

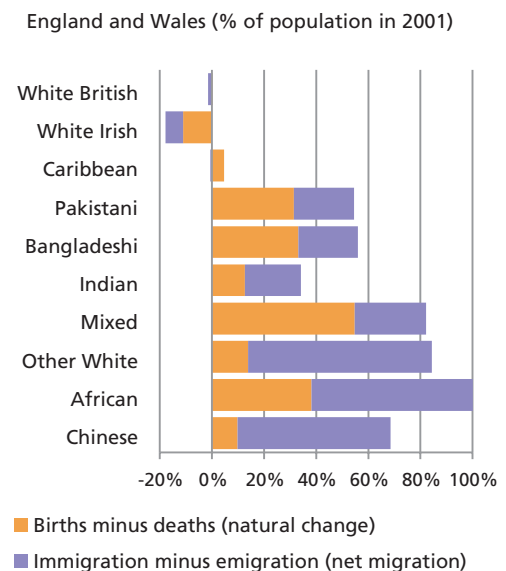
# What makes ethnic group **populations grow?** Age structures and immigration

## Summary

By following the changing age structure of each ethnic group – the number of people at each age – from the 2001 Census to the latest Census in 2011, we have been able to estimate the contribution to population growth of international migration, births and deaths.

- All non-White ethnic groups in England and Wales have grown in size since 2001 through more births than deaths. Most have also grown through net migration into England and Wales.
- For most ethnic groups whose first major immigration to the UK was over a generation ago, growth through further immigration is less than their 'natural' growth within England and Wales through an excess of births over deaths.
  - Pakistani and Bangladeshi groups have grown each by about 50% during 2001-2011, and mostly because more people have been born than have died.
  - For the Caribbean group, whose main immigration to the UK was now sixty years ago, growth has been less than 5%; it was entirely due to the excess of births over deaths rather than further immigration.
  - The Indian group is an exception among established ethnic minority groups: it has grown through immigration during the period 2001-2011 more than through an excess of births over deaths.
- During the 2000s, the 'Other White' (including most Eastern Europeans), African and Chinese ethnic groups added rapidly to their population from further immigration as well as from natural growth. Each grew between 70% and 100% in total during the decade.
- The 'Mixed' groups have a very young age structure. Their growth was mainly due to children born in the decade. A smaller but significant growth of about 25% was through immigration.
- The Irish group in England and Wales reduced by 18% over the decade, both from an excess of deaths over births and from net emigration. It is a relatively elderly population in England and Wales, although immigrants in their twenties continue to arrive.
- Fertility of most groups has increased a little in the 2000s, but overall there is less difference in family size between ethnic groups than in past decades.

**Figure 1.** Population change 2001-2011



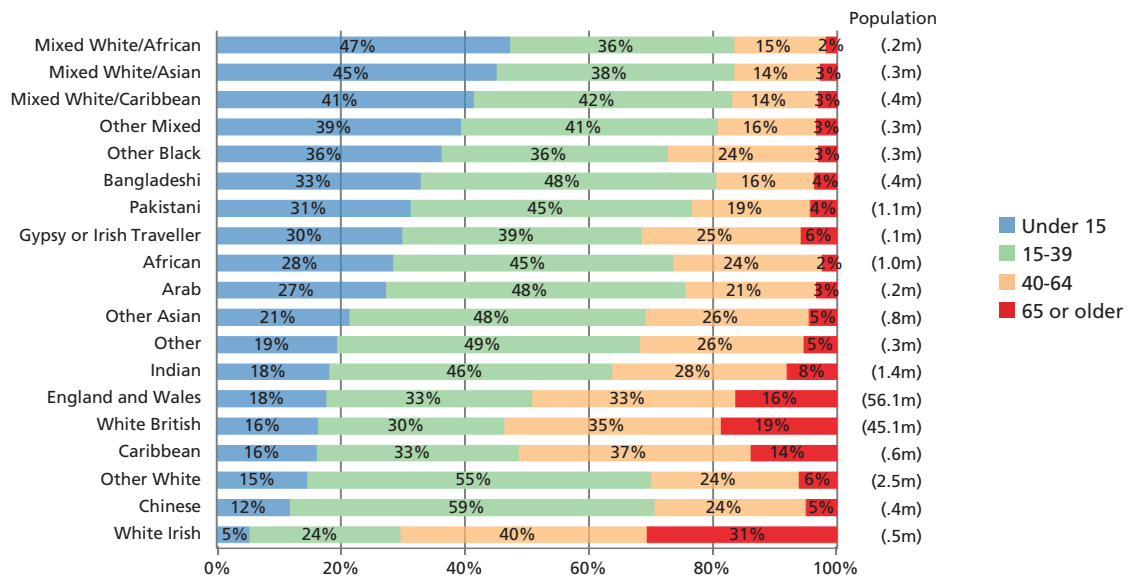
[Click here for Figure 1 data in Excel](#)

## Estimating births, deaths and net migration

The numbers of births, deaths and migrants for each ethnic group are not collected as official statistics. This briefing uses the opportunity of the Census, when population change over the decade is known quite accurately for each ethnic group, to estimate these components of change. Figure 1 disaggregates the decade's population change into births, deaths and the *net* impact of immigration and emigration. The methods are simplified from those developed for the 1990s<sup>1</sup>. Births are estimated as the number of children alive in 2011 aged under 10, while deaths are derived by applying mortality rates to the age structure of each group's 2001 population. Births and deaths estimated in these ways are in total only 0.4% and 1.7% away from the registered total births and deaths respectively. The net impact of migration is the remainder of population change over the decade. Further detail is given [here](#).

**Figure 2.** Broad age composition of ethnic groups in 2011

Arranged by decreasing percentage aged under 15



[Click here for Figure 2 data in Excel](#)

## Age structure

Half of all immigrants to the UK arrive when aged 15-29 (see *Briefing on Counting Immigration*). Since the Census ethnic group categories are based on streams of migration to the UK in the past 60 years it is not surprising to find that most groups other than White British are young in age structure (Figure 2).

However, the youngest are those residents with a Mixed ethnic identity. Many of these will be children of parents of different ethnicities: for each of the four Mixed groups identified by the Census, between 39% and 47% are aged under 15, double the figure of 18% for England and Wales as a whole. Under 4% of the Mixed group are aged 65 or older, compared to 16% for England and Wales as a whole.

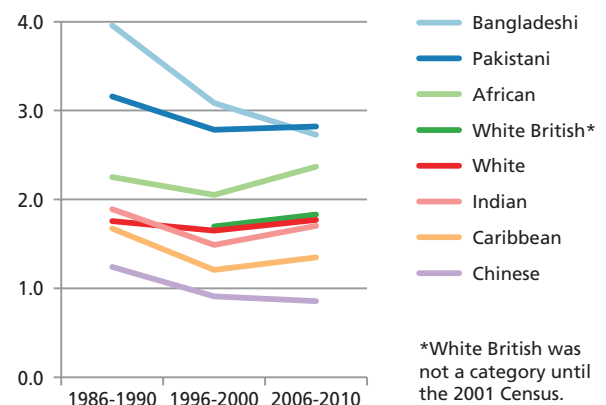
Only the ethnic groups with origins in large scale immigration before 1970 have more than 5% of their population aged 65 or older: Indian (8%), Caribbean (14%), and Irish (31%). The immediate post-World War II European migration may account for the Other White group reaching 6% elderly. In the future, it is likely that the percentage of elderly will also grow for other groups which currently have a young age structure.

The Chinese and Other White groups have relatively low percentages of both young people and elderly. Both groups had some immigration in the 1950s, and strong immigration in the 2000s with a period between of much lower immigration. Natural growth is not yet such a strong current feature as for other minority groups. This is confirmed by the low growth through natural change shown in Figure 1.

## Fertility

A comparison of the number of children with the number of women at fertile ages 15-44 provides estimates of fertility for each group for the period immediately before each of the past censuses (Figure 3). Bangladeshi and Pakistani family size has reduced to an average of about three children per family, still higher than other groups. Fertility of most other groups including White British has risen a little in the 2000s. The overall impact is a convergence of fertility rates. Chinese fertility is particularly low partly because one third of the Chinese population are students. These estimates give similar patterns to more accurate methods<sup>4</sup> but update the trends to more recent years. They are likely to be a little low because increasing diversity in Britain means that some mothers of each group shown in Figure 3 have children of Mixed or Other ethnic groups.

**Figure 3.** Estimated total fertility rate



\*White British was not a category until the 2001 Census.

[Click here for Figure 3 data in Excel](#)

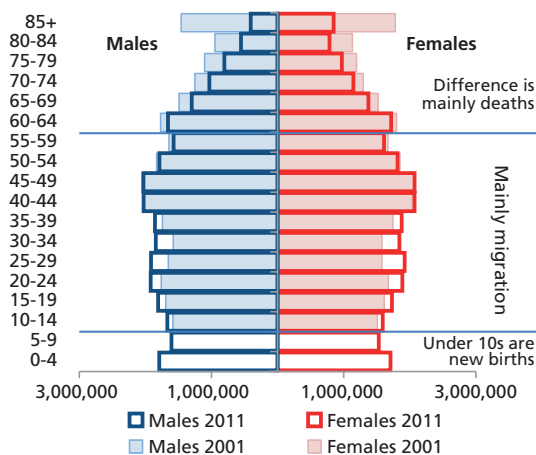
# What makes ethnic group populations grow?

## Population pyramids reveal the sources of population change

In the population pyramids that follow, the 2011 age-structure is outlined in bold colour. The shaded bars represent numbers of people in 2001, at the age they would have been in 2011. For example, the shaded 30-34 year olds are the number of 20-24 year olds in 2001. The different size of a cohort in 2001 and 2011 shows whether it has grown from immigration, or reduced from a combination of emigration and mortality.

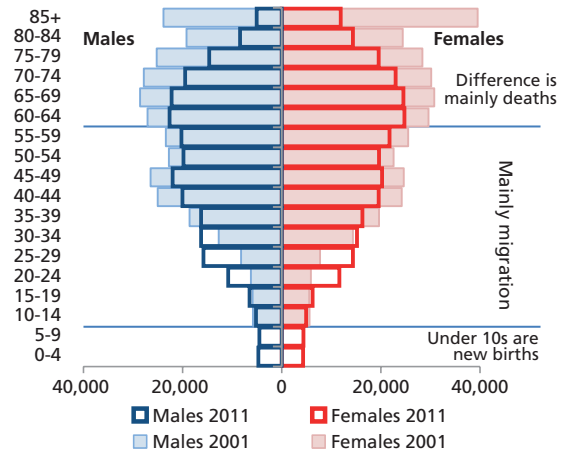
The labels on each chart indicate the drivers of population change. Mortality is mainly at older ages, and migration is the main influence at younger ages. Children under ten have been born during the decade. The changing age structure tells the story of a group's migration. Explanation of the change in size of each age cohort is given beneath the pyramid. The data for these pyramids, as well as for ethnic groups which are not shown due to limited space in this briefing, are available in a [spreadsheet](#).

The England and Wales population in 2001 and 2011, age at 2011



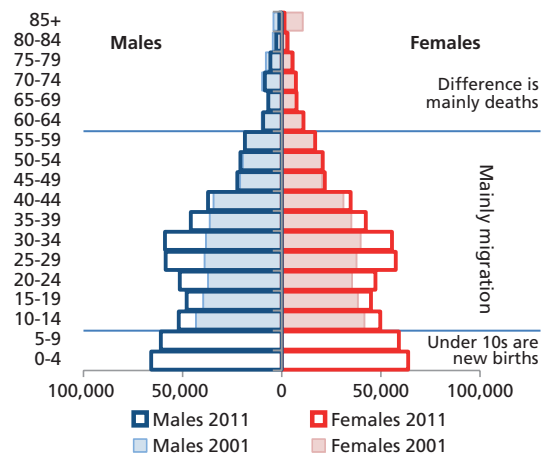
The pyramids show the England and Wales population in 2011, and in 2001 but aged ten years. At older ages, the 2011 population is reduced mainly because of deaths during the decade. For ages under ten, the population has been born during the decade. Despite a growth in fertility rates during the 2000s, the number of children is not as large as the number now in their forties. For ages between 10 and about 60, changes in the size of a 'cohort' are mainly due to migration. There was net in-migration of both men and women who in 2011 were aged 20-34.

The Irish population in 2001 and 2011, age at 2011



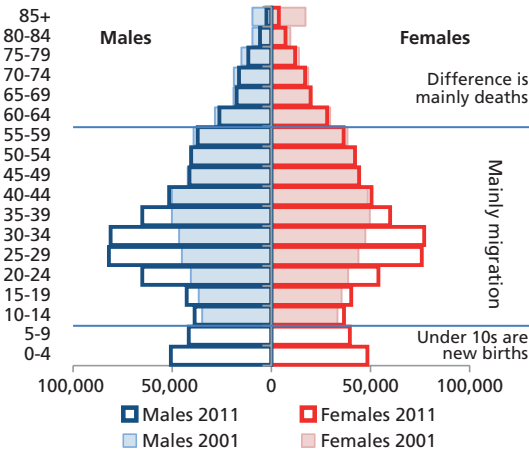
The Irish population has an old age structure: many children and grandchildren of immigrants from Ireland are not recorded with Irish ethnic group in the Census (by themselves or by their parents). Losses to those now aged 35 and older are due both to deaths and to emigration, perhaps back to Ireland during the early 2000s at the time of the booming 'Celtic tiger' economy. However, those now aged 20-34 have been added to by immigration, including students in higher education. Over all age groups, migration of the Irish group is estimated to be a loss of 7% from England and Wales (see Figure 1).

The Pakistani population in 2001 and 2011, age at 2011



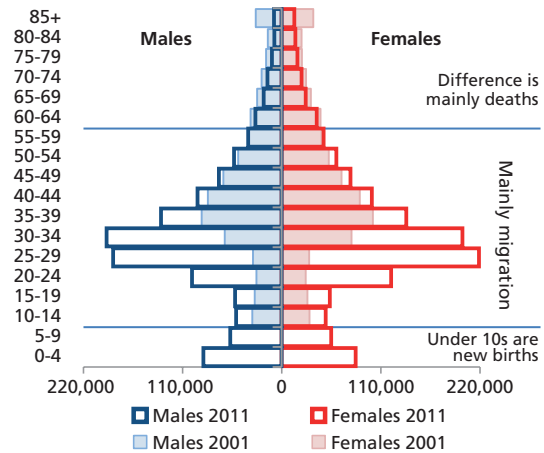
The Pakistani population has a younger age structure than the population of England and Wales as a whole. The number of children is larger than any other age group. Migration during 2001-2011 has added to those now aged between 10 and 40.

The Indian population in 2001 and 2011, age at 2011



The Indian population has been added to by migration, particularly of those now in their twenties and thirties. Migration accounts for two thirds of Indian group's growth from 2001-2011 (Figure 1). This reverses the estimates of change in the 1990s, when migration contributed less than half of the Indian group's growth. The reversal is likely to be related to India's economic success during the 2000s. The increase in immigrants from India are mainly students but also to join family and for work<sup>4</sup>. The fertility rate of the Indian group in the UK is lower than the Pakistani group, resulting in a relatively smaller number of children.

The Other White population in 2001 and 2011, age at 2011



Immigration from Eastern Europe has in particular increased the size of the 'Other White' population, among adults now aged in their 20s and 30s. The growing child population will have resulted from births in England and Wales, and child migrants during the decade.

## The dynamics of population change

Immigration into the UK tends to be of young adults, adding to the productive workforce. A growing child population results as most new migrants are of the age to start families. Not until many years later will those who immigrated become elderly and suffer significant numbers of deaths. Thus for many decades the population will grow due to the number of births exceeding the number of deaths, among the families with a parent or grandparent who migrated to the UK. These broad dynamics of population change make it possible to project the population into the future. Population projections with an ethnic group dimension are useful for planning the nature of services in a changing society, as well as for implementing legislation against discrimination. However, the changing nature of ethnic diversity makes projections difficult, both technically and in their interpretation<sup>2</sup>.

<sup>1</sup> Finney, N., & Simpson, L. (2009) Population dynamics: the roles of natural change and migration in producing the ethnic mosaic. *Journal of Ethnic and Migration Studies*, 35(9), 1479 - 1496.

<sup>2</sup> Haskey, J. (2002). Population projections by ethnic group, a feasibility study. *Studies in Medical and Population Statistics* 67. London: The Stationery Office.

<sup>3</sup> International Passenger Survey tables *Countries of Origin* and *Reasons for migration*, and for *India*

<sup>4</sup> Coleman, D. A., & Dubuc, S. (2010) The fertility of ethnic minorities in the UK, 1960s - 2006. *Population Studies*, 64(1), 19-41.

See also: detail of *methods*; and *data and calculations*, which also contains population pyramids for other ethnic groups.

Sources: the 2001 and 2011 Censuses (Crown Copyright), and complete population estimates based on them. Counts of registered births and deaths mid-2001 to mid-2011. Life Tables for England and Wales.

This briefing is one in a series, *The Dynamics of Diversity: evidence from the 2011 Census*.

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