

Statistical bulletin

# Deaths registered in England and Wales: 2016

Annual data on death registrations contains death rates, cause of death data by sex and age and death registrations by area of residence and single year of age.



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## Table of contents

1. [Main points](#)
2. [Statistician's comment](#)
3. [Things you need to know about this release](#)
4. [Number of deaths decrease in England and Wales in 2016](#)
5. [Mortality rates decrease more for females than males in 2016](#)
6. [Decrease in deaths at ages 75 and over](#)
7. [Mortality rates for cancer increase for females in 2016](#)
8. [Mortality rate remains highest in the North East region of England in 2016](#)
9. [Infant mortality rate in England and Wales remains unchanged for the third consecutive year](#)
10. [Number of deaths in the UK fall by 0.9%](#)
11. [Links to related statistics](#)
12. [Quality and methodology](#)

# 1 . Main points

- There were 525,048 deaths registered in England and Wales in 2016, a decrease of 0.9% after the large increase seen in 2015.
- Age-standardised mortality rates (ASMRs) decreased in 2016 by 3.0% for females and 2.4% for males; similar to the general trend prior to 2015.
- In 2016, there were fewer deaths at ages 75 and over, while the number of deaths at ages 65 to 74 increased compared to 2015.
- Cancer remained the most common broad cause of death (28.5% of all deaths registered); there was an increase of 1.1% of deaths to this cause compared with 2015.
- The infant mortality rate remained at 3.9 deaths per 1,000 live births in 2016, for the third consecutive year, while there were slight fluctuations in the neonatal and postneonatal rates.

## 2 . Statistician's comment

We've seen a decline in deaths in 2016 compared with 2015, notably amongst those aged over 75. However, the number of deaths amongst those aged 65 to 74 has actually increased, which might mean we are seeing those born in the peak immediately after World War 2 moving into old age.

Vasita Patel, Vital Statistics Outputs Branch, Office for National Statistics follow [@StatsLiz](#) on Twitter.

## 3 . Things you need to know about this release

Important information for interpreting these mortality statistics:

- death statistics are compiled from information supplied when deaths are certified and registered as part of civil registration, a legal requirement
- figures represent the number of deaths registered in the calendar year
- figures represent deaths which occurred in England and Wales, these include the deaths of individuals whose usual residence was outside England and Wales
- summary figures published in the release include analysis of causes of death by broad disease groupings which can be found in section 10 of the [User Guide to Mortality Statistics](#)
- figures published later in the year, in [Deaths registered in England and Wales \(Series DR\)](#) provide more detail on both individual causes of death and leading causes of death, where individual causes are aggregated using a [list](#) developed by the World Health Organization (WHO), modified for use in England and Wales

## 4 . Number of deaths decrease in England and Wales in 2016

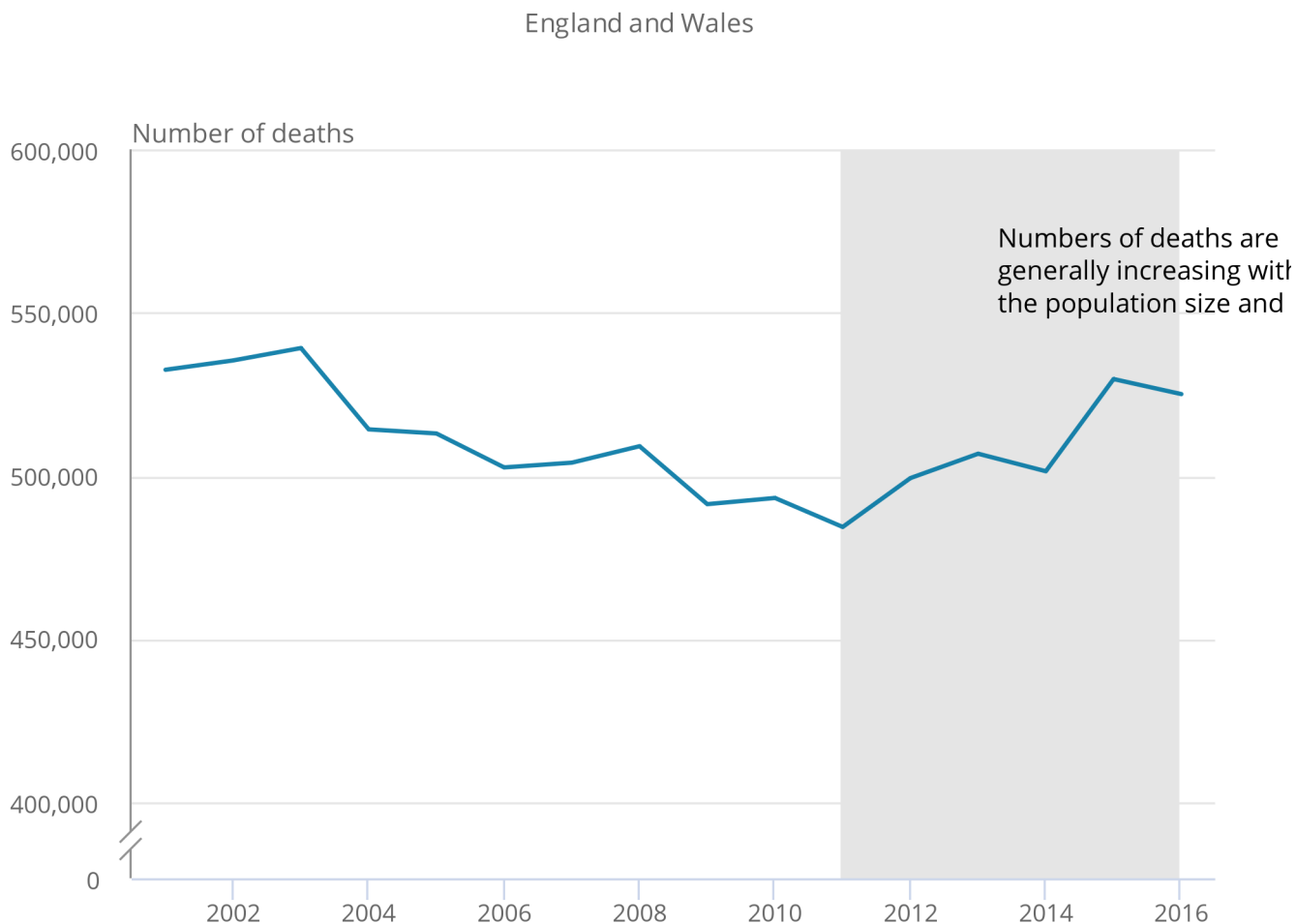
There was a 0.9% decrease in the number of deaths registered in England and Wales in 2016, compared to [2015](#) which saw the largest annual percentage increase in 47 years. There were 525,048 deaths registered in England and Wales in 2016, compared with 529,655 in 2015.

With the exception of 2014 and 2016, the number of deaths has increased each year since 2011. When compared with the 501,424 deaths in 2014, this upward trend in the number of deaths has continued in 2016 (Figure 1).

**Figure 1: Total number of deaths 2001 to 2016**

England and Wales

Figure 1: Total number of deaths 2001 to 2016



Source: Office for National Statistics

Source: Office for National Statistics

Notes:

1. Based on deaths registered in each calendar year.

Despite the decrease in the total number of deaths, there was a 0.2% increase in the number of male deaths registered in 2016, compared to a 1.9% decrease in the number of female deaths. The number of deaths is affected by the size and age structure of the population. As people are tending to live longer, leading to the population increasing in both size and age over time, we may also expect the number of deaths to increase.

## **5 . Mortality rates decrease more for females than males in 2016**

Age-standardised mortality rates (ASMRs) are a better measure of mortality than simply looking at the number of deaths, as they take into account the population size and age structure. Compared with 2015, ASMRs in 2016 decreased for both sexes, more so for females (3.0%) than males (2.4%). There were 1,128.4 deaths per 100,000 population for males and 838.2 for females.

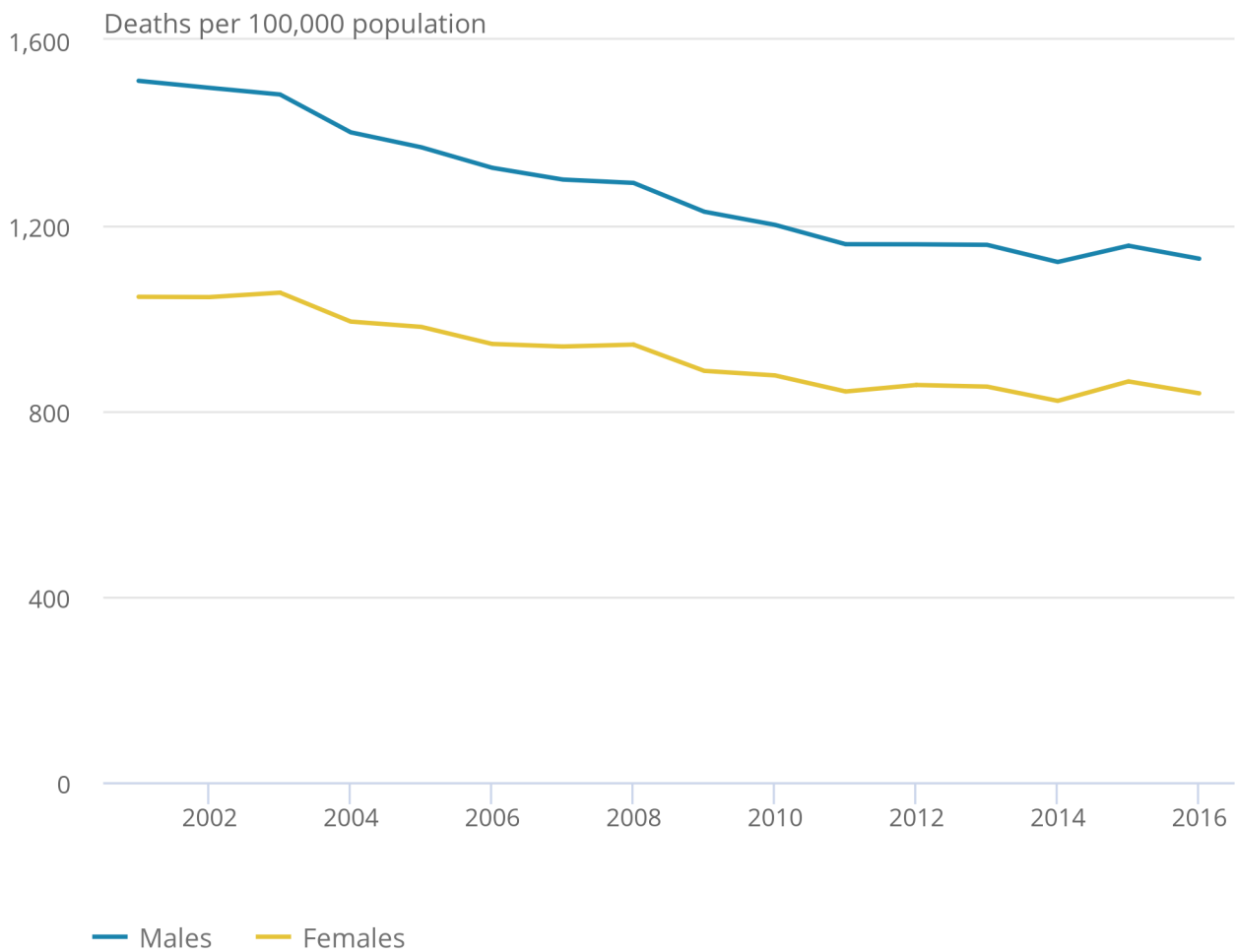
With the exception of 2015, mortality rates have generally been decreasing (Figure 2). This is due to improved lifestyles and medical advances in the treatment and diagnosis of many illnesses and diseases. There have also been government initiatives to improve health through better diet and lifestyle.

**Figure 2: Age-standardised mortality rates (ASMRs), 2001 to 2016**

England and Wales

Figure 2: Age-standardised mortality rates (ASMRs), 2001 to 2016

England and Wales



Source: Office for National Statistics

**Source: Office for National Statistics**

**Notes:**

1. Based on deaths registered in each calendar year.
2. These rates are for all ages and are standardised to the 2013 European Standard Population.

## 6 . Decrease in deaths at ages 75 and over

In 2016 there was a decrease in deaths at ages under 20, compared to 2015. Meanwhile, the number of deaths at ages 20 to 64 increased, with the exception of those aged 35 to 39. This year on year increase in deaths was most noticeable at ages 30 to 34 (7.2%), particularly for women (11.3%).

In the older age groups, the number of deaths at ages 65 to 74 has continued to increase since 2014, for both males and females (Figure 3).

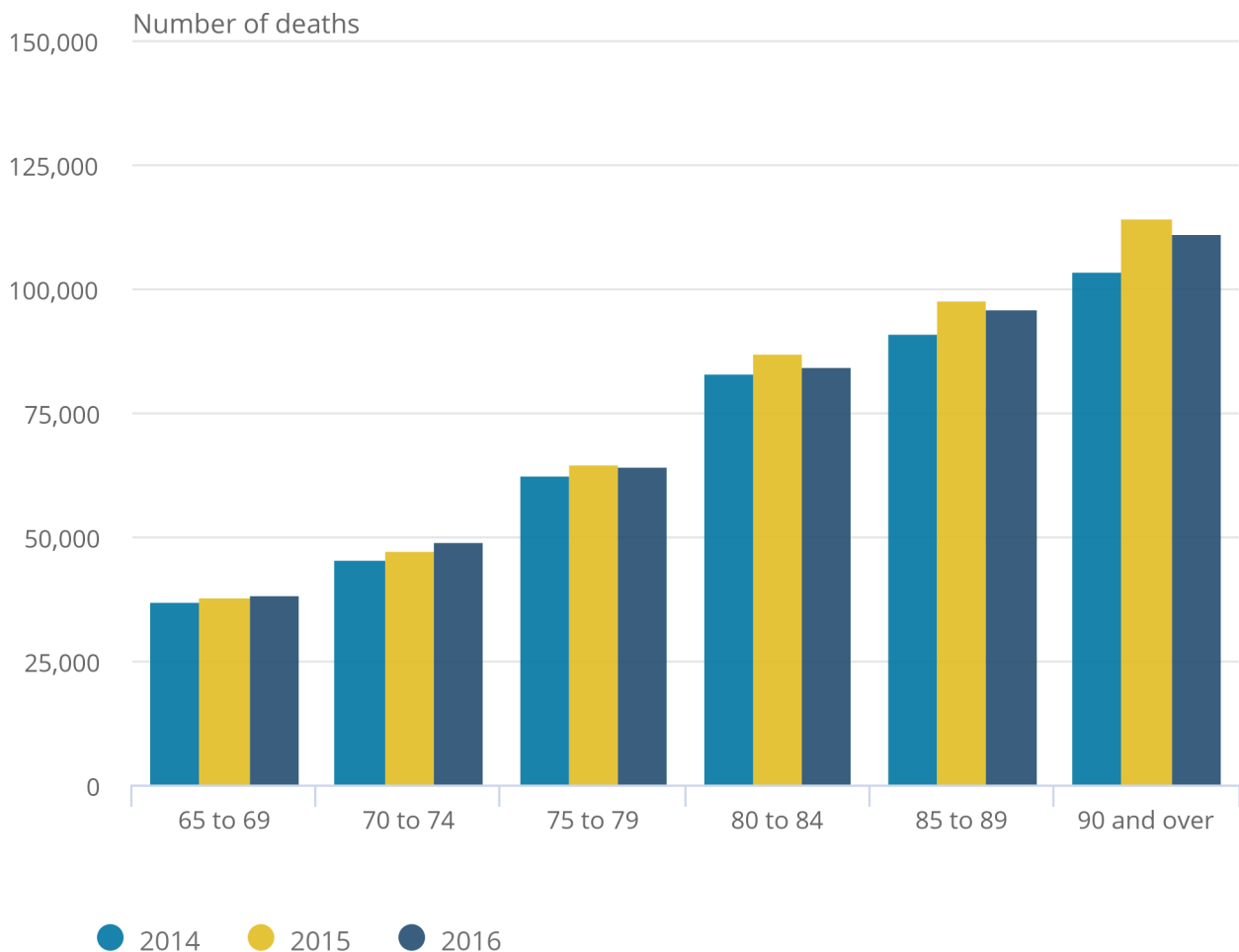
In contrast, the number of deaths at ages 75 and over decreased by 2.2% in 2016, after a noticeable increase for this group in [2015](#) (Figure 3). This decrease is seen in both males and females, with the exception of males aged 90 and over, where there has been a 0.2% increase in deaths. Despite this decrease, the number of deaths at ages 75 and over remain higher than in 2014, for both males and females.

**Figure 3: Total number of deaths at ages 65 and over, 2014 to 2016**

England and Wales

**Figure 3: Total number of deaths at ages 65 and over, 2014 to 2016**

England and Wales



Source: Office for National Statistics

Source: Office for National Statistics

**Notes:**

1. Based on deaths registered in each calendar year.

Age-specific mortality rates are used to compare mortality at different ages. In 2016, the age-specific rates for ages 70 and over decreased compared to 2015, most notably at age 90 and over, however they remained higher than in 2014 for some age groups. In contrast the rates for those aged 65 to 69 continued the upward trend, increasing by 0.8% compared to 2015 (Table 1).

**Table 1: Age-specific mortality rates for age 65 and over, England and Wales, 2014 to 2016**

England and Wales

		65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and over
Age-specific mortality rates	2016	11.9	19.3	33.6	59.1	107.8	214.9
	2015	11.8	19.6	33.8	61.8	112.4	226.7
	2014	11.6	19.5	32.9	59.3	106.5	207.2
% change 2015 to 2016		0.8	-1.5	-0.6	-4.4	-4.1	-5.2

Source: Office for National Statistics

Note:

1. Based on deaths registered in the calendar year
2. Age-specific mortality rates represent the number of deaths at a particular age per 1,000 population at that age.

## 7 . Mortality rates for cancer increase for females in 2016

Deaths in this section have been grouped by the broad cause of death chapter groups which can be found in section 10 of our [User guide to mortality statistics](#). These broad groups differ to the leading causes of death groups where individual causes are aggregated using a [list](#) developed by the World Health Organization (WHO), modified for use in England and Wales. The leading causes of death figures will be published in [Deaths Registered in England and Wales \(Series DR\)](#) later in the year.

Cancer accounted for 28.5% of all deaths registered in 2016 and remained the most common broad cause of death for both men and women (30.8% of all male deaths and 26.2% of all female deaths registered in 2016).

There have been fairly steady decreases in age-standardised mortality rates for the three main broad disease groups (cancer, respiratory and circulatory diseases) over the last decade. The overall rates for cancer decreased by 0.5% compared to 2015, however for females they increased by 0.1%.

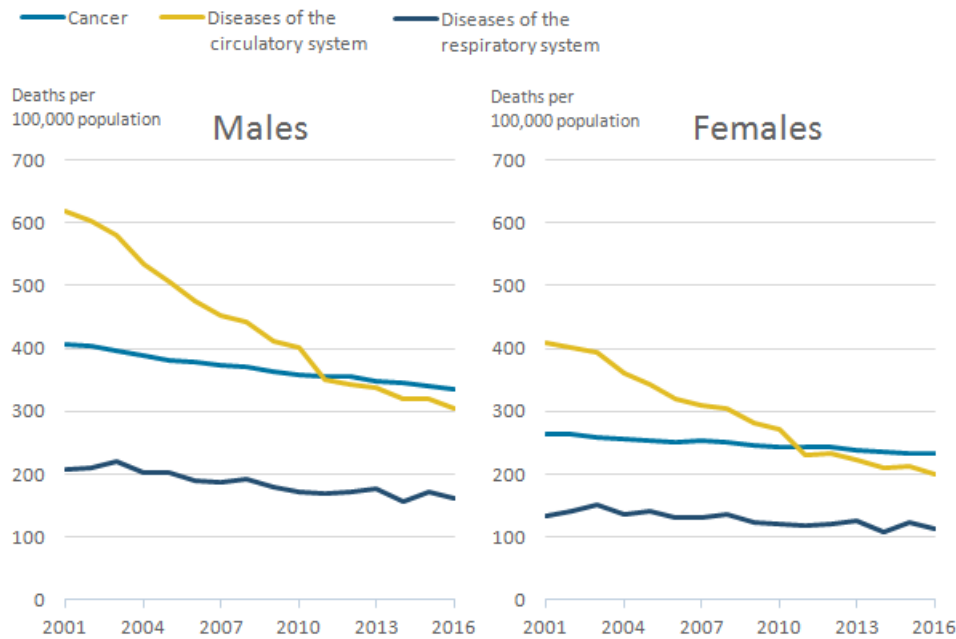
Circulatory diseases, such as heart disease and stroke remained the second most common broad cause of death, accounting for just over a quarter (25.5%) of all deaths registered in 2016. Mortality rates for circulatory diseases decreased compared to 2015 and are now lower than in 2014 for both males and females.

Mortality rates for respiratory diseases (including flu) decreased slightly for both men and women in 2016, however, they remained higher than recorded in 2014, especially for females (Figure 4).



**Figure 4: Age-standardised mortality rates (ASMRs) for the three main broad disease groups, 2001 to 2016**

**England and Wales**



## 8 . Mortality rate remains highest in the North East region of England in 2016

In 2016 the age-standardised mortality rate (ASMR) remained highest in the North East region of England (1,098.9 deaths per 100,000 population), and was lowest in London (858.8 deaths per 100,000 population). However, mortality rates for these regions were lower than recorded in 2015 (1,128.7 and 913.1 deaths per 100,000 population respectively).

Mortality rates for some local authorities are based on relatively small populations – therefore rates are often subject to random fluctuations and are consequently less robust. Blackpool remained the local authority in England with the highest ASMR (1,287.8) in 2016, a decrease compared to 2015 (1,380.9). The City of London continued to have the lowest ASMR (557.1) although this was slightly higher than was seen in 2015 (542.1). In Wales, Blaenau Gwent had the highest ASMR of 1,234.8 per 100,000 population, an increase compared to 2015, while Monmouthshire remained the lowest with slightly fewer deaths per 100,000 population than in 2015 (872.6).

### How have local levels of mortality changed since 2001?

#### ASMRs by local authority districts, 2001 to 2016, England and Wales

The substantial variation in mortality rates between different local areas reflects underlying differences in factors such as income deprivation, socio-economic status and health behaviour. It is recognised that higher levels of deprivation are present in the [North of England](#) and in the [Welsh valleys](#). Increased mortality rates for many causes of death have long been associated with higher levels of deprivation.

## **9 . Infant mortality rate in England and Wales remains unchanged for the third consecutive year**

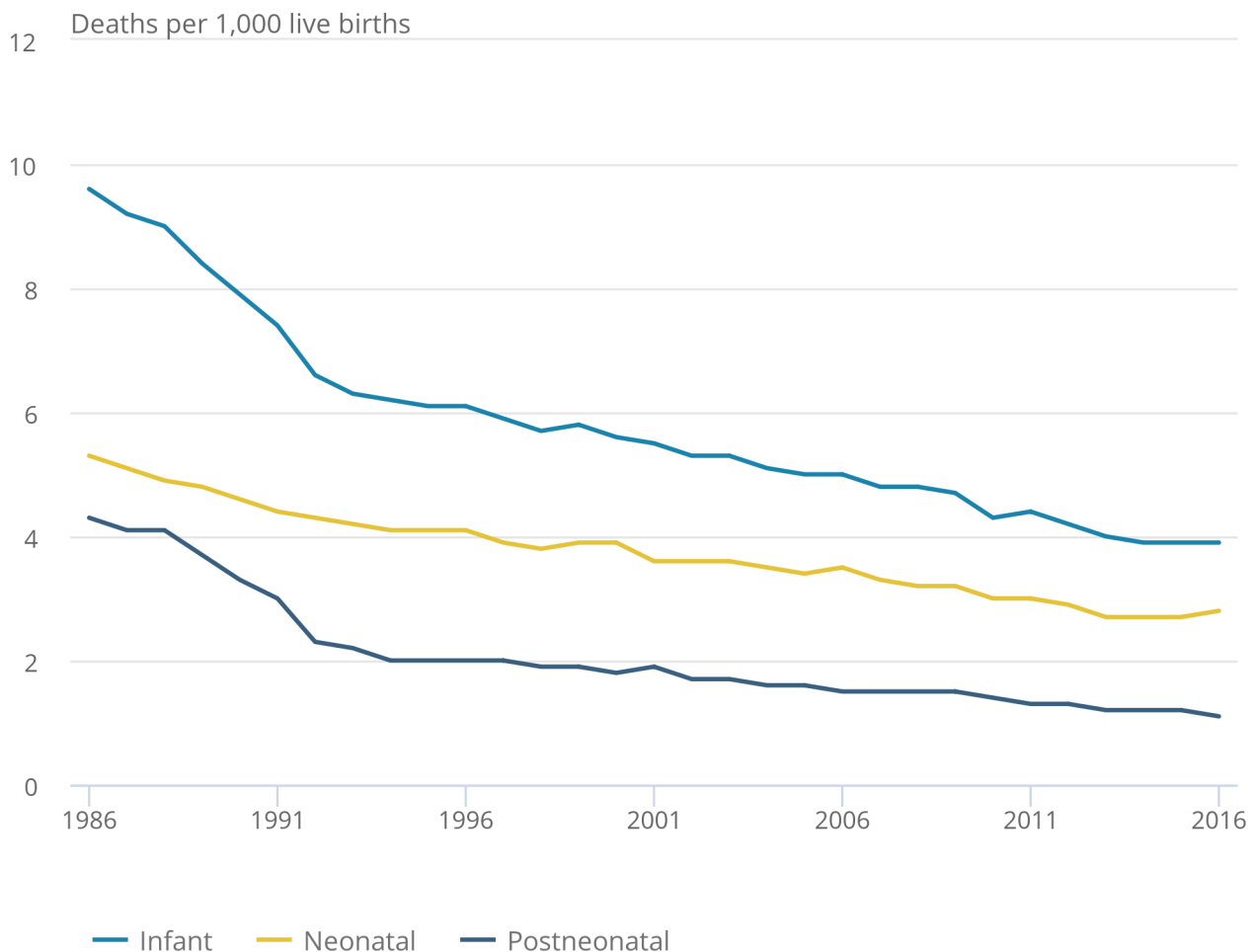
The infant mortality rate in England and Wales remained at 3.9 deaths per 1,000 live births for the third consecutive year, with 2,711 infant deaths (under 1 year of age) registered in 2016. This is a decrease of 10 infant deaths from 2015. There have been small fluctuations seen in infant, neonatal (deaths under 28 days) and postneonatal (deaths over 28 days and under 1 year) rates over recent years, after a series of larger drops in the late 1980s (Figure 5). In 2016 the neonatal rate increased by 3.7% compared to 2015, while the postneonatal rate decreased by 8.3%.

**Figure 5: Infant, neonatal and postneonatal mortality rates, 1985 to 2016**

England and Wales

Figure 5: Infant, neonatal and postneonatal mortality rates, 1985 to 2016

England and Wales



Source: Office for National Statistics

**Source: Office for National Statistics**

**Notes:**

1. Based on deaths registered in each calendar year.

There are many established risk factors for infant mortality; prematurity, low birthweight and multiple births are the most significant in terms of strength of association and consistency. Risk factors are known to vary according to age at death. For example, the effect of low birthweight and prematurity is stronger in the first 28 days, while socio-economic status is strongly associated with deaths under 1 year.

Infant mortality rates vary by region and can fluctuate over time. In 2016, the infant mortality rate remained highest in the West Midlands region within England, with 6.2 deaths per 1,000 live births while the South West replaced the South East with the lowest infant mortality rate of 3.1 deaths per 1,000 live births. The infant mortality rate for Wales was also 3.1 deaths per 1,000 live births, a 16.2% decrease from 2015.

Variation between areas may reflect underlying differences in maternal factors such as the mother's country of birth, socio-economic status and age ([Child mortality statistics](#) contains further information).

## 10 . Number of deaths in the UK fall by 0.9%

In 2016 the provisional number of deaths registered in the UK was 597,208; a decrease of 0.9% compared with 2015. Even so, the number of deaths in the UK has increased by 4.7% since 2014.

Provisional figures suggest that in 2016 the number of deaths in both Scotland and Northern Ireland decreased by 1.5% and 0.7% respectively. However, when compared to the number of deaths in 2014 this is still an increase of 4.6% in Scotland and 5.1% in Northern Ireland.

## 11 . Links to related statistics

More data on [deaths](#) and [births](#) in England and Wales in 2016 are available on our website. Commentary on stillbirths is included within [Births in England and Wales, 2016](#).

The number of deaths and death rates for the UK and constituent countries can be found in the [Vital Statistics: Population and Health Reference tables](#); an international comparison of numbers of deaths and death rates is also available.

Further 2016 death statistics will be published later in 2017, see the [GOV.UK release calendar](#) for more details.

2016 death statistics will be available through our [explorable dataset](#) from September to October 2017 (provisional).

To meet user needs, very timely but provisional counts of death registrations are published:

- [provisional counts of weekly death registrations by sex, age group and region](#)
- [provisional counts of monthly death registrations by local authority](#)

Figures for 2017 have not been subject to the full quality assurance process so are considered provisional. Final monthly figures for 2016 will be published on 25 July 2017.

Special extracts and tabulations of mortality data for England and Wales are available to order (subject to legal frameworks, disclosure control, resources and the ONS charging policy, where appropriate). Enquiries should be made to Vital Statistics Outputs Branch by email to [vsob@ons.gsi.gov.uk](mailto:vsob@ons.gsi.gov.uk) or telephone on +44 (0)1329 444110). User requested data will be published onto our website.

## 12 . Quality and methodology

This is the first time that final annual death registration statistics for England and Wales have been published for 2016. This release provides summary statistics on deaths, including infant mortality; detailed statistics are published in themed packages between September and March.

1. Mortality statistics are used for producing population estimates and projections and to quality assure the census estimates. They are also used to carry out further analysis on, for example: life expectancy; health expectancy; causes of death; and to further analyse infant mortality. They also enable the analysis of social and demographic trends.
2. The [Mortality Statistics Quality and Methodology Information](#) document contains important information on:
  - the strengths and limitations of the data and how it compares with related data
  - uses and users of the data
  - how the output was created
  - the quality of the output including the accuracy of the data
3. Our [User Guide to Mortality Statistics](#) provides further information on data quality, legislation and procedures relating to mortality and includes a glossary of terms. Information on how age-standardised mortality rates (ASMRs) are calculated is included.
4. Death figures reported here are based on deaths registered in the data year. This includes some deaths that occurred in the years prior to 2016 (23,166 deaths). ONS also take an annual extract of death occurrences in the autumn following the data year to allow for late registrations. Further information on [the impact of registration delays for a range of causes is available](#).
5. There is a large degree of comparability in death statistics between countries within the UK. There are some differences, although these are believed to have a negligible impact on the comparability of the statistics. These differences are outlined in the [Mortality Statistics Quality and Methodology Information](#) document.
6. The [Revisions policy for population statistics \(including mortality statistics\)](#) is available on our website.
7. Deaths are cause coded using the World Health Organization's (WHO) International Classification of Diseases (ICD). Deaths are coded to ICD-10 using IRIS software (version 2013). Cause of death reported here represents the final underlying cause of death for ages 28 days and over. This takes account of additional information received from medical practitioners or coroners after the death has been registered.
8. The infant, neonatal and postneonatal mortality rates in this release have been calculated using the number of deaths registered in the data year. These rates can also be calculated using the number of deaths occurring in the data year; such rates are less timely since the occurrences dataset can only be taken some 9 months after the end of the data year to ensure it is acceptably complete.