

Article

The impact of the First World War on the 90 and over population of the UK: 2015

The impact of birth patterns around the time of the First World War and the influence of the Spanish 'flu' pandemic that followed on the size and make up of today's population aged 90 and over.



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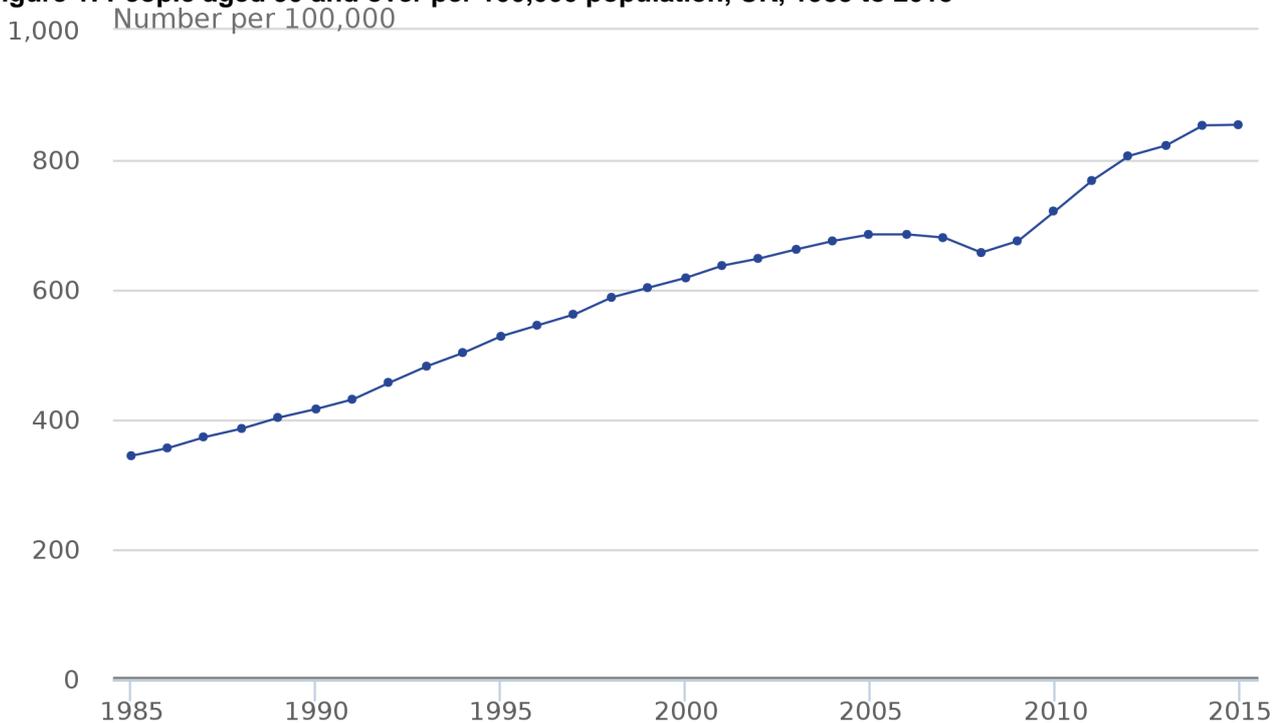
Table of contents

1. [The impact of World War 1 and Spanish flu on the 90 and over population of the UK](#)
2. [References](#)

1 . The impact of World War 1 and Spanish flu on the 90 and over population of the UK

In 2015, there were estimated to be over half a million (556,270) people aged 90 and over living in the UK. The size of this age group relative to the rest of the population has been gradually increasing over time and they now account for just under 1% of the total UK population.

Figure 1: People aged 90 and over per 100,000 population, UK, 1985 to 2015



Source: Office for National Statistics, National Records of Scotland, Northern Ireland Statistics and Research Agency

Despite the generally increasing size of the 90 and over population over the last 30 years, it is interesting to note the slight dip in the relative size of this age group around 2008. Figure 2 explores this in more detail, breaking the 90 and over population down into single years of age over the period 2002 to 2015.

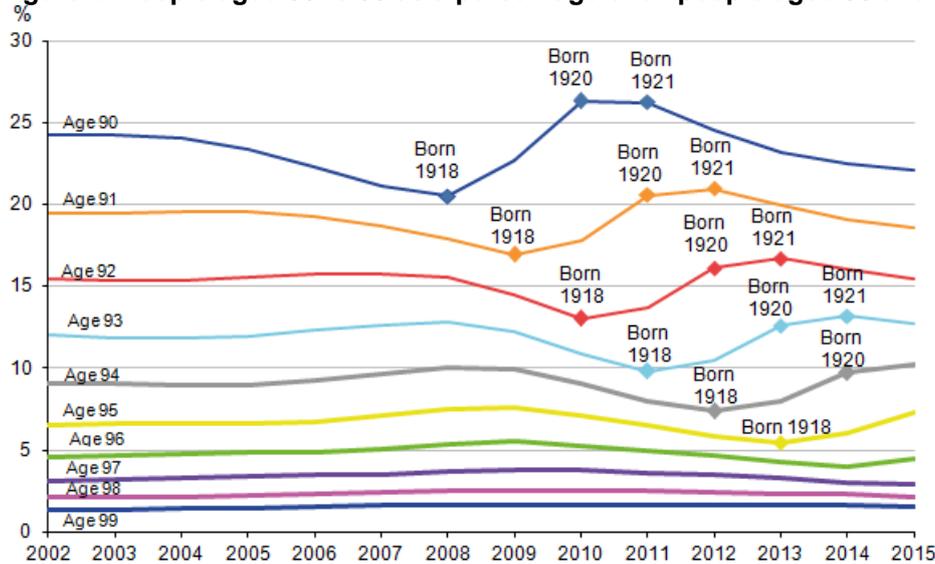
As would be expected, proportions decrease with age; in other words, in every year there are higher proportions of 90-year-olds than 91-year-olds than 92 year olds and so on. However, distinct birth cohort patterns are also apparent (a birth cohort is all the people born in the same year).

There is a steady decline in the proportion of 90-year-olds over the period, 2004 to 2008. These people would have been born during the First World War years, 1914 to 1918. This reflects the steady decline in births during the war years. The lowest number of births recorded around the First World War was in 1918.

Those born at this time appear in the 2008 estimate of 90-year-olds. The proportion of 90-year-olds is lowest in 2008, reflecting this cohort's low birth numbers. Following this cohort over time, we can see that the lowest proportion of 91-year-olds is in 2009, the lowest proportion of 92-year-olds is in 2010, the lowest proportion of 93-year-olds is in 2011 and so on.

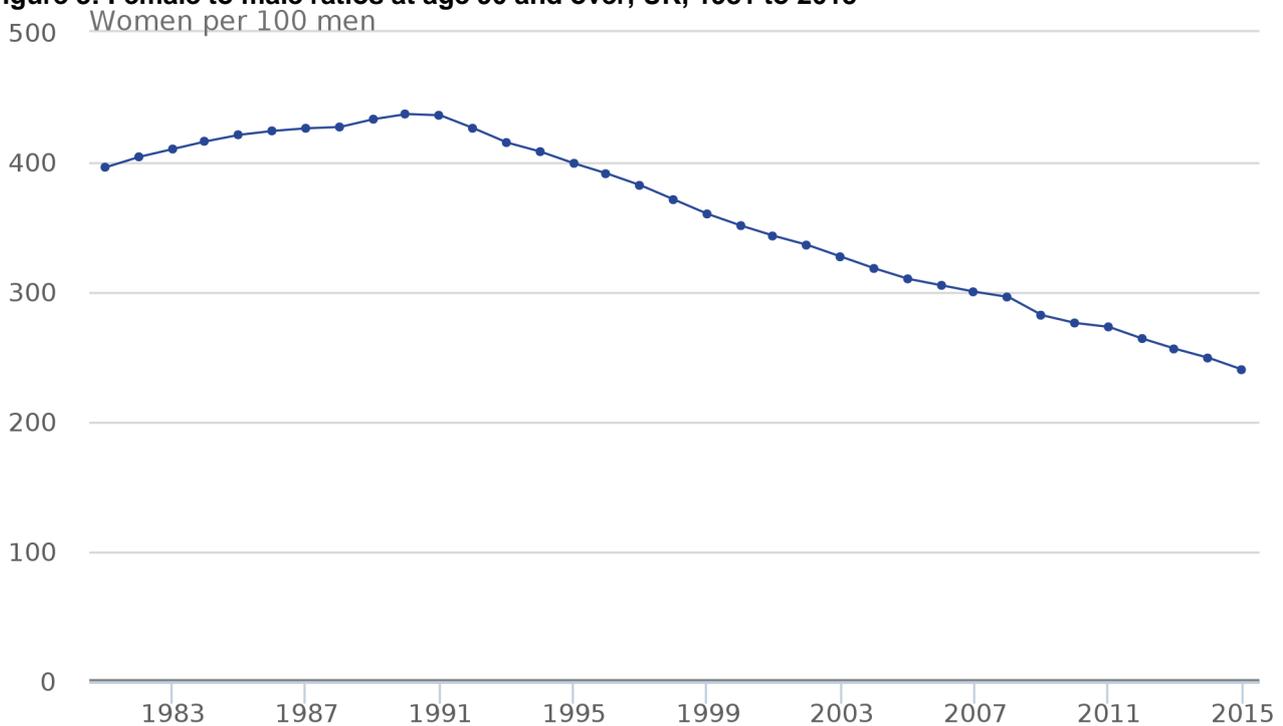
The low point in births in 1918 was followed by a large increase in births post-war. Figures are not available for the UK for that period but in England and Wales there were 662,661 births in 1918 and 692,438 births in 1919. This compares with 957,782 in 1920 and 848,814 in 1921 – a large difference ¹.

Figure 2: People aged 90 to 99 as a percentage of all people aged 90 and over, UK, 2002 to 2015



In 2015, the vast majority (71%) of people aged 90 and over in the UK were female. Women outnumber men at these ages because they have higher life expectancies. Figure 3 shows the number of women aged 90 and over for every 100 men of those ages, from 1981 to 2015. This ratio decreased from 396 women in 1981 to 240 women in 2015 per 100 men aged 90 and over. Although male mortality at older ages improved faster than female mortality over the whole of the period shown, the fall in the ratio of women to men at ages 90 and over is only apparent from 1990; prior to this time the ratio is rising.

Figure 3: Female to male ratios at age 90 and over, UK, 1981 to 2015



Source: Office for National Statistics, National Records of Scotland, Northern Ireland Statistics and Research Agency

The rises in the number of women aged 90 and over relative to men in the 1980s reflect 2 major past events, the First World War and the Spanish “flu” pandemic that followed. Men who would have reached age 90 at the beginning of the period shown in Figure 3 (1981 to 1986), would have been aged 18 or over at the outbreak of the First World War in 1914 and therefore eligible to enlist. Those who would have reached age 90 in the period 1987 to 1990 would have been too young to enlist when war broke out, however they would progressively have turned 18 and therefore been eligible to join-up between 1915 and 1918 when the war ended (also it is known that many boys younger than 18 volunteered and their age not checked)². Many of these men would have died as a result of the war, reducing the size of these cohorts at older ages.

The global influenza pandemic that occurred after the War in 1918 to 1919, unlike other strains of “flu”, tended to attack young adults as well as younger and older age groups³. Young men were disproportionately susceptible compared to young women because many had already been weakened by fighting in the First World War.

Together, these 2 major events contribute to the rises in women relative to men at age 90 and over in the 1980s and at age 100 and over in the 1990s (despite greater improvement in male mortality compared to female mortality at older ages over the whole period) as fewer men were alive to reach the oldest ages. After this time the ratio of women to men at older ages starts to fall.

2 . References

1. Historical series of statistics from registrations of birth in England and Wales, 1837-1983; Series FM1, no. 13. Office of population Censuses and Surveys
2. C N Trueman. "Boy Soldiers". [The History Learning Site](#)
3. K. Dunnell. [Ageing and Mortality in the UK: National Statistician's Annual Article on the population.](#) Population Trends, Winter 2008