

# Life Expectancy in Scotland 2021-2023

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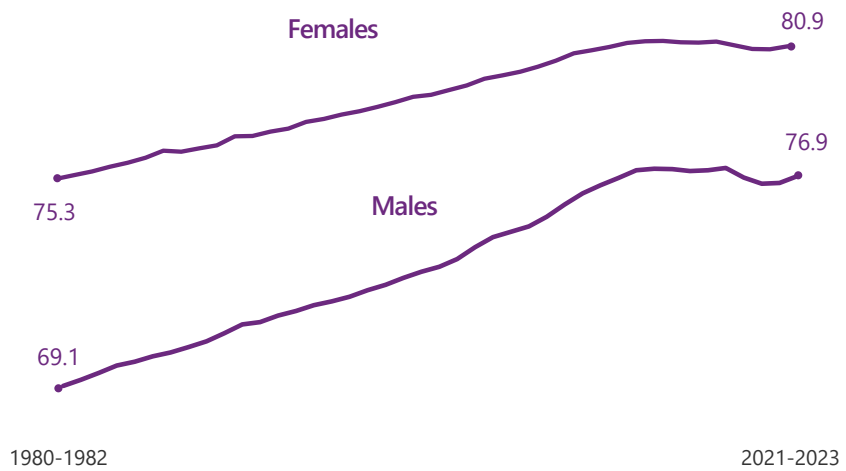
This statistical report details life expectancy estimates for Scotland and comparisons with estimates for the rest of the UK. It also includes life expectancy estimates for councils, health boards and other areas within Scotland

## Life expectancy has increased in 2021-2023

Between 2000-2002 and 2012-2014, life expectancy increased by 16.3 weeks per year for males and 9.9 weeks per year for females. However, the increase stalled between 2012-2014 and 2017-2019.

It then decreased over the years most heavily affected by the COVID-19 pandemic until 2021-2023, when it rose slightly.

Life expectancy at birth (years)



Life expectancy at birth by deprivation (years)



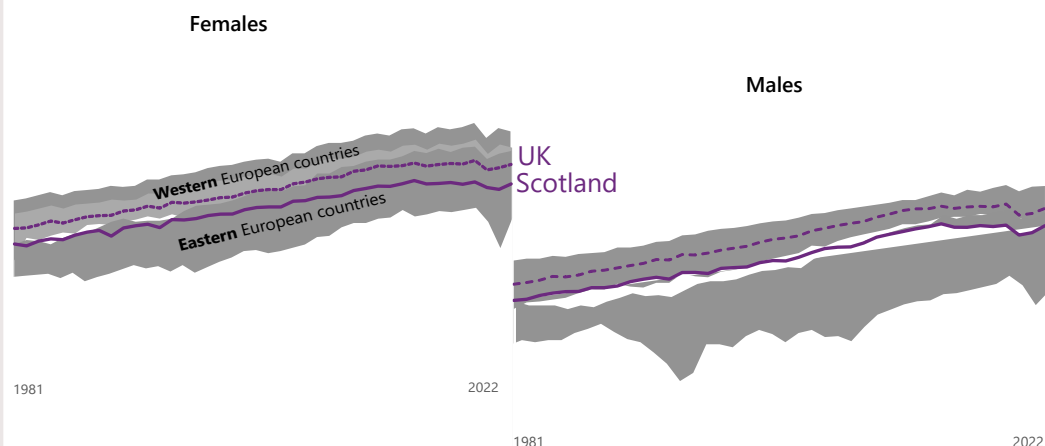
## Deprivation has a big impact on life expectancy

Life expectancy for females is 10.5 years longer in the least deprived areas compared to the most deprived areas in Scotland. For males the difference is 13.2 years.

## Scotland has the lowest life expectancy in western Europe.

Life expectancy in Scotland has always been lower than or among the lowest in western Europe, when looking at EU data from Eurostat. Here, eastern Europe is defined as EU8 countries as well as EU2 and Croatia. Western Europe is made up of the other sixteen EU nations.

Life expectancy at birth (years)



## Key Findings

- Life expectancy in Scotland was 80.9 years for females and 76.9 years for males in 2021-2023
- It has increased by almost 7 weeks for females and 14 weeks for males since 2020-2022 although it is still lower than before the pandemic
- Between the early 1980s and early 2010s, life expectancy was increasing in Scotland but began to plateau from 2012-2014 onwards. It fell during the COVID-19 pandemic and has now risen slightly but remains lower than before the pandemic
- Scotland continues to have the lowest life expectancy of other UK countries
- In 2021-2023 life expectancy was highest in East Renfrewshire and lowest in Glasgow City for both females and males
- Most of Scotland's council areas have seen a fall in life expectancy compared to before the COVID-19 pandemic
- Female life expectancy in the most deprived areas of Scotland was 10.5 years lower than in the least deprived areas in 2021-2023
- Male life expectancy in the most deprived areas of Scotland was 13.2 years lower than in the least deprived areas in 2021-2023
- Life expectancy was highest in remote rural areas and lowest in large urban areas. This difference was 2.6 years for females and 3.4 years for males

## Life expectancy at birth

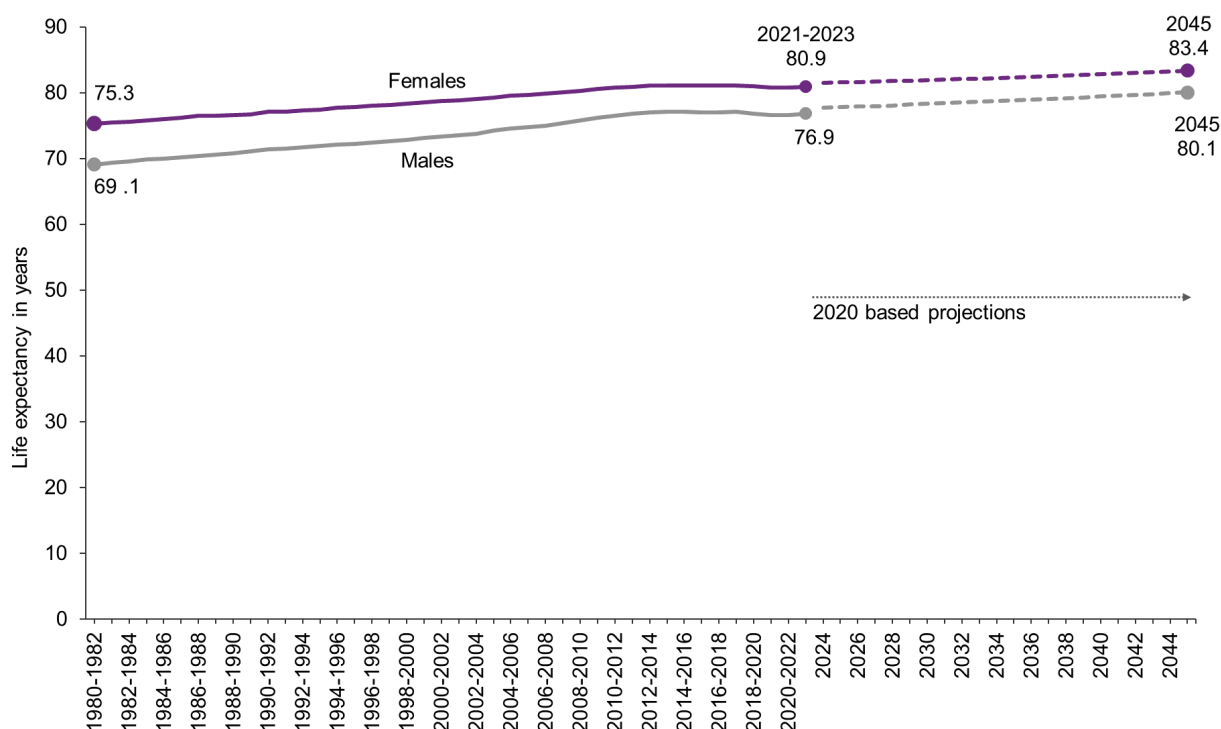
In Scotland, life expectancy at birth for 2021-2023 was 80.9 years for females and 76.9 years for males. This is an increase of almost 7 weeks (0.13 years) for females and 14 weeks (0.27 years) for males since 2020-2022.

Between the early 1980s and early 2010s, life expectancy was increasing in Scotland. In 2012-2014 life expectancy plateaued for several years until a decrease in 2018-2020. It then remained at a lower level until the increase seen in 2021-2023.

The population projections for Scotland suggest that life expectancy will increase in the future 83.4 years for females and to 80.1 years for males in 2045. The projections are based on long term trends in data and the most recent version from 2020 projects lower life expectancy than any of the previous versions.

### Figure 1: Life expectancy increased for both females and males in 2021-2023 but remains below the pre-pandemic levels<sup>1</sup>

Life expectancy at birth, Scotland, estimates 1980-2023 and projections 2024-2044



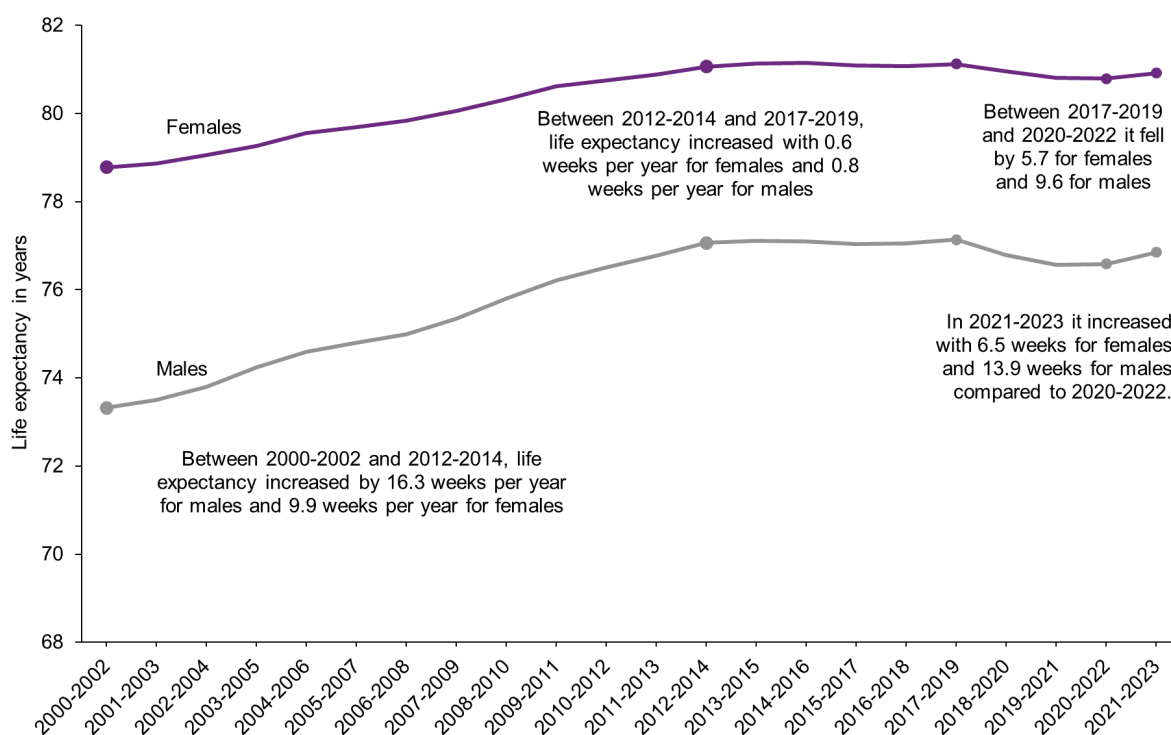
<sup>1</sup> Source: [Projected Population of Scotland \(2020-based\) - National Records of Scotland](#)

## The recent slowing in life expectancy improvements

Between 2000-2002 and 2012-2014, life expectancy was increasing by almost 10 weeks per year for females and around 16 weeks per year for males. Between 2012-2014 and 2017-2019, life expectancy remained relatively constant, then fell over the course of the COVID-19 pandemic. Between 2017-2019 and 2020-2022 life expectancy fell by 5.7 weeks per year for females and 9.6 weeks per year for males. In 2021-2023 life expectancy increased by 6.5 weeks for females and 13.9 weeks for males, though remains below the pre-pandemic years.

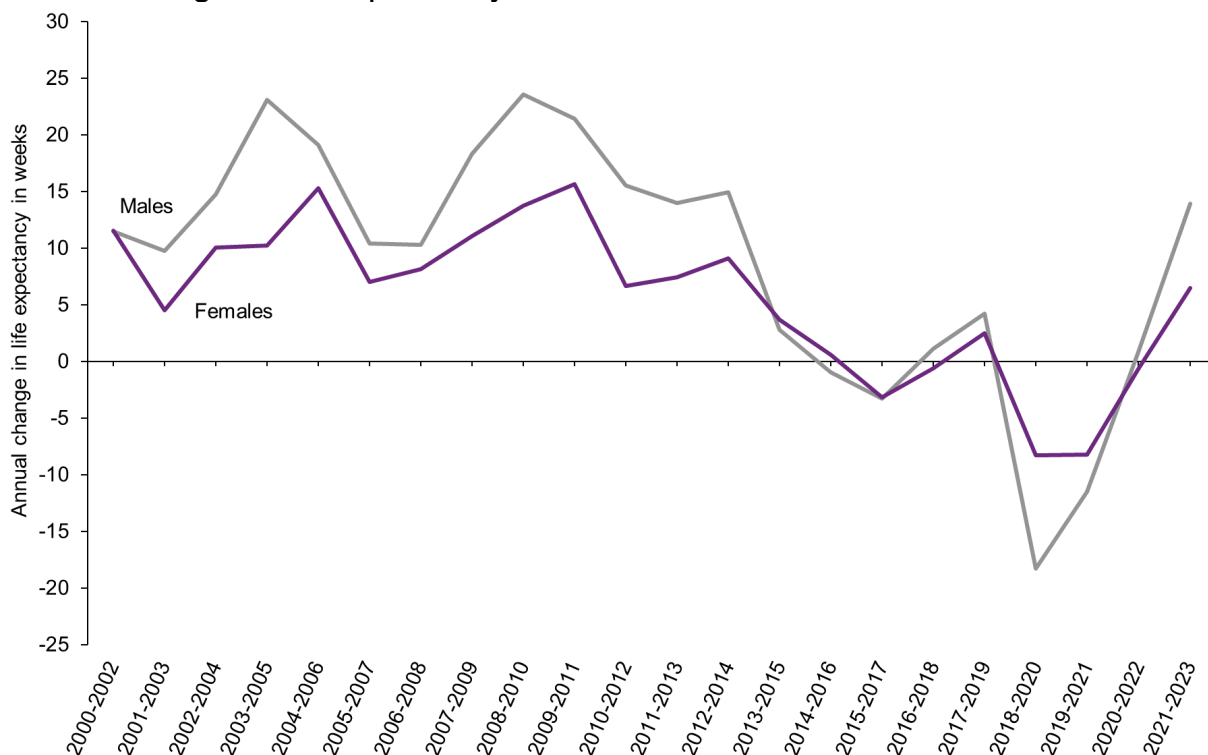
### Figure 2: Life expectancy has increased since 2020-2022 although it remains below pre-pandemic years

The slowing rate of improvements to life expectancy, Scotland, 2000-2002 to 2021-2023



### Figure 3: Life expectancy has risen after a fall during the COVID-19 pandemic

Annual change in life expectancy, Scotland, 2000-2002 to 2021-2023



### What has caused the recent changes in life expectancy?

Prior to 2012-2014, improvements to circulatory disease mortality were driving a lot of the improvements in life expectancy. After 2012-2014, these improvements started to slow. At the same time, other causes of death were increasing, especially drug related deaths and deaths from dementia and Alzheimer's. The combined effect of these led to the stall in life expectancy improvements.

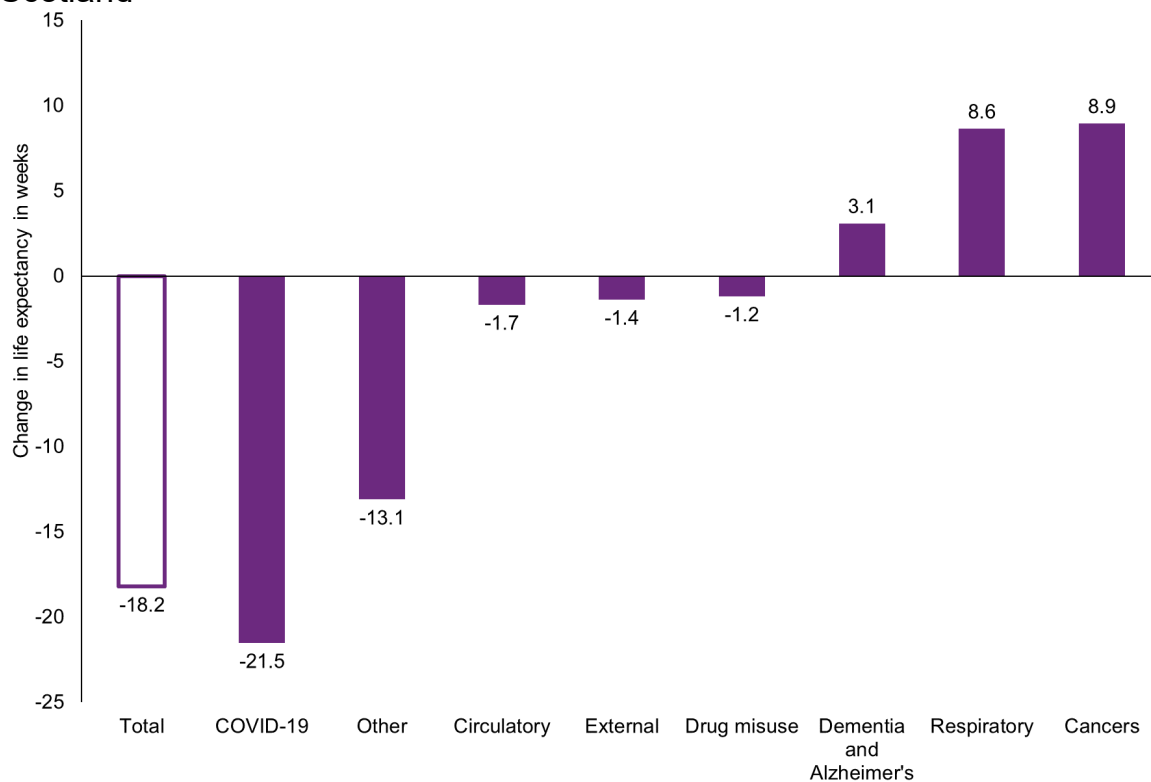
Since 2017-2019, life expectancy has fallen by 18.2 weeks for females and 19.4 weeks for males.

This recent fall was mostly due to deaths from COVID-19 in 2020 and 2021. There was also some contribution to the fall from increases in other causes of death, particularly circulatory conditions.

There were some causes of death that saw improvements in the most recent years, particularly respiratory disease and cancers. It's important to understand that people with these diseases are especially vulnerable to COVID-19. It is highly likely that some who died due to COVID-19, might have otherwise died of respiratory disease or cancer if the pandemic had not happened.

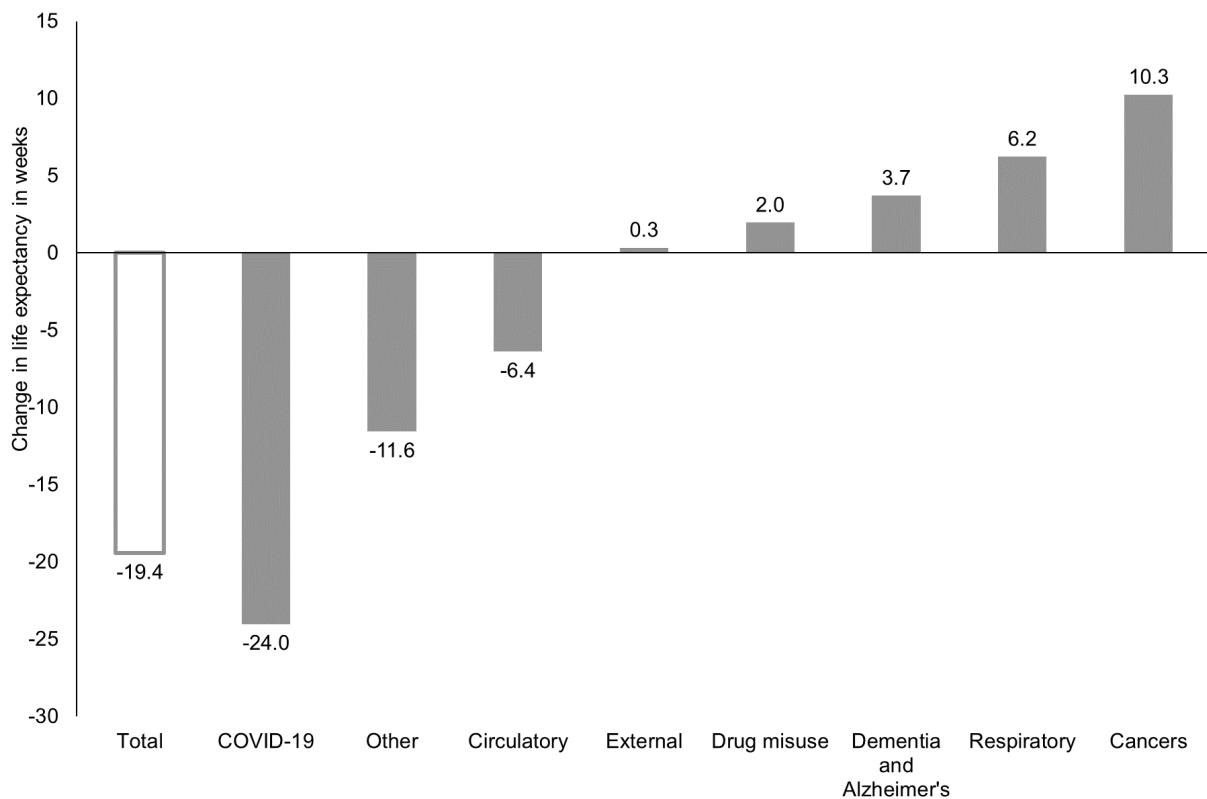
**Figure 4a: Since 2017-2019, COVID-19 has had the largest negative impact on life expectancy for females**

Life expectancy change from 2017-2019 to 2021-2023 by cause, females, Scotland



## Figure 4b: Since 2017-2019, COVID-19 has had the largest negative impact on life expectancy for males

Life expectancy change from 2017-2019 to 2021-2023 by cause, males, Scotland



### Why are these figures slightly different to those in the first section?

The figures in the first section are calculated using full life tables (i.e. using single years of age and a maximum age group of 100+).

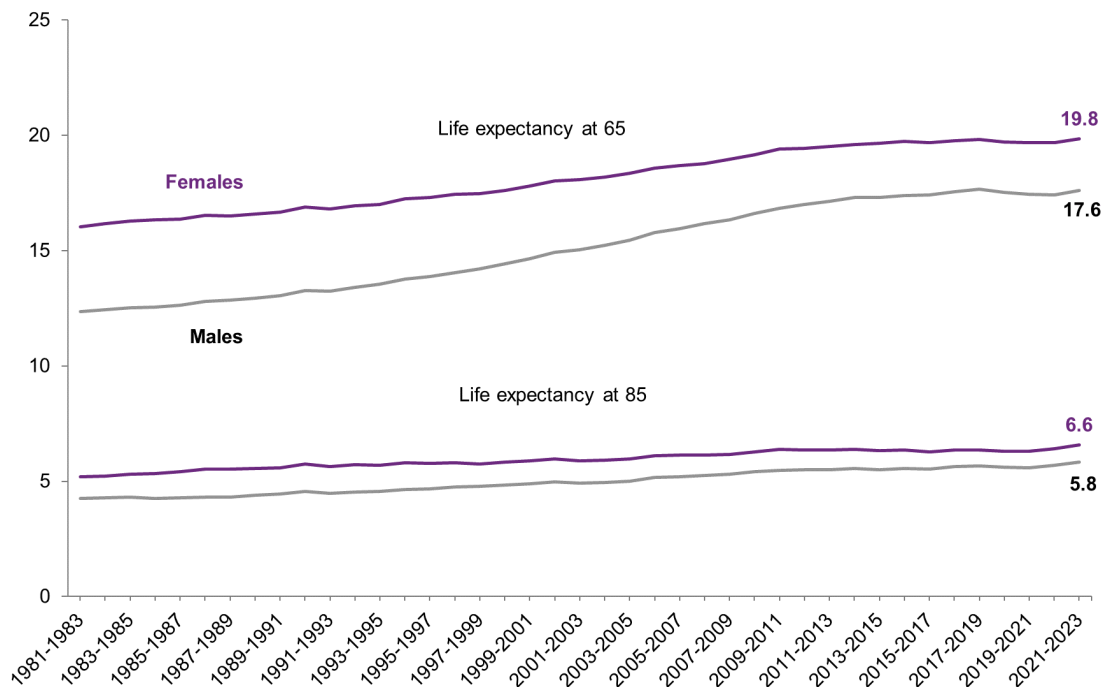
Because they provide more detailed breakdowns, the figures in this section are calculated using abridged life tables (5-year age groups and a maximum age group of 90+). More information about these methods is available in our [methodology guide](#).

## Life expectancy at older ages

In 2021-2023, life expectancy at age 65 was 19.8 years for females and 17.6 years for males. This is an increase of almost 8 weeks for females and just over 10 weeks for males since 2020-2022. Life expectancy at age 65 has followed a similar pattern to life expectancy at birth with increases up until 2012-2014 followed by a stall. Then life expectancy fluctuated up to the beginning of the COVID-19 pandemic when it started falling. Life expectancy at 85 shows a similar pattern to the estimates at 65.



**Figure 5: Life expectancy in older ages has increased since 2020-2022**  
 Life expectancy at older ages, Scotland



### What is 'life expectancy at older ages'?

Life expectancy at older ages can be quite a confusing concept - how can a man aged 65 expect to live 17.6 years when life expectancy at birth is 76.9 years?

The best explanation for this is that life expectancy is an average which is affected by people dying at younger ages as well as in old age. While the average male life expectancy at birth is 76.9 years, if he makes it to 65 without dying, then the average number of years left is 17.6.

### Life expectancy in the UK

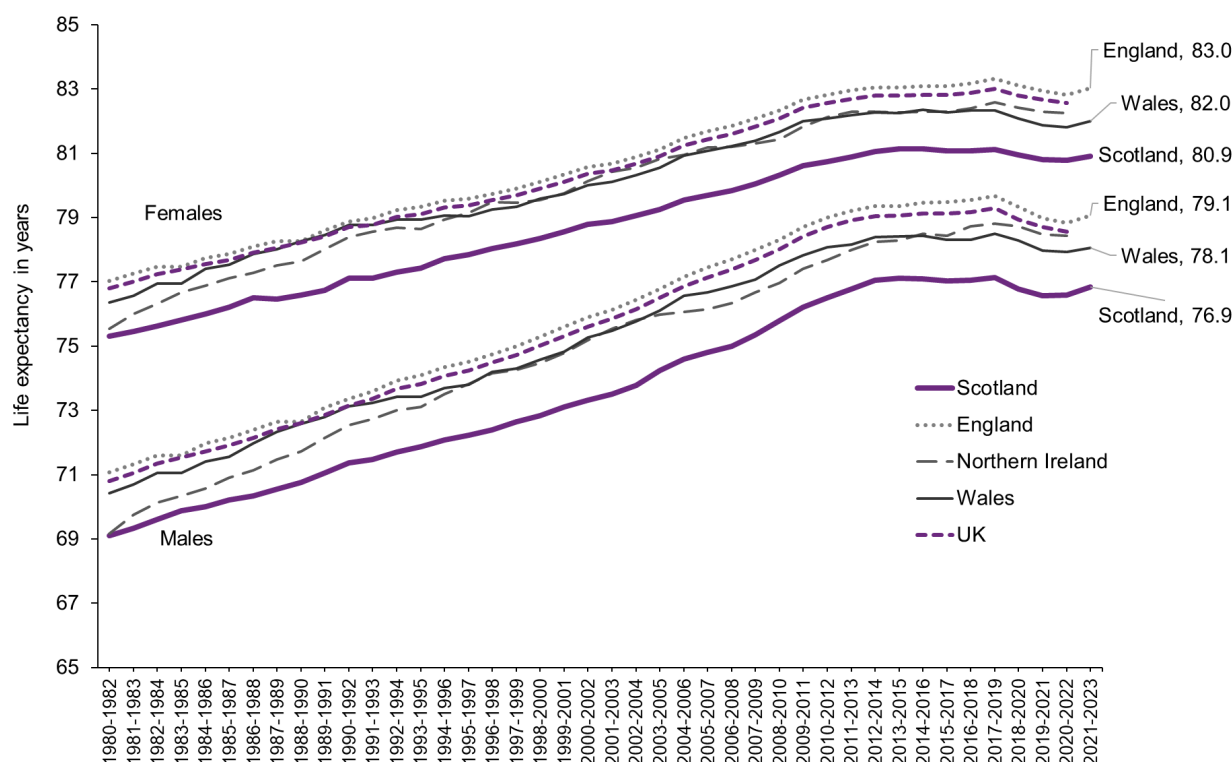
Currently, data for the UK as a whole and Northern Ireland is only available up to 2020-2022, as estimates for 2021-2023 have not been released yet at the time of publication. The 2021-2023 estimates for England and Wales are available, so we can compare these to Scotland.

Scotland had the lowest life expectancy of all UK countries for both females and males in 2020-2022. Life expectancy at birth was 80.8 years for females and 76.6 years for males in Scotland, compared to 82.6 for females and 78.6 for males across the UK.

In 2021-2023 life expectancy in Scotland was over 2 years lower compared to England for both females and males. The difference compared to Wales was lower although still over a year.

**Figure 6: Scotland continues to have lower life expectancy than England and Wales<sup>2</sup>**

Life expectancy at birth in UK countries



## Life expectancy across Europe

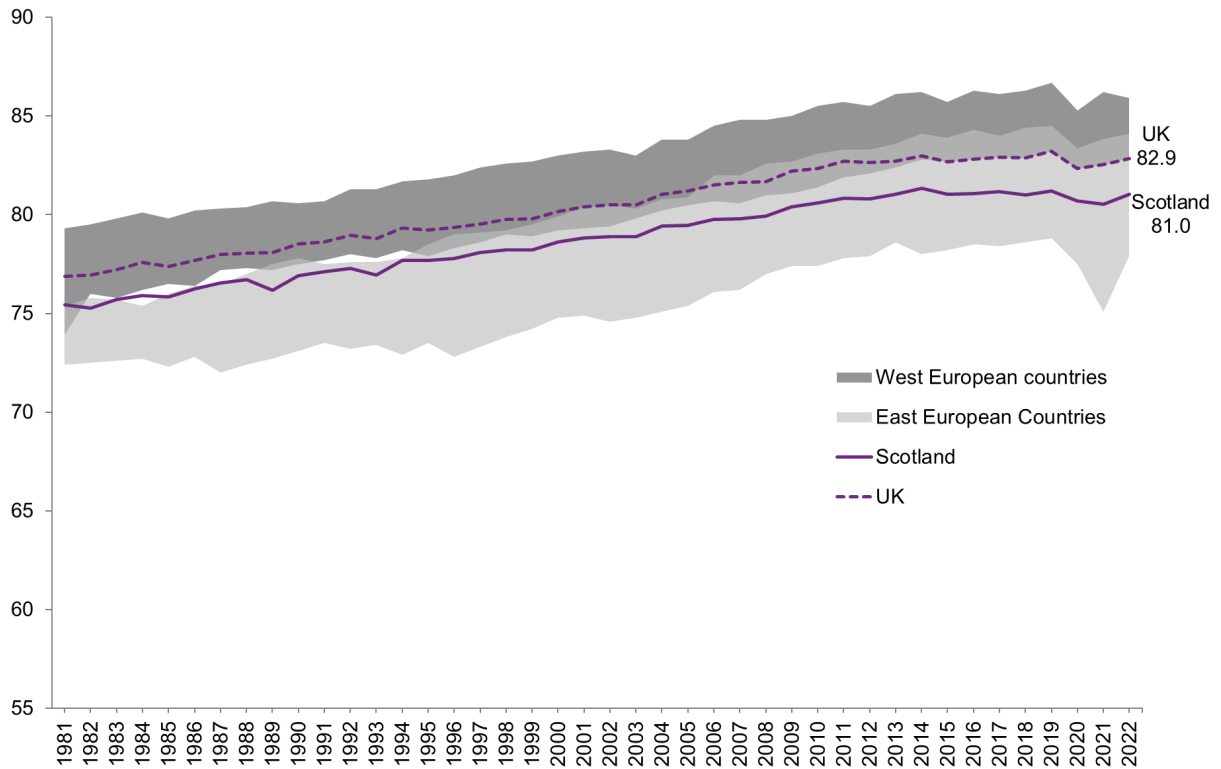
In 2022, life expectancy in Europe was highest for females in Spain and males in Sweden. It was lowest for females in Bulgaria and males in Latvia. In general, the countries in western Europe have higher life expectancy than those in eastern Europe. Scotland has the lowest life expectancy of all western European countries. The majority of countries across Europe have experienced a fall in life expectancy at the beginning of the COVID-19 pandemic. However, life expectancy started to rise again in 2022 in most countries in Europe. The countries where life expectancy did not rise in 2022 are predominantly in western Europe, and this is especially true for female estimates.

When comparing life expectancy across Europe we have to use data for single years rather than three years combined as that is what is available on Eurostat (the statistical office of the European Union.) The latest data available from Eurostat is

<sup>2</sup> Source: [Life expectancy for the UK - Office for National Statistics](#)

**Figure 7a: Life expectancy in Scotland continues to be lowest of most western countries in the European Union<sup>3</sup>**

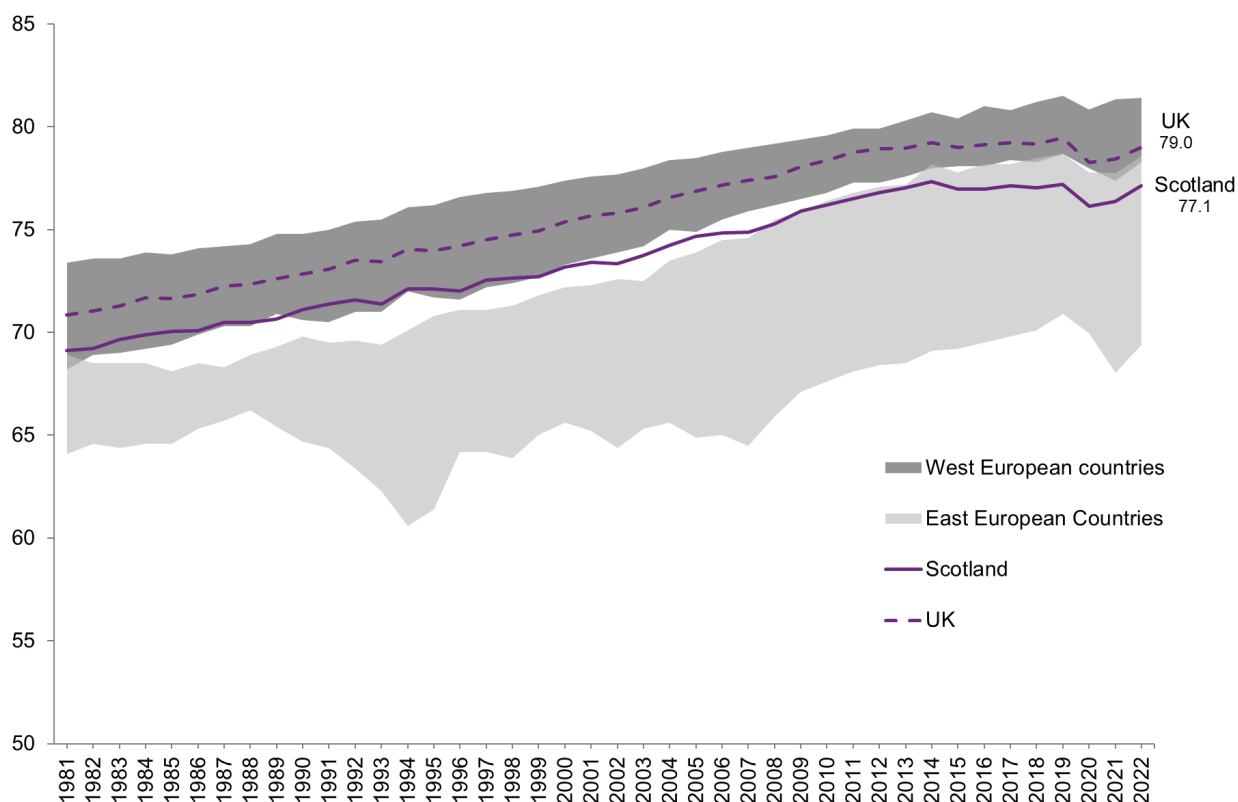
Life expectancy at birth, females, countries of the European Union plus UK and Scotland, 1981-2022



<sup>3</sup> Source: [Life expectancy in countries of the European Union 1981-2022 - Eurostat](#)

### Figure 7b: Life expectancy in Scotland continues to be lowest of most western countries of the European Union<sup>4</sup>

Life expectancy at birth, males, countries of the European Union plus UK and Scotland, 1981-2022



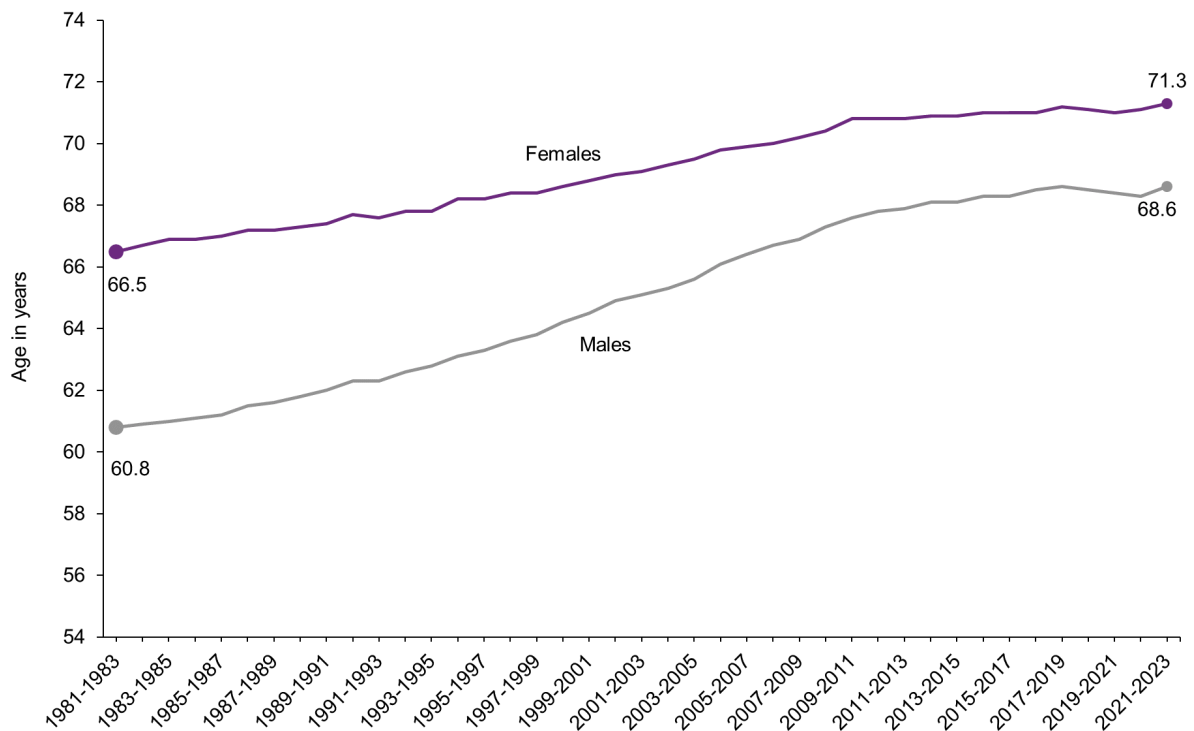
### Life expectancy and population dynamics: time to death statistics

Life expectancy estimates can also be used to look at population ageing. As life expectancy increases, the age at which a person is 'elderly' or approaching death changes. One way to look at this is the age where someone has 15 years of remaining life expectancy (RLE). In 2021-2023, females have 15 years RLE at age 71.3 and males have the same at age 68.6. This figure has followed a similar pattern to overall life expectancy over the past few decades.

<sup>4</sup> Source: [Life expectancy in countries of the European Union 1981-2022 - Eurostat](#)

**Figure 8: The age at which females and males have 15 years of remaining life expectancy has followed the pattern of overall life expectancy in the past few decades**

Age at which a person has 15 years of remaining life expectancy, Scotland, 1981-1983 to 2021-2023

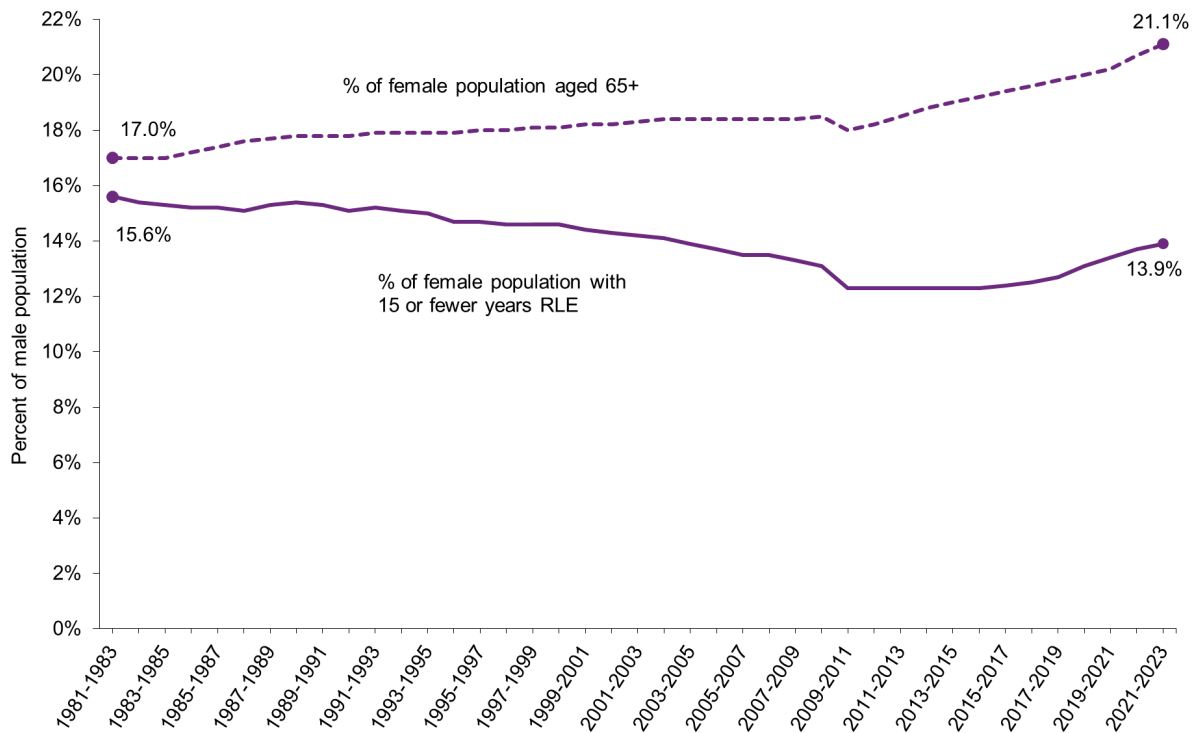


We can also look at the proportion of the population that has 15 years of RLE and compare this to the traditional measure of ‘old age’ (those aged 65+). The proportion of the population with 15 years RLE has fallen from the early 1980s until around 2015-2017. At this point it began to increase again for females. For males it remained the same and then started to climb again around 2013-2015. The proportion of the population aged 65+ has increased fairly steadily for both females and males since the early 1980s.

**Why does ‘time to death’ matter?**

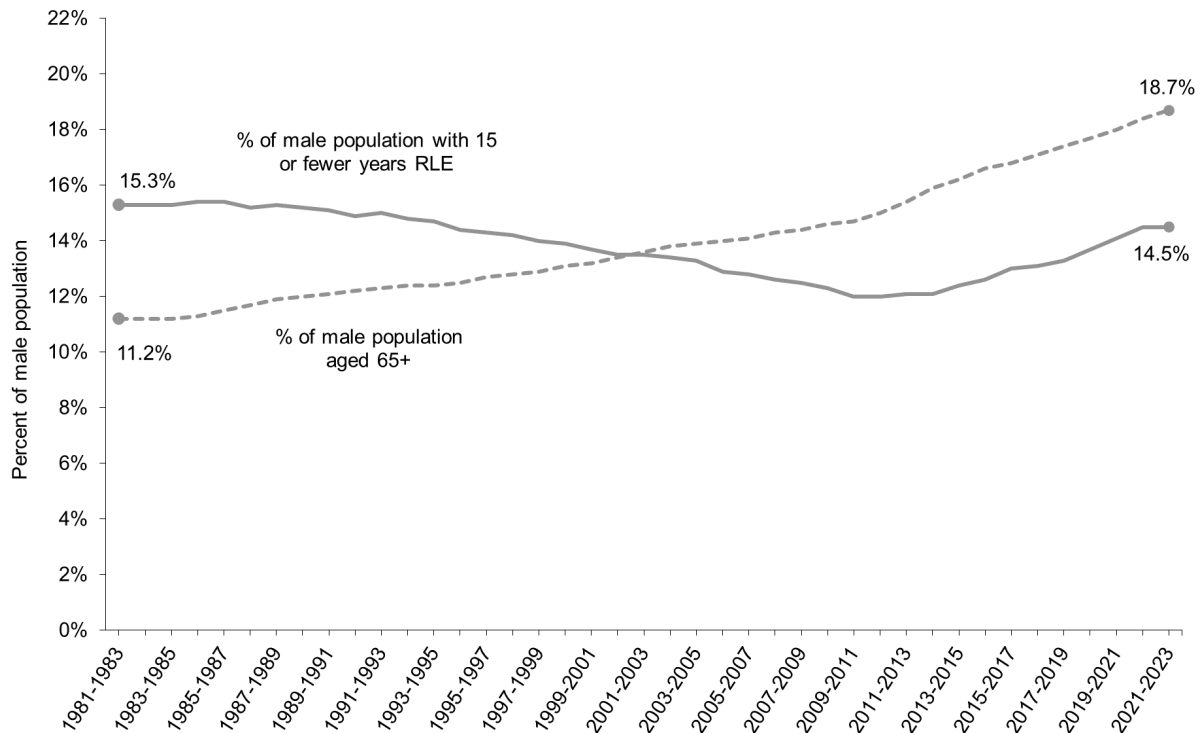
Often, we define the ‘elderly’ population as those aged over 65. However, studies show that a lot of the health problems related to old age are more closely associated with how long someone has left to live rather than how long they have already lived. This means it may be more useful for health and social care policy to look at how many people have only 15 years of life expectancy remaining, rather than the number of people aged 65 and over.

**Figure 9a: The proportion of the population with 15 years RLE has fallen from the early 1980s but has started to increase again since the mid-2010s**  
 Percent of female population age 65+ years and with 15 or fewer years of remaining life expectancy, Scotland, 1981-1983 to 2021-2023



**Figure 9b: The proportion of the population with 15 years RLE has fallen from the early 1980s but has started to increase again since the mid-2010s**

Percent of male population age 65+ years and with 15 or fewer years of remaining life expectancy, Scotland, 1981-1983 to 2021-2023



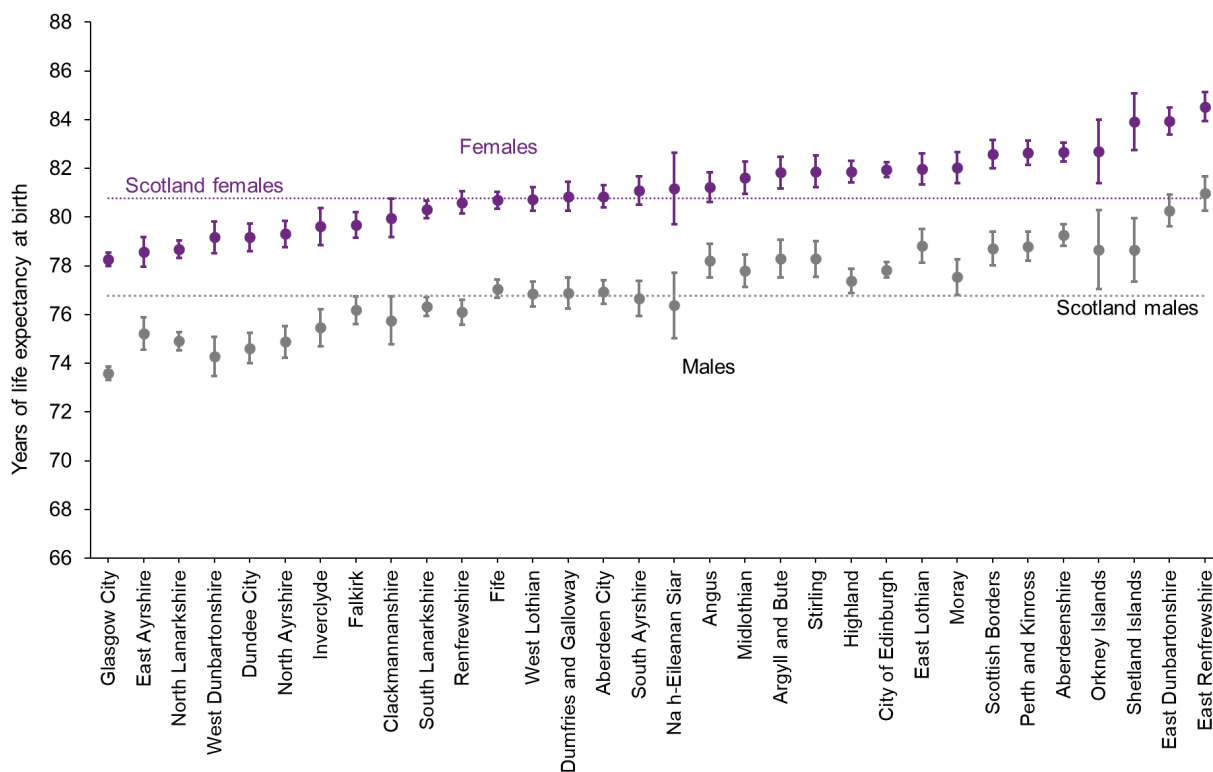
**Life expectancy in Scotland’s council areas**

Life expectancy was lowest in Glasgow city where it was 78.3 ( $\pm 0.3$ ) years for females and 73.6 ( $\pm 0.3$ ) years for males. It was highest in East Renfrewshire at 84.5 ( $\pm 0.6$ ) years for females and 81.0 ( $\pm 0.7$ ) years for males.

It is important to note that the smaller areas, particularly the islands, have large confidence intervals due to their small populations. This means that comparisons between estimates should be done with caution.

### Figure 10: Life expectancy has fallen in most council areas since before the COVID-19 pandemic

Life expectancy at birth in Council areas with 95% confidence intervals (ordered by female life expectancy), Scotland, 2021-2023



### Life expectancy in Scotland's NHS health boards

Life expectancy was lowest in Lanarkshire for females at 79.5 ( $\pm 0.3$ ) years and in Greater Glasgow and Clyde for males with 75.5 ( $\pm 0.2$ ) years.

Life expectancy was highest in Shetland for females at 83.9 ( $\pm 1.2$ ) years and in the Borders for males at 78.7 ( $\pm 0.7$ ) years.

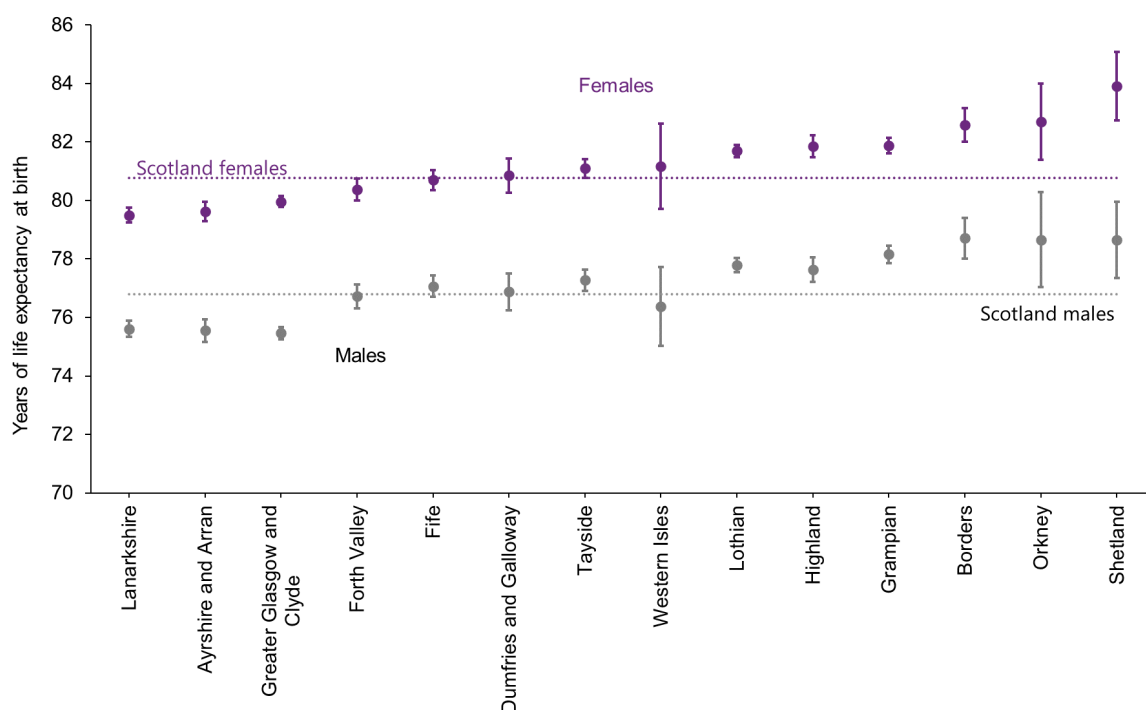


### What are 95% confidence intervals?

This is a measure of the uncertainty around the subnational life expectancy estimates. In this report, confidence intervals are quoted in brackets, for example: 81 ( $\pm 0.7$ ) years. These represent the range of values that the actual value is likely to lie within. The wider the confidence intervals, the less accurate the estimate is. Estimates from larger populations (such as health boards) will have smaller confidence intervals and therefore be more accurate than estimates from smaller populations (such as parliamentary constituencies) which have large confidence intervals.

**Figure 11: The lowest life expectancy is in Lanarkshire (females) and Greater Glasgow and Clyde (males). Shetland and Borders have the highest life expectancy for females and males, respectively**

Life expectancy at birth in NHS Health Boards with 95% confidence intervals (ordered by female life expectancy), Scotland, 2021-2023

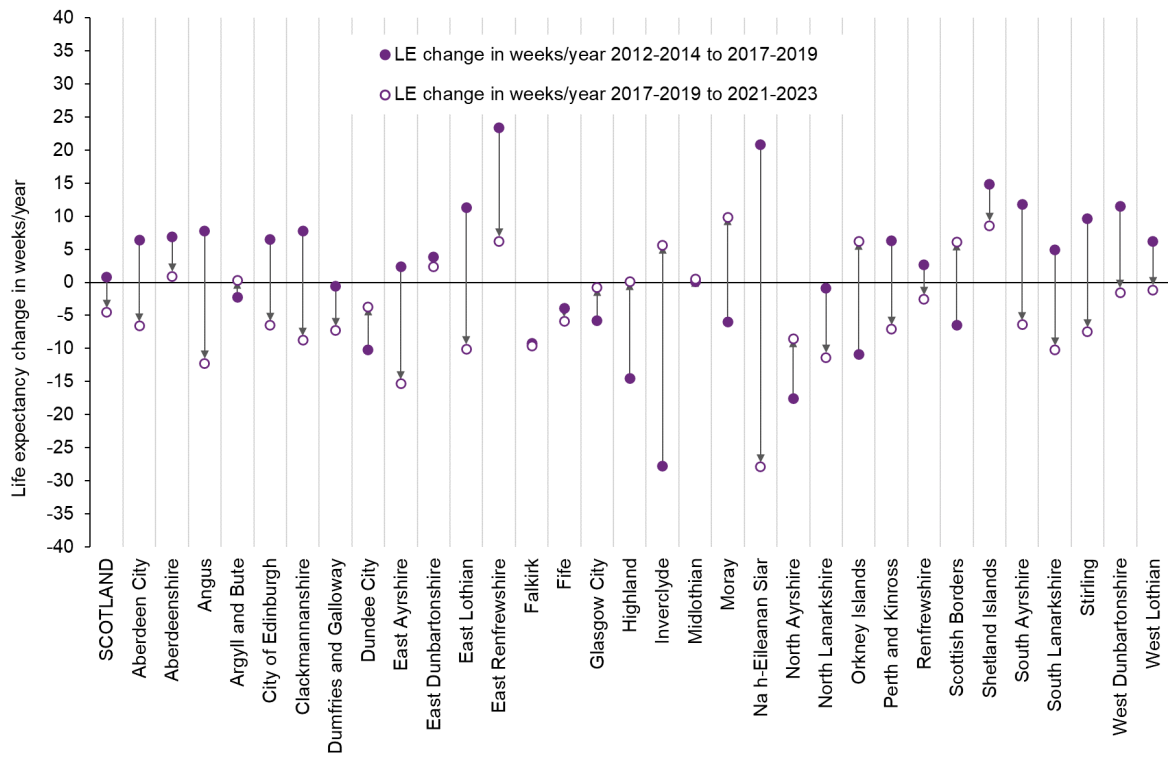


### The stall in life expectancy growth across Scotland

The stall in life expectancy growth seen in Scotland has also been seen in areas within Scotland. In some areas however, the change has been greater than others. The annual rate of growth has fallen dramatically between 2017-2019 and 2021-2023 in certain areas, such as Dumfries and Galloway, Falkirk, and Na h-Eileanan Siar. Twenty-two council areas have had a decrease in female life expectancy since 2017-2019 and 27 have had a decrease in male life expectancy.

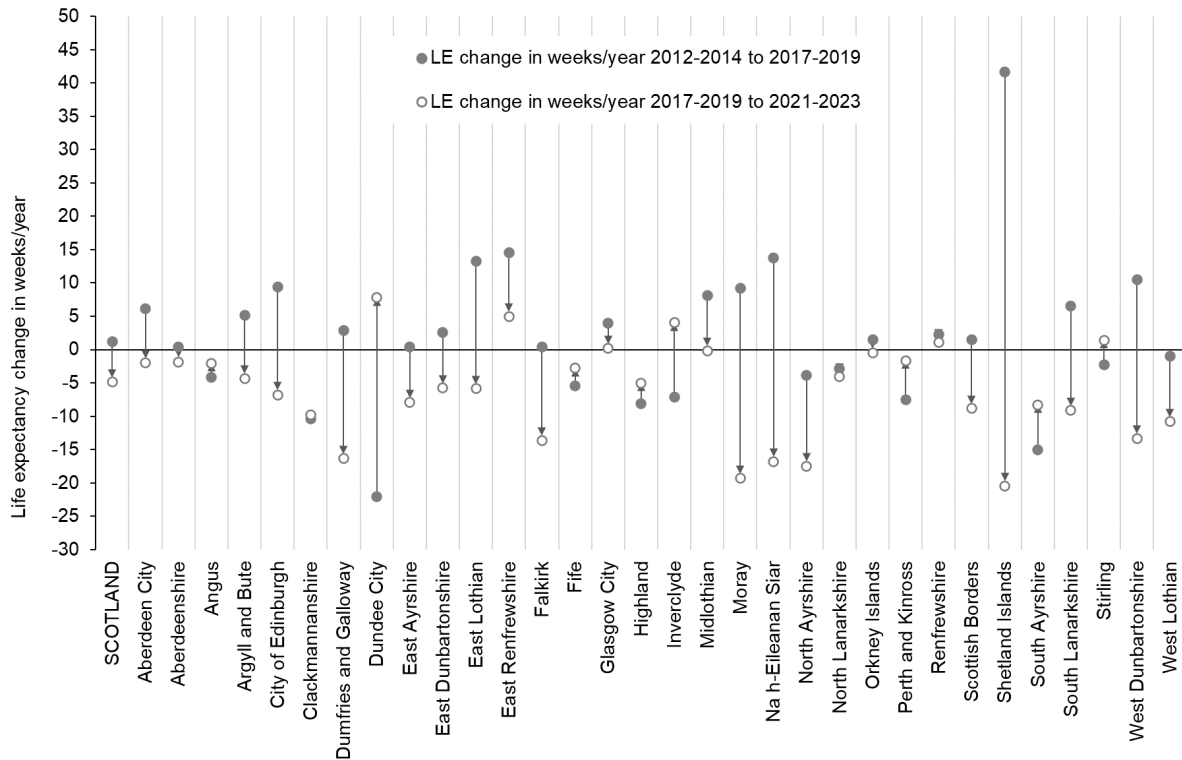
**Figure 12a: Since the COVID-19 pandemic most council areas have seen a decrease in life expectancy**

Change in the rate of life expectancy growth, before and after 2017-2019, females, Scotland



## Figure 12b: Since the COVID-19 pandemic, most council areas have seen a decrease in life expectancy

Change in the rate of life expectancy growth, before and after 2017-2019, males, Scotland



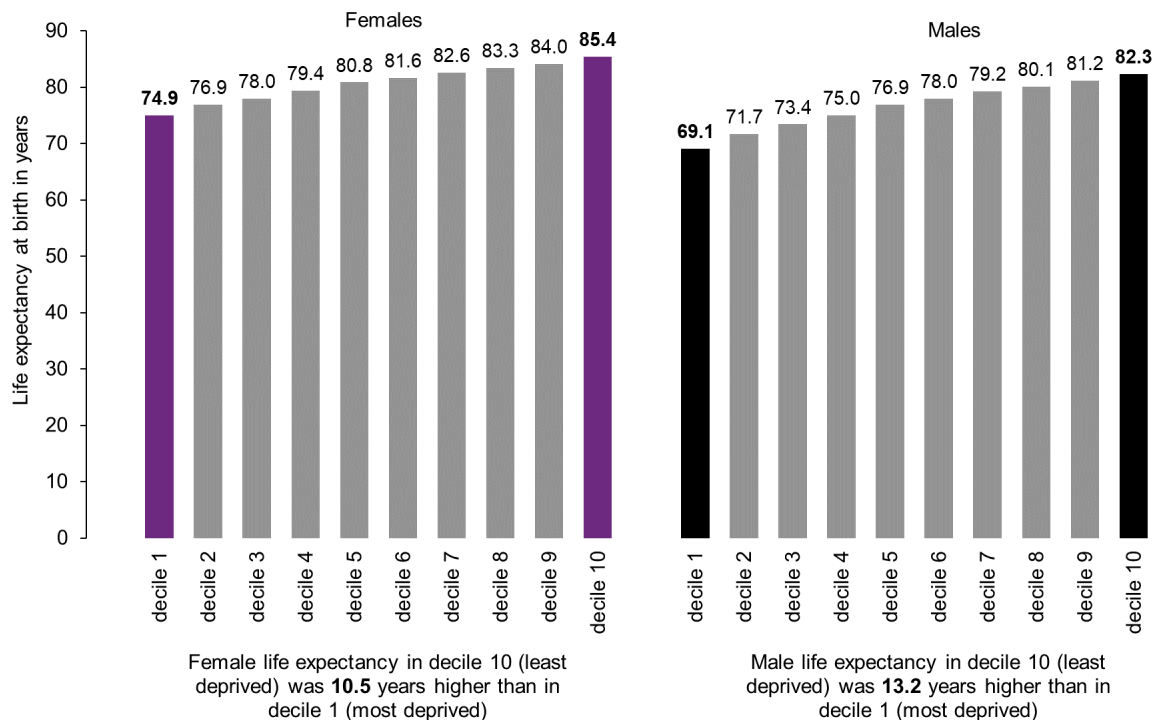
## Life expectancy and deprivation

Please note that the following sections of the report are based on the Small Area Population Estimates (SAPEs) for 2021, as the estimates for 2022 and rebased back series based on the 2022 Census from 2011 onwards are not yet available at the time of publication. These figures will be superseded once rebased SAPEs are available.

While life expectancy varies between geographical areas like council areas and health boards, the variation in life expectancy is far greater when we split Scotland by deprivation. In 2021-2023, the difference between the most and least deprived areas of Scotland for females was 10.5 years. For males, this difference was 13.2 years.

### Figure 13: Life expectancy is lowest in the most deprived areas and highest in the least deprived ones

Life expectancy at birth by SIMD decile, Scotland, 2021-2023



#### SIMD

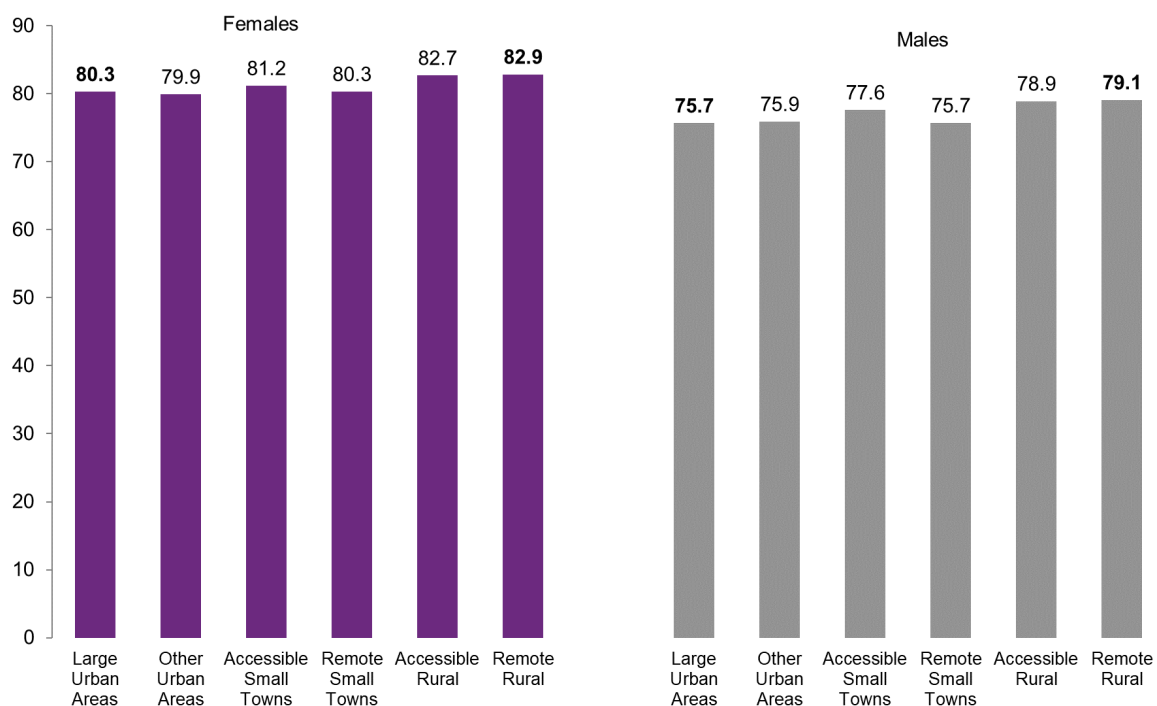
The Scottish Index of Multiple Deprivation (SIMD) is a measure of how deprived an area is. A score is given to all of Scotland’s datazones based on several indicators of deprivation. The datazones are then ranked 1 to 6,976 based on their score. The rankings are split into 10 equally sized groups for SIMD deciles and five groups for SIMD quintiles. More information can be found on the [Scottish Government website](#).

#### Life expectancy in urban and rural areas

Life expectancy also varies by rurality across Scotland with people living in rural areas generally living longer and spending more years in good health than those in urban areas.

In 2021-2023, the gap in life expectancy between females living in urban areas and females living in rural areas was 2.6 years. For males, this gap was 3.4 years. This analysis is based on the 2020 urban-rural classification.

**Figure 14: Life expectancy is lower in large urban areas than it is in remote areas**  
 Life expectancy at birth by Urban-Rural classification, Scotland, 2021-2023



## Life expectancy background

### What is 'period' life expectancy

All of the estimates presented in this report are 'period' life expectancy. They are calculated assuming that mortality rates for each age group in the time period (here 2021-2023) are constant throughout a person's life. Period life expectancy is often described as how long a baby born now could expect to live if they experienced today's mortality rates throughout their lifetime. It is very unlikely that this would be the case as it means that future changes in things such as medicine and legislation are not taken into consideration.

Period life expectancy is not an accurate prediction of how long a person born today will actually live, but it is a useful measure of population health at a point in time and is most useful for comparing trends over time, between areas of a country and with other countries.

### How national life expectancy is calculated

The latest life expectancy figures are calculated from the mid-year population estimates for Scotland and the number of deaths registered in Scotland during 2021, 2022, and 2023. Life expectancy for Scotland is calculated for each year of age and represents the average number of years that someone of that age could expect to live if death rates for each age group remained constant over their lifetime.

Life expectancy in Scotland is calculated as a three-year average, produced by combining deaths and population data for the three-year period. Three years of data are needed to provide large enough numbers to make these figures accurate and lessen the effect of very 'good' or 'bad' years. Throughout this publication, the latest life expectancy figures refer to 2021-2023 period.

### **How sub-national life expectancy is calculated**

We calculate life expectancy for areas within Scotland using a very similar method to the national figures but with a few key differences. Firstly, we use age groups rather than single year of age. This is to increase the population size of each age group to reduce fluctuations and ensure accurate calculation of mortality rates. Secondly, we use a maximum age group of 90+ whereas the national figures are calculated up to age 100. These are known as 'abridged life tables.' Because these methods produce slightly different figures, we also calculate a Scotland figure using the abridged method to allow for accurate comparisons between local areas for example. This Scotland figure is only for comparison and does not replace the headline national figure. You can read more information about the methods in this publication in our methodology guide on the NRS website.

### **Uses of life expectancy**

Life expectancy at birth is a very useful indicator of mortality conditions across a population at a particular point in time. It also provides an objective means of comparing trends in mortality over time, between areas of a country and with other countries. This is used to monitor and investigate health inequalities and to set public health targets. Life expectancy is also used to inform pensions policy, research and teaching.

### **Related statistics and methodology**

- Life tables for the UK and constituent countries are available on the [Office for National Statistics website](#).
- Healthy Life expectancy for Scotland and areas within Scotland are available on the [National Records of Scotland website](#). This includes Scottish council areas, health boards and areas split by Scottish index of multiple deprivation. The next release will be in December 2024.
- The number and causes of deaths registered in Scotland each year are published in the [Vital Events Reference Tables](#).

### **Methodology and comparisons across the UK**

The National Records of Scotland website has a guide that describes the [methodology](#) used to produce the life expectancy statistics for Scotland. This methodology is similar to that used to produce life expectancy estimates in other UK constituent countries.

### **Quality of administrative data sources**

Life expectancy is calculated using mid-year population estimates and deaths data as inputs. Information about the quality of deaths data is available on the [Vital Events section](#) of the NRS website.

## Notes on statistical publications

The United Kingdom Statistics Authority (UKSA) has designated these statistics as Accredited Official 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](#)).

Accredited Official 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 Accredited Official 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 Accredited Official Statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss any concerns with the Authority promptly. Accredited Official Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

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- Preserving the past – We look after Scotland's national archives so that they are available for current and future generations, and we make available important information for family history.
- Recording the present – At our network of local offices, we register births, marriages, civil partnerships, deaths, divorces and adoptions in Scotland.
- Informing the future – We are responsible for the Census of Population in Scotland which we use, with other sources of information, to produce statistics on the population and households.

You can get other detailed statistics that we have produced from the Statistics section of our website. Scottish Census statistics are available on the [Scotland's Census website](#).

We also provide information about future publications on our website. If you would like us to tell you about future statistical publications, you can register your interest on the [Scottish Government ScotStat website](#).

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## **Enquiries and suggestions**

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