Alzheimer’s disease and other dementias were the cause of death, and deaths where another cause of death occurred)**

The rate of mortality for deaths caused by Alzheimer’s disease and other dementias increased between 2000 and 2017, from 56 to 136 deaths per 100,000 people. Since, it has slightly fallen to a similar level to the 2016 rate.

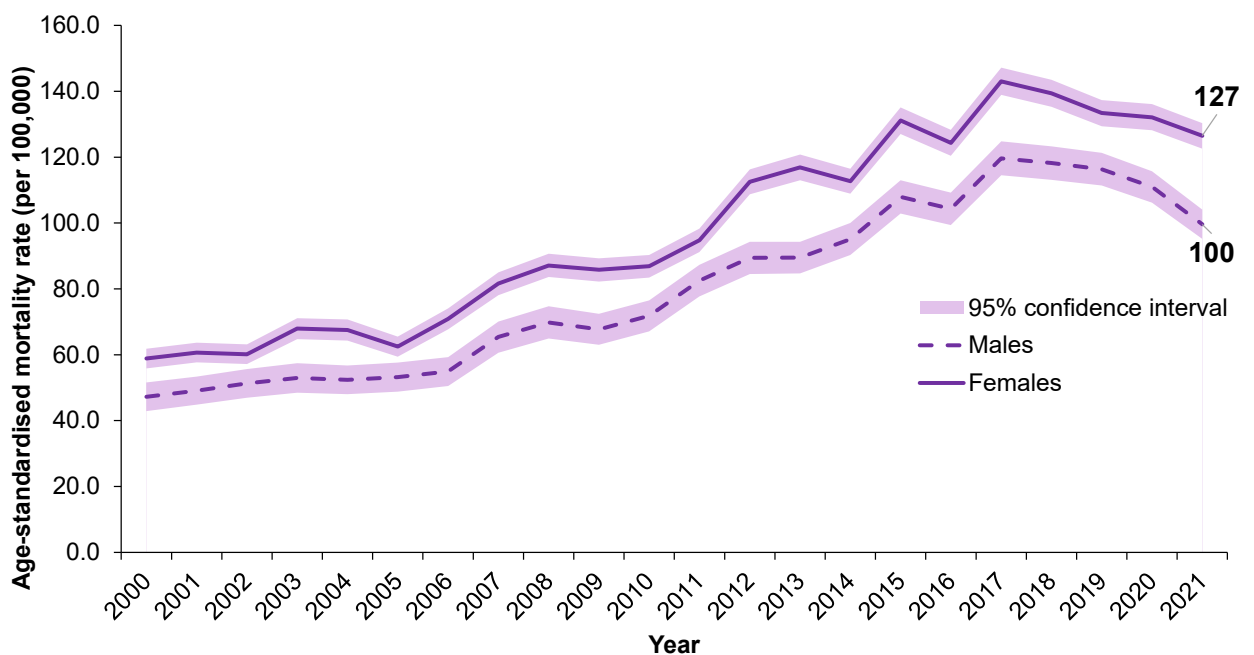
Where Alzheimer’s disease and other dementias are mentioned on the death certificate, but are not necessarily the underlying cause, there was 10,626 deaths in 2021, with a rate of mortality of 204 per 100,000 people. In 2020, there was increased mortality in deaths where Alzheimer’s disease and other dementias is mentioned, but not in deaths directly as a result of these conditions. This is most likely due the effect of deaths caused by COVID-19 during this year.

What are age-standardised rates?

Age-standardised mortality rates (ASMR) are a better measure of mortality than numbers of deaths, as they account for the population size and age structure and provide more reliable comparisons between groups or over time.

More information on the calculation of age-standardised mortality rates is available on our website.

Figure 2: Age-standardised mortality rate for deaths caused by Alzheimer's disease and other dementias, by sex, 2000-2021



In 2021 there were 4,060 (67%) female deaths and 1,986 (33%) male deaths caused by Alzheimer's disease and other dementias. Females have generally tended to make up around two thirds of these deaths in Scotland in recent years.

The rates for males and females have both dropped in the past year, with the male rate dropping significantly (down to 100 deaths per 100,000 people from 111). The female mortality rate is 1.3 times higher than the male rate.

Figure 3a: Deaths caused by Alzheimer’s disease and other dementias, by age and sex, 2021

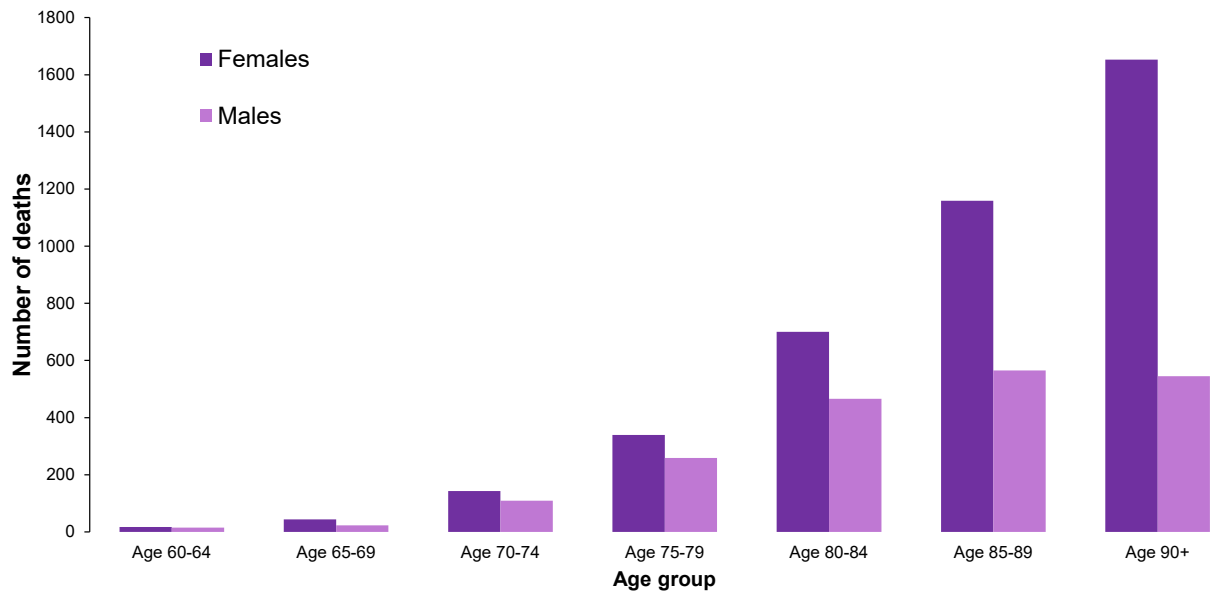
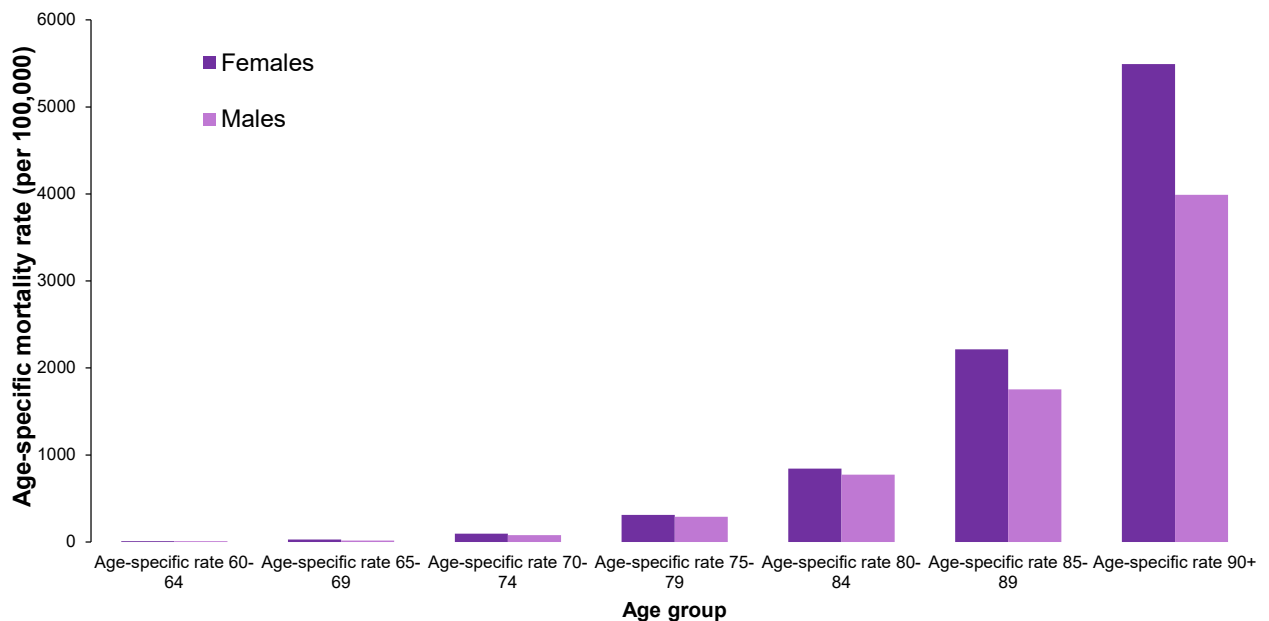


Figure 3b: Alzheimer’s disease and other dementia age-specific death rates, by age and sex, 2021

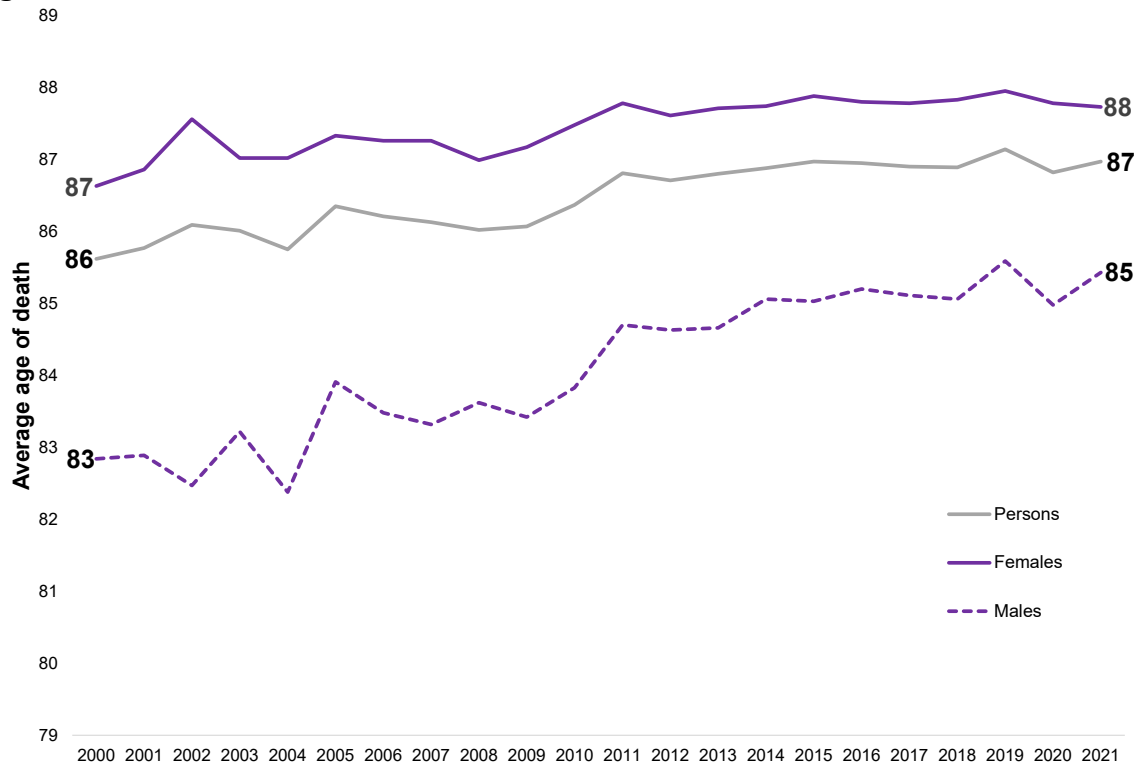


In 2021, both the number of deaths and the rate of death correlated with age, with 2,198 (36%) deaths in those aged 90 and above. There were far higher numbers of deaths in females than males across all age groups above 60 years of age, however this difference is reduced somewhat when looking at age-specific rates of deaths, which better reflects the disparity between males and females at each age range.

Deaths caused by Alzheimer’s disease and other dementias in males tend to be at slightly younger ages than for females. In 2021, the average age of death for

females was 87.7 years and for males it was 85.4 years. In all persons, over 4 in 5 (84%) of Alzheimer’s disease and other dementia deaths occur over the age of 80.

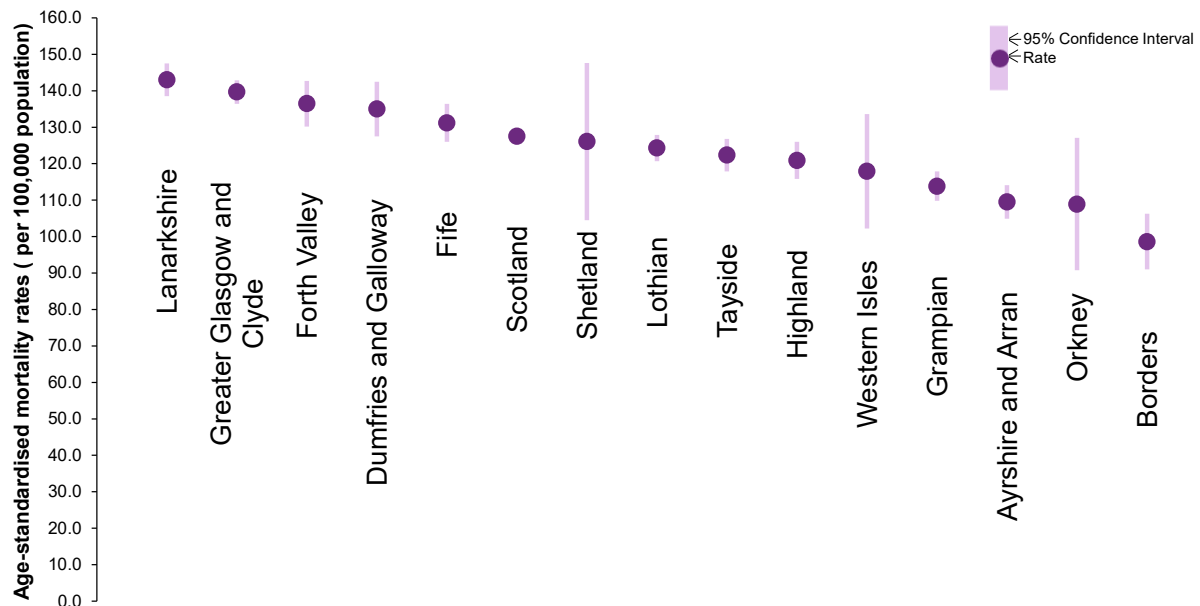
Figure 4: Deaths caused by Alzheimer’s disease and other dementias, average age of death, 2000-2021



3. Deaths caused by Alzheimer’s disease and other dementias in Scottish areas

In the past five years, after adjusting for age, the rate of mortality from deaths caused by Alzheimer’s disease and other dementias was highest in Lanarkshire, Greater Glasgow and Clyde, and Forth Valley. The lowest rate is seen in the Borders.

Figure 5: Age-standardised mortality rates for deaths caused by Alzheimer’s disease and other dementias, by NHS board areas, 2017-2021



While the rate for Shetland, the Western Isles, and Orkney is lower than the Scottish average, the confidence interval is so large that it is hard to tell if it is truly lower. This is due to the fact that these NHS board areas have small populations (Figure 5).

At council area in the last five years Inverclyde, Renfrewshire, and West Dunbartonshire had the highest mortality rates. The lowest rates were seen in the Scottish Borders, Moray, and North Ayrshire (Figure 6).

Figure 6: Age-standardised mortality rates for deaths caused by Alzheimer’s disease and other dementias, by council area, 2017 to 2021

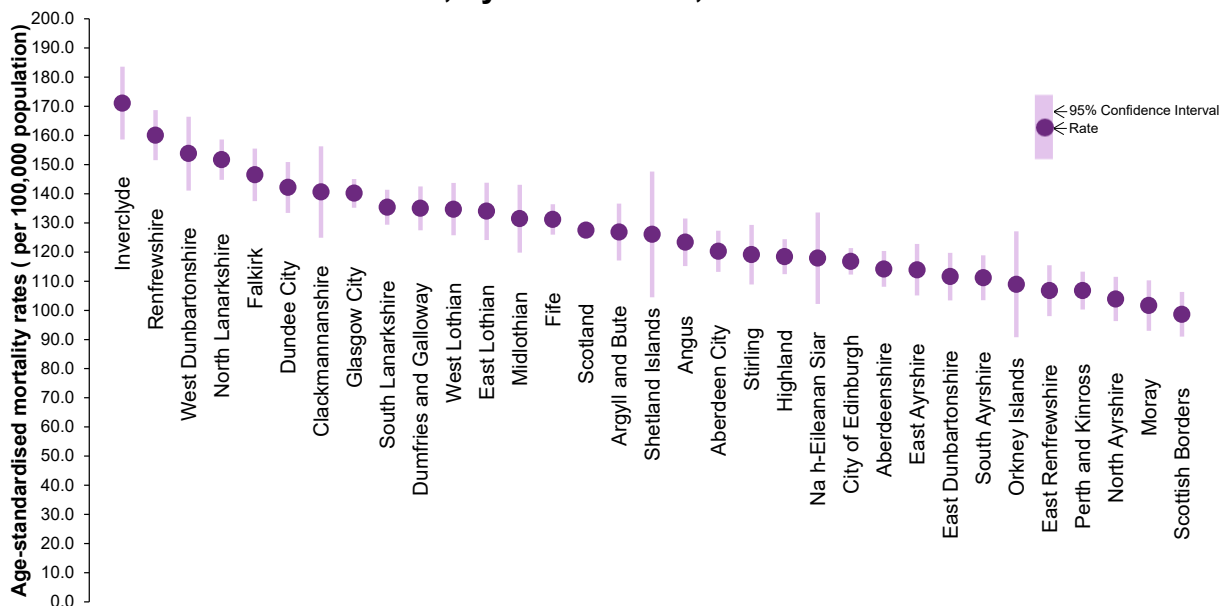
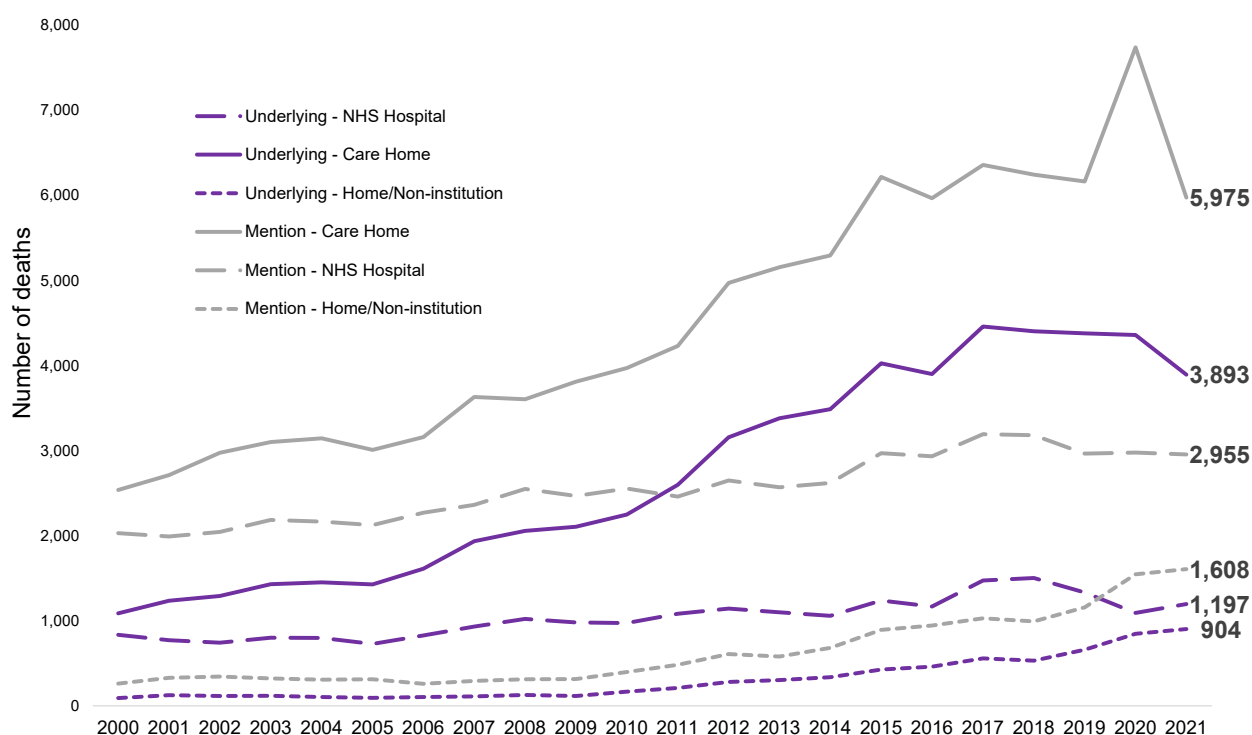


Figure 7: Deaths caused by Alzheimer’s disease and other dementias, by location, 2000 to 2021



Of the 6,046 deaths that were caused by Alzheimer’s disease and other dementias, 3,893 (64%) took place within care homes, 1,197 (20%) within NHS hospitals, and 904 (15%) within a home/non-institution.

Of the deaths where Alzheimer’s disease and other dementia is mentioned on the death certificate, the highest number of deaths was also seen within care homes (5,975 or 56%). This value reached 7,742 in 2020 before returning to levels seen in 2019. This peak in 2020 is due to a large number of deaths caused by COVID-19, but Alzheimer’s disease or other dementia were mentioned on the death certificate.

4. Multiple deprivation and urban rural

After adjusting for age, deaths caused by Alzheimer’s disease and other dementias were 1.3 times as high in the most deprived areas of Scotland as in the least deprived areas.

This disparity in rates of deaths caused by Alzheimer’s disease and other dementias has generally increased since 2007 (Figure 7). There is an indication over time showing these types of deaths are more common in more deprived areas. There was no disparity in mortality rates as a result of deprivation in 2001 through 2007, however a disparity in mortality between the most and least deprived has grown since then.

The disparity between the most and least deprived from deaths of all causes was 1.9 in 2021, which is greater than the disparity from deaths caused by Alzheimer’s disease and other dementias.

In urban and rural areas, the pattern has been less clear over time and there doesn’t appear to be as strong a relationship between changing levels of rurality and the rate of Alzheimer’s disease and other dementia deaths (Figure 8).

Figure 7: Age-standardised mortality rates for deaths caused by Alzheimer’s disease and other dementias, by SIMD classification, 2001 to 2021

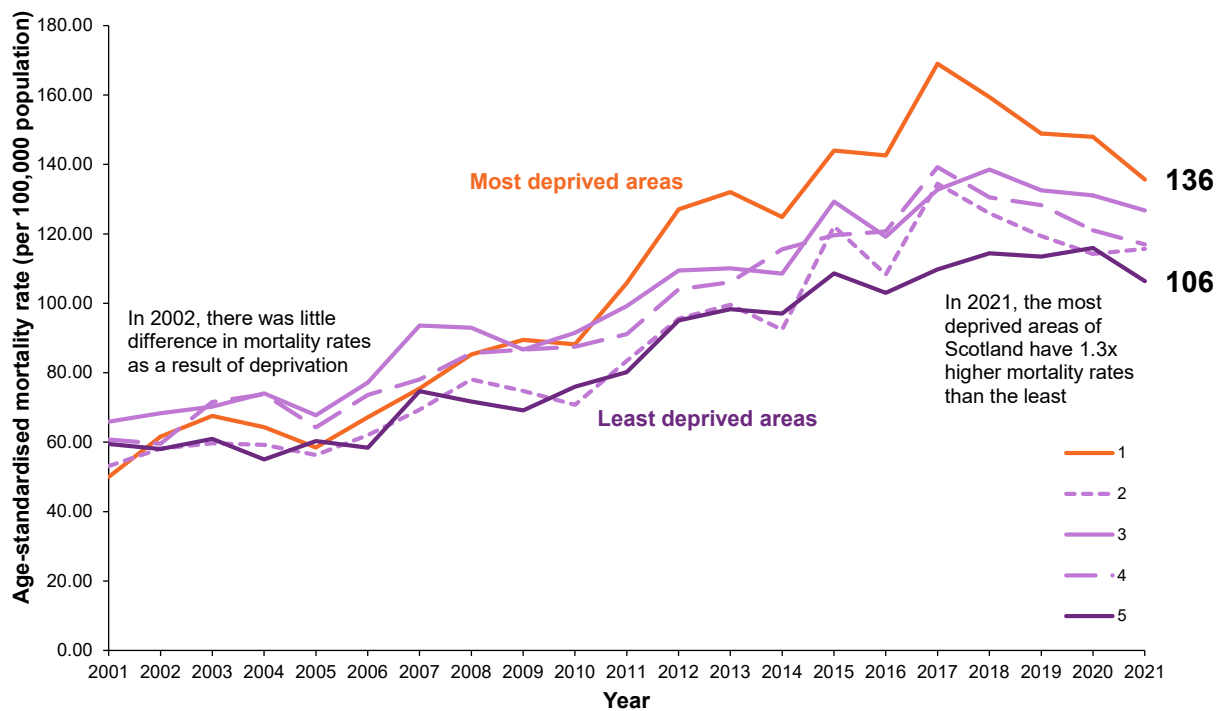
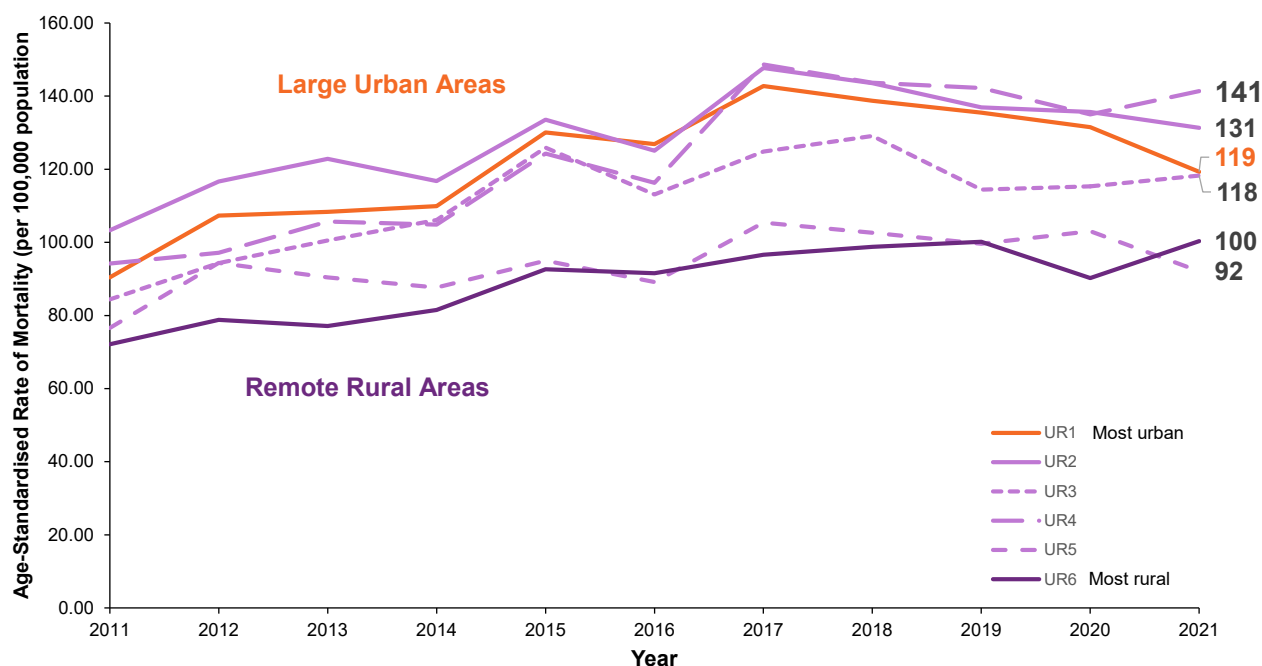


Figure 8: Age-standardised mortality rates for deaths caused by Alzheimer’s disease and other dementias, by urban rural classification, 2011 to 2021



5. Related Statistics

Alzheimer’s disease and other dementia death statistics in the rest of the UK can be found on the ONS website. Links to the latest versions of these are available below.

A full report on deaths from dementia and Alzheimer’s disease in England and Wales can be found on the ONS website here (data up to 2019): [Dementia and Alzheimer's disease deaths including comorbidities, England and Wales - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/peoplepopulationandcommunity/healthanddiseases/dementia/articles/dementiaandalzheimer'sdiseasedeathsincludingcomorbiditiesenglandandwales2015to2019)

The number of deaths from dementia and Alzheimer’s disease in England and Wales, from 2015 – 2020 can be found here: [Number of deaths involving or due to dementia and Alzheimer's disease, registered in England and Wales, 2015 to 2020 - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/peoplepopulationandcommunity/healthanddiseases/dementia/articles/numberofdeathsinvolvedorduetodementiaandalzheimer'sdiseaseregisteredenglandandwales2015to2020)

For further information regarding the effects of the COVID-19 pandemic on dementia, a report by the Scottish Government can be found here: [Excess deaths from all causes and dementia by setting Scotland 2020-2021 - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/excess-deaths-from-all-causes-and-dementia-by-setting-scotland-2020-2021/pages/2-to-10.aspx).

6. Notes on statistical publications

National Statistics

The United Kingdom Statistics Authority (UKSA) has designated these statistics as National Statistics, in line with the Statistics and Registration Service Act 2007 and

signifying compliance with the Code of Practice for Official Statistics (available on the [UKSA](#) website).

National Statistics status means that official statistics meet the highest standards of trustworthiness, quality and public value.

All official statistics should comply with all aspects of the Code of Practice for Official Statistics. They are awarded National Statistics status following an assessment by the Authority's regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate.

It is National Records of Scotland's responsibility to maintain compliance with the standards expected of National Statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss any concerns with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

Information on background and source data

Further details on data source(s), timeframe of data and timeliness, continuity of data, accuracy, etc. can be found in the metadata that is published alongside this publication on the NRS website.

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