



Serious illness in the over 50s

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The Prevalence of Serious Illness among People Aged 50+

Key Findings:

- Around 13.9% – an estimated **2.6 million people** – aged 50+ are living with serious illness in England, with **3.1 million** in the UK as a whole.
- If the current trend continues, the projected proportion of people living with serious illness could increase to 14.8% by 2025.
- The total number of people aged 50+ with serious illness is likely to rise to **3.4 million** in England and **4.0 million** in the UK as a whole by 2025.
- In an alternative model, if the trend continues of people being fitter for longer, the proportion of people aged 50+ with a serious illness could stabilise at 12.5% by 2021.
- In either scenario, our findings clearly indicate that the number of older people living with a serious illness will rise over the next 10 years.

This briefing examines the prevalence of serious illness among people aged 50+ in the UK. A great deal of research has previously explored mortality and incidence among specific critical illnesses, but this is the first time the number of over 50s living with a serious illness in the UK has been identified.

This research seeks to fill this gap by drawing on the latest available data from the English Longitudinal Study of Ageing (ELSA), a survey of people aged 50+ living in private households in England. Beginning with interviews in 2002 on a nationally-representative sample derived from the Health Survey of England, ELSA has since gathered an extensive range of health and socio-economic information from respondents every two years, with data collected in 2012 released in August 2014, representing the most recent available data.

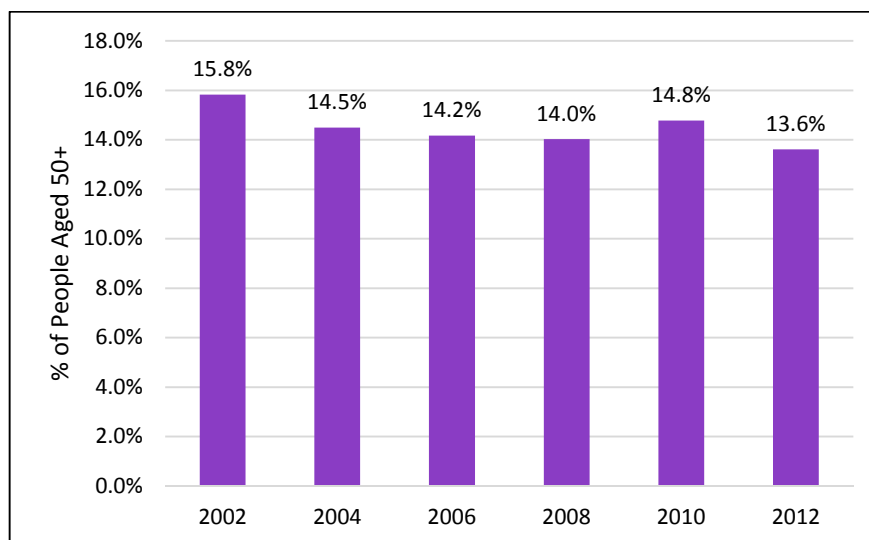
Serious illness covers a range of conditions, many of which disproportionately affect the lives of older people. Due to the available data in ELSA, our definition of serious illness here covers five conditions: Alzheimer's disease and other dementia, Parkinson's disease, cancer, heart attack, and stroke. The unavailability of data on other conditions classified as serious or critical illness necessarily implies that our estimates on overall prevalence rates will underrepresent the true figures in the population aged 50+, and it should be noted that this is also affected by the fact that ELSA only covers private households, excluding those in residential care settings. Nonetheless, we provide the best available estimates given the data at hand.

In the ELSA data, respondents report conditions if they have been diagnosed by a doctor. As our interest is in understanding overall prevalence rates – in contrast to first incidence or mortality – we treat heart attack and stroke as cardiovascular events, meaning that someone who has ever had a diagnosis of either event is considered to be living with the condition. This contrasts to cancer, in that people who previously reported cancer but say they no longer have it are not considered to be living with the condition.

Prevalence of Serious Illness in England: 2002-2012

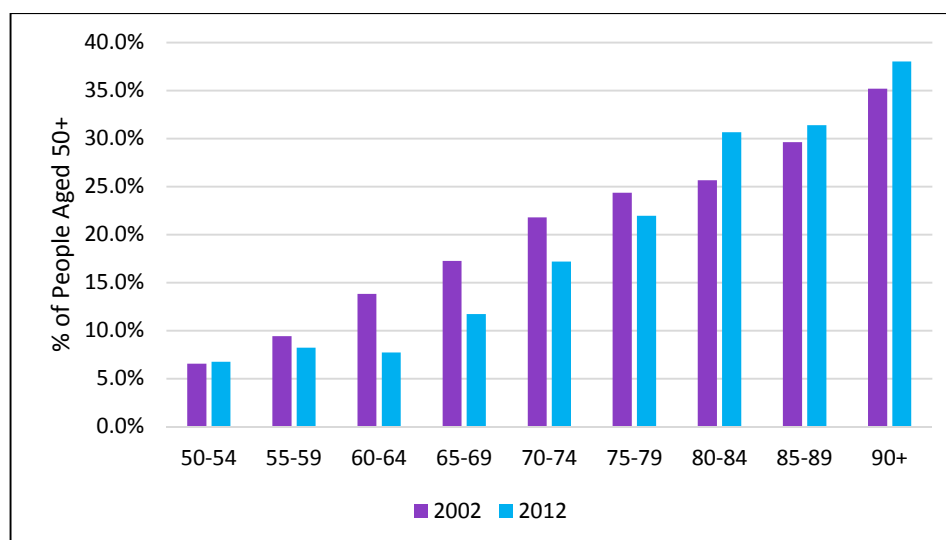
The ELSA data suggest that the prevalence of serious illness among those aged 50+ has been slightly decreasing over time, from 15.8% in 2002 to 13.6% in 2012 (see Figure 1).¹

Figure 1: Prevalence of Serious Illness among People Aged 50+ in England, 2002-2012



However, the presence of particular serious illnesses varies with age, so the overall estimate for those aged 50+ is better understood by looking at a break down by age group (see Figure 2).

Figure 2: Prevalence of Serious Illness among People Aged 50+ in England by Age Group



We see that increases in the prevalence of serious illness in the ten-year period from 2002 to 2012 occurred among the 80+, while prevalence declined more dramatically for those in their 60s and 70s.

By establishing this more nuanced measure of serious illness prevalence by different age groups, we can provide a more accurate estimate of the number of people aged 50+ who were living with serious illness. By applying the proportions by age from the ELSA data to population figures from the Office for National Statistics, we estimate that there were almost **2.6 million people aged 50+ living with serious illness in 2012**, representing **13.9%** of the total 18.6 million people aged 50+.

¹ Figures from the ELSA data have been calculated using weights and adjusting for sampling design (clustering and stratification), which helps provide estimates that more accurately reflect the overall population aged 50+.

Expected Changes in the Prevalence of Serious Illness by 2025

Developing forecasts for changes over time can be a difficult process accompanied by many layers of detail and methodology. Modelling the prevalence of serious illness can be particularly challenging given how a variety of factors such as historical changes in behaviour, advances in medical knowledge and technology, and demographic structure all play a role in determining what the future will look like with regard to health and illness.

Assumptions must always be made in order to make projections for the future. We adopt two different assumptions related to illness prevalence rates to create two different scenarios for how the prevalence of serious illness will change by 2025. Both scenarios use the prevalence rates for the different age groups applied to population projections provided by the Office for National Statistics.

Scenario 1: Constant rate of prevalence based on 2012 figures

The first scenario models the change over time under the assumption that the prevalence rates remain unchanged from the levels observed in the 2012 ELSA data. Under this scenario, the overall proportion of people aged 50+ with serious illness could increase from 13.9% in 2012 to 14.8% in 2025. This would represent an increase from 2.6 million to almost 3.4 million people aged 50+ living with serious illness in 2025.

Scenario 2: Forecasts based on the trend in prevalence rates from 2002 to 2012

The second scenario forecasts the proportion in each age group with serious illness for each year 2013-2025 based on the trend observed across the six waves of ELSA data. Given the overall downward trend in prevalence from 2002-2012, in this scenario the overall percentage of people aged 50+ living with serious illness declines until 2021 when it becomes relatively flat around 12.5%. However, given the growth in the absolute numbers of older people expected in the next ten years, there is still an expected increase in the overall number of people aged 50+ living with serious illness by 2025. Despite the projected decline in the proportion, the expected increase represents over a quarter of a million more people in 2025 compared to 2012, growing from 2.6 million to 2.9 million.

Figure 3: Projected Percentage of People Aged 50+ with Serious Illness in England, 2012-2025

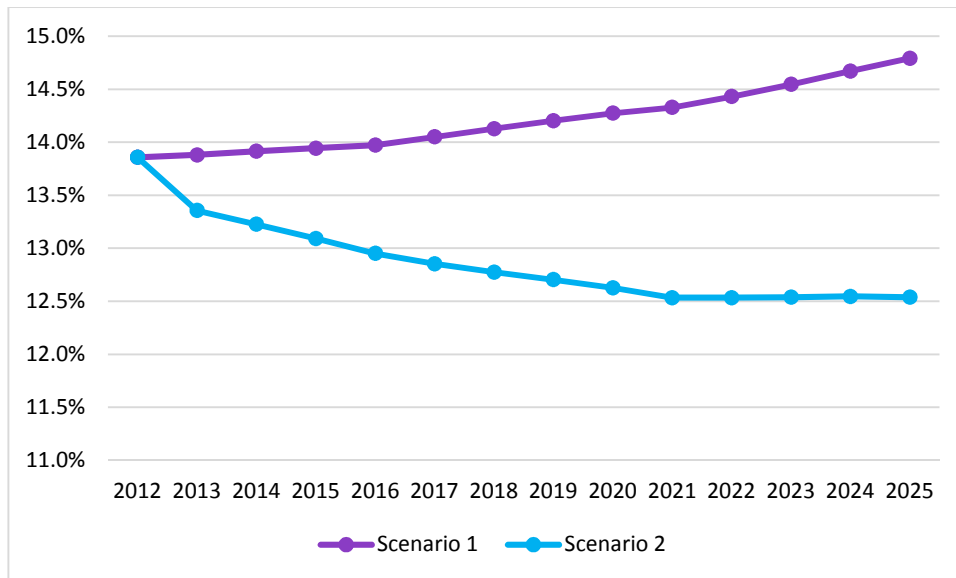
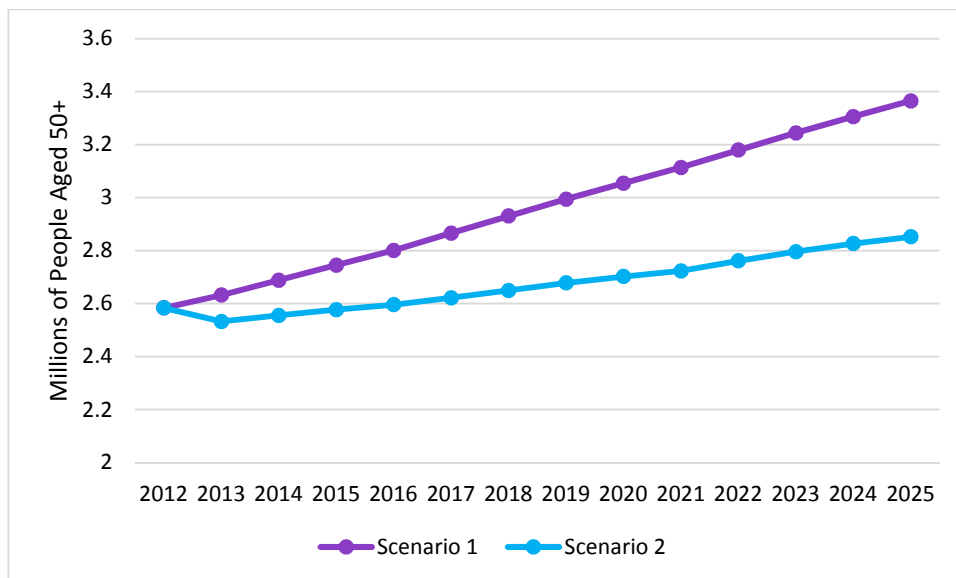


Figure 4: Projected Figures of People Aged 50+ with Serious Illness in England, 2012-2025

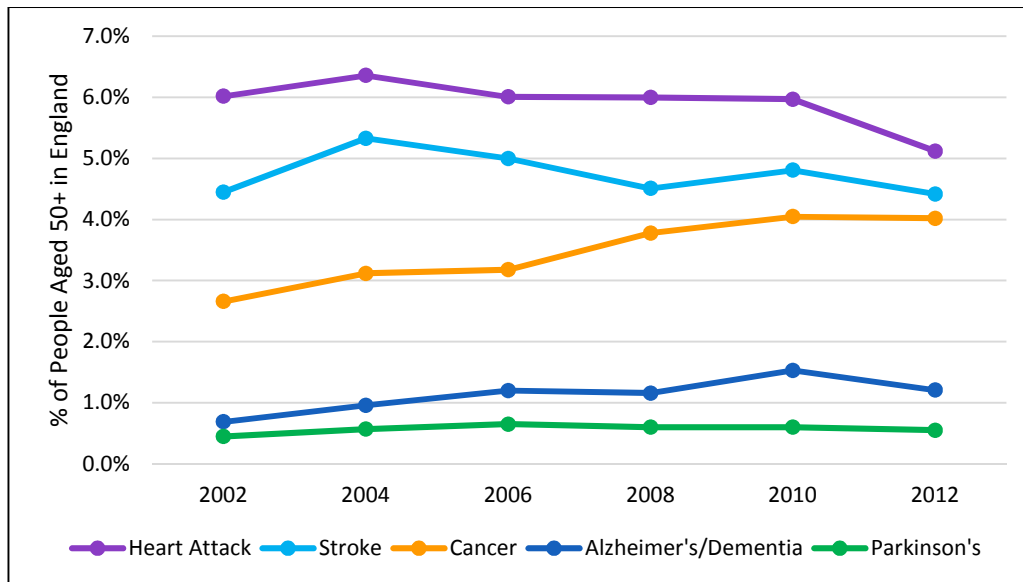


Despite the fact that the two scenarios present projected trends in opposite directions, they both lead to the conclusion that there will be a greater number of people aged 50+ living with serious illness in the future. Further research should be done to incorporate socio-demographic factors and more extensive data on illness prevalence to refine the projections offered here and better determine which scenario may be more likely.

Understanding the Differences

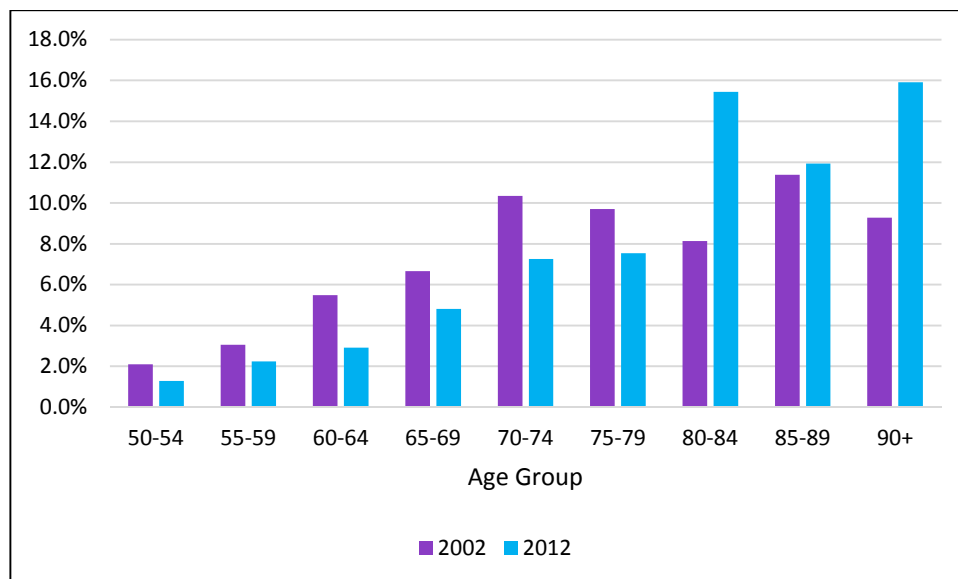
There are a number of possible explanations for why we see the trends we do in the ELSA data, along with why these would impact the projections into the future. When we look at the prevalence rates for the five illnesses separately, we see that the overall proportion reporting a cardiovascular event (heart attack or stroke) shows a downward trend over the period 2002-2012 (see Figure 5).

Figure 5: Prevalence of Five Serious Illness among People Aged 50+ in England, 2002-2012



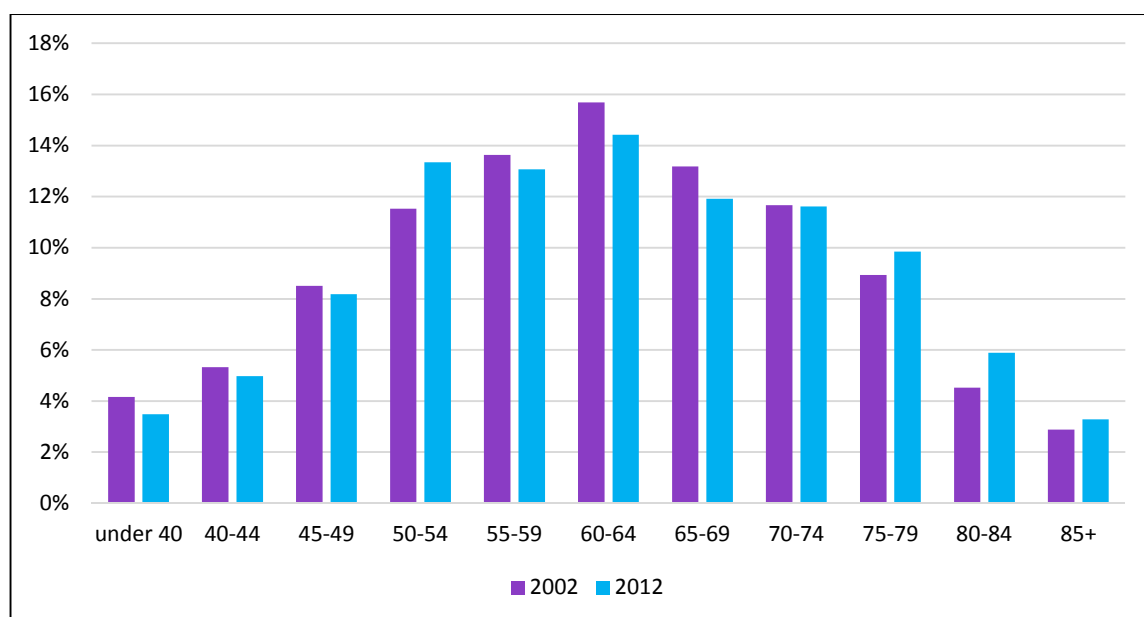
This could be related to greater awareness of the risk factors related to cardiovascular disease like smoking, diet, and exercise that may have led to changes in lifestyle to diminish people's chances of experiencing such an event. It may also be explained by better management of risk factors and other conditions such as hypertension through medicines and preventive care. This is supported by closer examination by age group, where lower proportions of people in each age group from 50-79 had experienced heart attacks in 2012 compared to 2002 (see Figure 6).

Figure 6: Percentage of People Having Survived a Heart Attack by Age Group in England



When we look at the age of first diagnosis for a serious illness, we also see that the proportions of younger people developing conditions are lower in 2012 compared to 2002 (see Figure 7). The most diagnoses occur for people aged 60-64 in both years, but we see notable increases for those aged 75+, suggesting that the onset of serious illness is occurring later in life for more people.

Figure 7: Proportion of People with Serious Illness by Age of First Diagnosis, 2002-2012



At the same time, the overall prevalence of people living with cancer shows a notable upward trend from 2002 to 2012. This is likely related to improvements in diagnosis coupled with better treatments that increase survival and could partly explain the increase in first diagnosis for people aged 50-54. Alzheimer's disease and other dementia demonstrate an increase in prevalence over 2002-2012, also likely due to better diagnosis but also general improvements in life expectancy and longevity, which mean more people reach older age and develop the condition.

This latter point may also be particularly significant in the context of the ELSA data, as longer lives may mean that more people survive to provide informal care at home for their spouses, parents, or other relatives. The ELSA data cover only people in private households and do not cover people who have moved into institutions for care, as many sufferers of serious illness like Alzheimer's and dementia must do. For this reason in particular, we must recognise that our estimates and projections – though based on the best data available in the current context – unavoidably underestimate the total numbers of people aged 50+ with serious illness across the whole of England.²

How does England compare with the rest of the UK?

The ELSA data are also limited in geographic scope, covering only private households in England. This raises the question of how prevalent serious illness is in the other parts of the UK, and what this might contribute to the projections we developed earlier for the whole population.

Other research that looks at the illnesses examined here suggests an overall picture that the prevalence of people living with one of these diseases is roughly similar between England, Scotland, Wales, and Northern Ireland, with some variations. For example, in their recent research estimating the prevalence of dementia in the UK, Alzheimer's Society used the same prevalence rate to calculate figures for each local authority, clinical commissioning group, and parliamentary

² It may be worth noting that our estimate of Alzheimer's/dementia prevalence in 2006 and 2008 (around 1.2%) is close to that reported by Alzheimer's UK from the 2007 Delphi Consensus (1.1%), which examined those aged 65+ including care home residents.

constituency across the UK.³ However, there are differences in cancer prevalence for males when considering England compared to the other three countries, but when thinking about different cancers specifically, the difference appears mainly with Scotland.⁴ Much of this higher prevalence in Scotland is due to higher rates of smoking, which has also been cited for higher levels of cardiovascular disease (including heart attack and stroke) there.⁵ In contrast, research has shown the prevalence of Parkinson's disease to be highest in England and lowest in Scotland.⁶

We are restricted to observed data for England only, so the relative similarity in prevalence of serious illness in the different countries helps support the idea for us to apply rates in England to develop estimates of the numbers of people aged 50+ with serious illness across the whole of the UK. Doing so under the same assumptions for the two scenarios detailed earlier, we estimate that there were nearly 3.1 million people aged 50+ in the UK with at least one of the five serious illnesses studied in 2012. Under Scenario 1 – using 2012 prevalence rates only – this number is projected to rise to over 4.0 million by 2025. Under the more complex forecasting of Scenario 2, the figure would increase to 3.4 million.

Conclusion

To the best of our knowledge, we have provided the first estimate for the overall prevalence of serious illness in England and the UK and identified the proportion of over 50s living with a serious illness. Our estimates are likely to underrepresent the true proportion, given that we cover five of the commonly recognised serious or critical illnesses; however, those we do include could be expected to represent a substantial proportion of the conditions present among the older population. Despite potential limitations, our findings clearly indicate that the number of older people who will be living with a serious illness will rise over the next ten years. While one scenario suggests an increase in the overall proportion with serious illness, the other – based on the observed trend from 2002 to 2012 – actually suggests the overall proportion will decline and stabilise. This latter development could be a reflection of our improved success at helping people remain healthy into later life, but we must recognise that serious illness will continue to affect ever growing numbers of older people in the future.

Data Acknowledgement

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Population projections from the Office for National Statistics are based on 2012 population figures and are available in [Table A1-4](#) for England and [Table A1-1](#) for the UK from the ONS website.

³ Prince, M., Knapp, M., Guerchet, M., McCrone, P., Prina, M., Comas-Herrera, A., Wittenberg, R., Adelaja, B., Hu, B., King, D., Rehill, A., & Salimkumar, D. (2014) *Dementia UK: Update*. London: Alzheimer's Society.

⁴ Cancer Research UK (2014) "Cancer Statistics Report: Cancer Incidence in the UK in 2011." London: Cancer Research UK.

⁵ Townsend, N., Wickramasinghe, K., Bhatnagar, P., Smolina, K., Nichols, M., Leal, J., Luengo-Fernandez, R., & Rayner, M. (2012) *Coronary heart disease statistics 2012 edition*. London: British Heart Foundation.

⁶ Parkinson's UK (2012) "Parkinson's prevalence in the United Kingdom (2009)." London: Parkinson's UK.



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