

Information paper

Quality and Methodology Information

General Details

Title of output:	Population Estimates by Ethnic Group
Abbreviated title:	PEEG
Designation:	Experimental Official Statistics
Geographic Coverage:	England and Wales
Date of last SQR or QMI ¹ :	May 2011
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Executive Summary

This report relates to the Population Estimates by Ethnic Group (PEEG). These are Experimental Statistics which provide estimates of the resident population by age, sex and ethnic group for areas in England and, since 2010, Wales. These were first published, for 2001—2003, in January 2006. The current set of estimates is Release 8 which was published on 18 May 2011 and includes estimates for 2001—2009 for England and Wales; for local authorities, counties, regions, Strategic Health Authorities and Primary Care Organisations in England; and for local authorities in Wales.

Methods used to produce the estimates are described in a [Methodology paper](#). In summary, a standard 'cohort component' method is used in which an estimate is derived by taking the previous year's estimate and adding births and net migration and subtracting deaths. The methodology paper describes how the results of the 2001 Census are taken as the starting population and the various components of population change are broken down by ethnic group. Estimates are adjusted to be consistent with the overall mid-year population estimates.

This document contains the following sections:

- Output quality
- About the output
- How the output is created;
- Validation and quality assurance
- Concepts and definitions
- Other information, relating to quality trade-offs and user needs
- Sources for further information or advice.
- Appendix of tables

Output Quality

This document provides a range of information that describes the quality of the data and details any points that should be noted when using the output.

ONS has developed [Guidelines for Measuring Statistical Quality](#); these are based upon the six European Statistical System (ESS) Quality Dimensions. This document addresses the Quality Dimensions and important quality characteristics, which are:

- Relevance
- Timeliness and Punctuality
- Comparability and Coherence
- Accuracy
- Output Quality Trade-Offs
- Assessment of User Needs and Perceptions
- Accessibility and Clarity

More information is provided about these quality dimensions in the sections below.

¹ Quality and Methodology Information' (QMI) replaced 'Summary Quality Reports' (SQR) from 04/11

About the Output

Relevance

The degree to which statistical outputs meet users' needs.

The major users of the estimates, as identified from enquiries, requests for commissioned output, and other contact with users, are local authorities; some central government departments; health organisations; and researchers; and voluntary sector groups.

Discussions with users suggest that the most important aspects of quality of the estimates are: that the data are timely; that they provide sufficient detail (by geography, age groups and ethnic group); and that they are consistent with other population estimates published by ONS. Some users have expressed an interest in estimates by ethnic group for the UK as a whole.

The estimates are presented using the classification of ethnic group used in the 2001 Census in England and Wales, and subsequently adopted as the National Statistics standard classification. This classification has been superseded, following the 2011 Census, by the [Harmonised Standards for Ethnic Group](#). Estimates are provided for the standard administrative geography of local authority districts and higher areas in England and Wales and the standard health administration geography of Primary Care Organisations and Strategic Health Authorities in England. They fill a key requirement from public sector and other users for post-Census estimates of the population by ethnic group for standard areas. However, the estimates are for areas in England and Wales only and do not currently fulfil the need for consistent UK estimates of the population by ethnic group, as similar estimates are not available for Scotland or Northern Ireland.

The estimates are provided broken down by age, sex and detailed (16-way) ethnic group as described under Accessibility and Clarity below. Further detailed information is available as commissioned output on request. The estimates provide the detail generally requested by users. There has been some interest in the possibility of estimates for non-standard ethnic groups and for smaller geographical areas, such as wards.

Feedback from users (for example through a [User Engagement Event](#) and from the Central and Local Information Partnership (CLiP) Population Sub-Group) suggests that the estimates are useful.

Timeliness and Punctuality

Timeliness refers to the lapse of time between publication and the period to which the data refer. Punctuality refers to the gap between planned and actual publication dates.

Timeliness

The estimates are generally published annually, following the availability of detailed results from the International Passenger Survey (IPS). Results for mid 2009 were published in May 2011, 23 months after the reference period, along with revised estimates for 2002—2008.

Punctuality

Release dates have been announced on the NS website and, since its inception, the [UK National Statistics Publication Hub](#). All sets of estimates have been released on the pre-announced date.

For more details on related releases, the [UK National Statistics Publication Hub](#) is available online and provides 12 months' advance notice of release dates. In the unlikely event of a change to the pre-announced release schedule, public attention will be drawn to the change and the reasons for the change will be explained fully at the same time, as set out in the [Code of Practice for Official Statistics](#).

How the Output is Created

The methods used to produce the estimates are described in detail in the PEEG [Methodology paper](#) .

The estimates are calculated using the cohort component method. The cohort component method can be summarised as:

- take the previous mid-year resident population and age on by one year
- then estimate the population change between 1 July and 30 June by:
 - adding births occurring during the year
 - subtracting deaths occurring during the year
 - adjusting for migration to and from the area

In addition to the process summarised above, adjustments are also made for some special population groups that are not captured by the internal or international migration estimates: members of the armed forces and prisoners. These populations have specific age structures, which remain fairly constant over time. Therefore these groups are not aged on with the rest of the population.

The mid-2001 base population is based on 2001 Census data rolled forward to mid-year using a variation of the above cohort component method.

The ethnic composition of the Armed Forces and Prisoner adjustments is estimated based on 2001 Census data proportions by ethnic group.

Deaths within each ethnic group are estimated by applying age and sex specific mortality rates to the population of each ethnic group in each area.

Births are estimated by using 2001 Census data to estimate age-specific fertility rates for each ethnic group. These are transformed into estimates of the number of births of each ethnic group by applying a matrix of ethnicity of mother against ethnicity of baby: this is again based on 2001 Census data. These estimates of the births of each ethnic group are summed and then constrained to the total number of registered births in the area.

Internal migration (that is, migration within the UK) is estimated using data on migration and ethnicity from the 2001 Census together with the latest internal migration estimates, based on a complex methodology using health registrations and data on students.

International migration is estimated by combining International Passenger Survey (IPS) data on country of birth and 2001 Census data relating country of birth and ethnicity to estimate the proportion of international migration consisting of each ethnic group; then applying these proportions to the overall flow of international migration. Additional adjustments are applied to allow for asylum seekers – where nationality is used to model ethnic group - and those who change their intentions on length of stay when entering or leaving the country.

Throughout these processes, the estimate for each component of change is constrained to be fully consistent with that used in the Mid-Year Population Estimates.

Validation and Quality Assurance

Accuracy

The degree of closeness between an estimate and the true value.

Comparisons with other Sources

This section provides an initial comparison of the PEEGs with two other data sources – the Annual Population Survey and the Pupil Level School Census.

i) Annual Population Survey

The Annual Population Survey is the largest regular survey of the population in Britain. Though the survey is the most obvious source of alternative estimates of the ethnic composition of the population, four points must be borne in mind when comparing APS-based estimates with the PEEGs.

- the APS covers, broadly, the population living in households. Most people living in communal establishments are not included in the Survey and will not be reflected in the APS estimates;
- as with all sample surveys, estimates derived from the APS are subject to sampling error;
- APS uses a slightly different classification of ethnic groups to the PEEGs which can make some comparisons difficult;
- the APS is primarily designed to measure characteristics of the labour market rather than produce population estimates by ethnic group. The APS results are not adjusted to allow for possible different levels of non-response by ethnic group.

Table 1 in the Appendix shows the APS-derived estimate of the ethnic composition of the population along with the corresponding PEEG estimate.

Table 1 suggests that both sources provide a similar picture of the broad pattern of the ethnic composition of the population, with the percentage share of the total population being within one percentage point for each group. However, substantial percentage differences are evident when looking at the absolute size of some groups. The Chinese group, for example, is estimated in the PEEGs to be almost twice the size of the estimate derived from the APS.

For the reasons pointed out above, we cannot conclude from Table 1 that a comparison with the APS shows that the PEEGs are overestimating or underestimating the size of particular groups. However, we might suggest that whilst the comparison provides no reason to believe the PEEGs are grossly misrepresenting the broad ethnic composition of the population, it would be sensible to be cautious about the absolute sizes of, in particular, the smaller groups.

Table 2 extends the comparison with the APS by considering estimates for areas within England and Wales. (For simplicity, the standard ethnic grouping has been condensed to five groups for this comparison. This is not the standard ethnic grouping). Table 2 demonstrates that the differences between the PEEGs and APS are not spread evenly amongst the areas shown. In particular, there is a notable difference in the estimates for London, where the PEEGs show substantially higher estimates of the White British population and lower estimates for other broad groups shown.

ii) School Census

The School Census, which is conducted by the Department for Education, covers, broadly, children attending state schools in England. It does not cover non-state schools or children educated other than at school (more information on the School Census is available [here](#)). As an administrative source covering around 90% of children aged 5-15, however, ethnic group estimates derived from this source can confidently be expected to be more reliable than the PEEG estimate for that age group.

Table 3 in the Appendix shows the School Census figures for England alongside the corresponding PEEG estimates. The Table shows that the PEEGs estimate a notably higher proportion of that age group are White British, with corresponding lower proportions being estimated for White Other; Black groups; Asian groups (except for Indian) and Other.

Table 4 provides a similar comparison for a condensed set of ethnic groups at the regional level. Again, the discrepancies, in terms of percentage points of the population, are, unsurprisingly, most evident for London.

Potential Sources of Error

The previous section has identified some discrepancies between the PEEGs and other data sources. This section provides some explanation of aspects of the PEEG methodology which provide possible reasons for these discrepancies.

The PEEG methodology is described in detail [here](#). It is based on the Demographic Equation, which is best expressed here as:

Population this year = Last year's population aged on 1 year
plus births
minus deaths
plus net migration from elsewhere in England and Wales
plus net migration from elsewhere in the UK
plus net international migration.

Births, deaths and the various aspects of migration are termed 'components of change'. The table below sets out components of change for an 'average' LAD in England and Wales.

Table A: Components of Change for the Average LAD: 2008-2009

Births	1.3%
Deaths	0.9%
Migration within England and Wales (inflow)	4.7%
Migration within England and Wales (outflow)	4.7%
Migration from Scotland and NI (inflow)	0.1%
Migration to Scotland and NI (outflow)	0.1%
International migration (inflow)	0.9%
International migration (outflow)	0.6%

Notes:

The table shows the component of change for the year to mid-2009 expressed as a percentage of the starting population.

Changes in special populations (prisoners, armed forces, school boarders) are relatively small and are not shown in the table.

The remainder of this section considers the main components of change as possible sources of error.

Births

The estimation of fertility is a complex part of the PEEG methodology. However, the fundamental assumption is that the pattern of differences in age-specific fertility rates between ethnic groups is unchanged since the 2001 Census.

One check of the accuracy of this assumption is provided by the statistics on births by ethnic group published by ONS. These statistics are based on linking the NHS Births Notifications with Birth Registrations (more information on this is available [here](#)).

These statistics on births by ethnic group were not available when the PEEG methodology was developed. The use of analogous Hospital Episode Statistics to model fertility within the PEEGs was considered and rejected as coverage was poor in some areas, and the statistics did not use the standard 16-way ethnic classification.

The new statistics on births by ethnic group can be expected to be reasonably reliable. They are derived from administrative sources which should cover all births occurring in England and Wales, though there will a small mismatch between these births and births occurring to usual residents (which are the target concept in the PEEGs); and ethnic group is as defined by the mother and collected using a collapsed version of the 2001 Census ethnic group classification. However, a substantial number of records (nearly 10% from 2005—2008) do not include a stated ethnicity.

Figures for England and Wales are shown in Table 5. The Table shows that the PEEG modelled estimate of the proportion of births which were of White British babies was substantially higher than the corresponding proportion in the administrative data; with the PEEGs showing lower proportions for the other ethnic groups - most notably White Other. Regional data for broad ethnic groups shown in Table 6 (note that figures in Table 6 will differ from those in Table 5 as they relate to different time periods) indicate that the PEEGs show higher

estimates for births of White children in every region other than East Midlands and the South West, with London, not surprisingly, being most affected².

Though there are weaknesses in the administrative births data when used for the purposes of the PEEGs it is reasonable to expect them to be markedly more reliable than the PEEG methodology which is ultimately based on the 2001 Census. It is reasonable to conclude, provisionally at least, that the differences shown in Tables 5 and 6 suggest that the PEEGs have tended to overestimate the number of White British births.

The differences shown in Tables 5 and 6 are consistent with the comparison of the PEEGs with the School Census data shown above, with a seeming overestimate of the number of births of White British children feeding through over time to a corresponding overestimate of the number of White British children in school.

Deaths
Ethnic group is not collected in the death registration process and there is no administrative, or reliable alternative, source that can be used to assess the reliability of the PEEG estimates of deaths by ethnic group. The assumption underlying the PEEG estimates of deaths – that each ethnic group experiences the age and sex-specific mortality rates of the local authority in which they live is thought to have a very small possible impact on the reliability of the PEEGs compared to assumptions underlying the estimates of births and migration.

Migration within England and Wales
Though having only a small effect on estimates for England and Wales as a whole, this element of migration is both the most important and the most difficult to estimate component of population change by ethnic group for local authorities.

It is the most important due to the size of the component. As Table A indicates, the 'average LAD' experiences about 4.7% of its population moving to another LAD within the year (with the same number moving in from elsewhere in England and Wales). The impact of internal migration for the PEEGs is even higher than those figures suggest for two reasons. Firstly, rates of migration are generally higher for young adults (say, aged 18-25) than for other ages. This age group makes up a notably large proportion of several ethnic groups, meaning that these populations are particularly affected by the internal migration assumptions. Secondly, rates of out-migration are higher for ethnically diverse urban areas, and, particularly, for LADs in London.

It is the most difficult to estimate as, whilst the overall internal migration estimates are considered reliable and are based on several administrative data sources, these sources do not contain any information on ethnic group, and the PEEG methodology relies again on data from the 2001 Census to provide this disaggregation.

The PEEG methodology is based on using the 2001 Census data for England and Wales to estimate the relative propensity of a person of a particular sex, age and ethnic group migrating to another LAD. These relative propensities are applied to the estimated population (of that sex, age and ethnic group) of an area, with the totals for all ethnic groups constrained to the estimate of internal migration used in the mid-year population estimates (a more detailed explanation of the methodology is provided in the Methodology document).

Other than the acknowledged problems of relying on 2001 Census data to estimate differences in propensity to migrate, the main weakness of the PEEG methodology is that there is very limited scope for taking into account the specific migration patterns of ethnic groups within individual local authorities. Particular aspects of this are:

- *Local differentials may be different from national differentials*
For example, if Black: Caribbean people (of a particular age/sex) across England and Wales are 20% more likely to move to a different LAD than the average for all ethnic groups; it is not necessarily the case that the same differential applies to Black: Caribbean people (of that age/sex) in Hackney, say.
- *Students and similar populations*
Some areas are characterised by transient populations such as students. Typically, members of such populations spend only one or a few years in an area before moving out - an inflow at one point of time being mirrored by a corresponding outflow of the same people a small time later. This balance of inflow and outflow should leave the ethnic composition of an area unchanged. Since the PEEG methodology does not track such sub-populations, however, the ethnic composition of the outflow is calculated using

² Since 'Not Stateds' tend to be concentrated in certain local authorities it is possible that these may distort the true distribution of births by ethnic group. An approximate adjustment, applying the PEEG distribution of births to the Not Stateds within each Local Authority suggests that this effect explains only a small part of the differences. Tables 5 and 6 show unadjusted data.

the population of the areas as a whole. Precisely the same issue applies to people who move into an area and then out within the same year³.

- *Differences in origin-destination patterns*

Even if two ethnic groups in a particular LAD have similar propensities to migrate it is quite reasonable to imagine that they will tend to migrate to different places (an obvious reason for this would be where ethnic group is highly correlated to socio-economic status). The PEEG methodology takes some account of such preferences using 'ethnic factors'. These, however, are designed to reflect the attractiveness of certain LADs to certain ethnic groups due to an existing concentration of such groups (for example, Bradford for the Asian: Pakistani group) and do not model, for example, a greater tendency for Asian: Bangladeshi people living in London to move within London rather than out of that region.

We do not have the evidence on which we could base an estimate of the impact of the above points. It seems reasonable, however to conclude that, though uncertainties over internal migration will have only a small impact on the national estimates of the size of each ethnic group, the effect of these points is likely to be that the PEEGs tend to overstate, to some unknown extent, the amount of 'spread' of ethnic minority groups from the areas of concentration identified in the 2001 Census.

International Migration

Estimating the ethnic group composition of international migration is likely to be the largest factor in determining the reliability of the PEEGs at the national level. As the PEEG Methodology document explains, this composition is derived, primarily, by combining International Passenger Survey data on country of birth with a 2001 Census mapping of country of birth to ethnic group; and then allocating the estimated national totals by ethnic group to local authorities using area factors again derived from the 2001 Census. This section considers three elements contributing to uncertainty in the PEEGs.

Sampling Error

The International Passenger Survey estimates by country of birth is, as with any sample survey estimate, subject to sampling error and this variability feeds through to PEEG estimates of international in and out migration. Table 7 in the Appendix provides 95% confidence intervals for the PEEG estimates based solely on sampling error from this source.

Mapping of Country of Birth to Ethnic Group

The mapping of country of birth (collected in the IPS) to ethnic group is based on data from the 2001 Census where this mapping is calculated for all usual residents in England and Wales at Census day. This mapping is applied to both immigrants and emigrant outflows. Whilst we are unable to check whether this mapping is indeed correct, we might consider that an alternative mapping for in-migrant flows, again from the 2001 Census but based on usual residents who had migrated from outside the UK in the previous 12 months, would be at least as credible as that used in the estimates. Table 7 provides estimates based on this alternative approach. These do not identify any inaccuracy or error in the published PEEGs, but simply show how the estimates would have differed had a different, but reasonable, assumption been made within the methodology.

Allocating International Migrants to Local Authority Districts

There are two stages in the allocation of international migrants to local authority districts.

The first is the estimation of the total international migration into an area. This is carried out as part of the production of the mid-year population estimates. ONS has introduced several improvements to this methodology in recent years as part of the Migration Statistics Improvement Programme (MSIP). In November 2011, 'indicative' estimates of international migration to each LAD in England and Wales were published using a further improvement to the methods, using a range of administrative data sources. As these indicative estimates are not reflected in the official population estimates series, and were not available at the time of production of Release 8 of the PEEGs, they are not reflected in the PEEGs. Incorporating this revised methodology in the calculation of the PEEGs would have the effect of increasing the proportion of international migration which is allocated to London and thus, in practice, increase the estimated proportion of the London population which is of an ethnic group other than White British. Similar, or opposite, effects would be produced for areas which would see their estimated international migration increased or decreased as a result of the revised methods.

The second is the estimation of the propensities of different ethnic groups to migrate into different areas. The factors used for this are calculated from the proportion of international migration going to that LAD in the 2001 Census. In contrast to national level mappings used elsewhere in the PEEG methodology, these LAD-level factors are inevitably based on relatively small numbers and – even disregarding the likelihood of genuine

³ The inclusion of such people in the Internal Migration Estimates causes no problems in the Mid-Year Population Estimates as the net flow is unchanged. However, this is not the case for the PEEGs, where net flows are calculated at the level of individual ethnic groups.

changes in underlying patterns of migration natural fluctuations in the proportions of each group going to each LAD each year will not be reflected by the methodology which will apply the proportions reflected in 2001 — with any unusual fluctuations in 2001 thus being repeated in each year of the estimates. This is likely to have a noticeable effect on the reliability of estimates of small groups in some areas.

In addition, a processing error in applying the factors was made in Release 8 of the estimates. At the England and Wales level, the effect of this is small compared to the effects described above and as illustrated in Table 7. At the Wales and regional level, correcting the error makes a discernible change in the estimated ethnic composition of some areas - most notably reducing the White British proportion of the London population by 1.1 percentage points (with corresponding increases in the White Other and Asian Indian groups), and increasing the White British proportion of the Wales population by 0.4 percentage points (offset by a fall in the proportion of the population belonging to the White Other group). The effects on some LAD distributions is more pronounced. At all geographical levels, the effect of the error is small compared to the level of uncertainty in the estimates due to assumptions on internal migration and other aspects of the international migration methodology. Following the principles of the [Population Statistics Revisions Policy](#) as this error is not thought to be large enough to affect good decision-making, the published PEEGs will not be revised to account for this. A Note on Reliability is now provided in all published results files for the PEEGs.

Conclusion

The reliability of the PEEGs cannot be fully assessed until the results of the 2011 Census are available. At present the PEEGs are experimental statistics and should not be confidently relied on in making major policy decisions.

The estimates are likely to provide a reasonable broad estimate of the ethnic group composition of the population of England and Wales. However, comparison with administrative data sources suggest that the PEEGs overestimate the proportion of births which are of White British babies, and that this has fed through into a corresponding overestimate of children aged up to 8 by the time of the latest set of PEEGs. Particular caution should be taken if using the PEEGs for such age groups, and figures from the School Census preferred if available.

The reliability of the estimates will be less for smaller geographical areas, as uncertainty in estimating internal migration, and in assigning international migrants of a particular ethnic group to an area, is added to uncertainty over the other components of population change. However, substantial changes in the size of groups since 2001 means it is reasonable to use the latest PEEGs rather than the 2001 Census results when needing indicative estimates of the ethnic composition of areas within England and Wales.

One particular aspect of the reliability of the estimates for subnational areas is that it is reasonable to believe that the PEEGs are likely to overstate the spreading out of ethnic groups from local concentrations identified in the 2001 Census. Estimates for areas with high rates of international and internal migration will be particularly sensitive to errors in the assumptions underlying the PEEG methodology and should be treated with particular caution.

A detailed assessment of the PEEGs against the results of the 2011 Census will be carried out when those results are available. A report of this assessment will be published on the ONS website.

As with other population estimates, any revisions to the PEEGs would be made in accordance with the Population Statistics Revisions Policy available [here](#).

Comparability and Coherence

Comparability is the degree to which data can be compared over time and domain e.g. geographic level. Coherence is the degree to which data that are derived from different sources or methods, but refer to the same topic, are similar.

Comparability

The estimates are provided on a fully consistent basis for mid-years 2001 to 2009. Geographical definitions, ethnic group classification and table layouts are unchanged over this period with the exceptions that full results are not published for Primary Care Organisations (PCOs) for 2001 (to maintain consistency with the mid-year population estimates) and new Unitary Authorities coming in to existence in April 2009 are not reflected in tables for 2001. There are no fundamental changes in the methodology through which the input data underlying the estimates have been derived which affect comparison of the estimates over time or area. (Revisions to the methodology for the international migration component have been applied to previous years to ensure that the latest estimates and the previous time series are on the same basis.)

Estimates are available for local authority and health administration areas in England and Wales, but corresponding estimates are not produced for areas elsewhere in the UK. The classification of ethnic group was

the National Statistics standard classification until the 2011 Census but is not an international standard and corresponding results are not available for other countries.

Coherence

Coherence between the PEEGs and other sources is discussed under *Comparisons with Other Sources* above.

In addition to the comparison above, it should be noted that the PEEGs are constrained to the Mid-Year Population Estimates for each year (this is the data source with which users are most likely to want to compare or apply the PEEGs). This means that total populations, births deaths, and the various streams of migration, all split by sex and single year of age, are fully coherent.

Since all input data (where appropriate) have had disclosure control processes applied, no such process is required for the final estimates.

Concepts and Definitions

Concepts and definitions describe the legislation governing the output and a description of the classifications used in the output.

Unlike many other demographic phenomena there is no internationally accepted classification of ethnic group for the purposes of population statistics. The Population Estimates by Ethnic Group are based on the classification used in the 2001 Census in England and Wales which was, until 2011, the National Statistics classification.

Other Information

Output Quality Trade-Offs

Trade-offs are the extent to which different dimensions of quality are balanced against each other.

The Population Estimates by Ethnic Group require a large number of input data sets which are available at different times. The production timetable for the Estimates is determined by the availability of the detailed IPS estimates on country of birth of migrant, which is a very important determinant of growth rates of different groups. Earlier publication would only be possible if substantial compromises were made on the quality of the estimates of ethnic group of international migrants.

As there is a clear and repeatedly expressed user interest in the most detailed estimates possible, the Estimates are published as estimates to the nearest hundred by the full 16-way ethnic group classification and with further detail by age and sex. Inevitably, accuracy is increasingly open to doubt as the level of disaggregation increases.

Assessment of User Needs and Perceptions

The processes for finding out about users and uses and their views on the statistical products.

In the winter of 2010, ONS ran a consultation on all of its outputs. The full report can be viewed on the [ONS website](#).

The Population and Demography Division (PDD) in ONS ensures continued engagement with various professional and representative bodies including the [Central and Local Information Partnership \(CLIP\) Population Subgroup](#); [The British Society for Population Studies \(BSPS\)](#); [the Statistics User Forum](#); [The Economic and Social Research Council \(ESRC\)](#); [the Centre for Population Change](#) and [the Migration Observatory](#). These groups cover a wide range of users from national and local government to academia and commercial organisations.

These groups, and other sources of information, inform the [PDD Population Estimates and Projections and Migration Statistics User Requirements](#) report.

Sources for Further Information or Advice

Accessibility and Clarity

Accessibility is the ease with which users are able to access the data, also reflecting the format in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the release details, illustrations and accompanying advice.

The PEEGs are published on the ONS website as a Statistical Bulletin in pdf format with the tables being provided as Excel files. These files also contain a 'Datasheet' designed to make re-use and further analysis of the estimates easier.

For information regarding conditions of access to data, please refer to the links below:

- Terms and conditions (for data on the website): <http://www.ons.gov.uk/ons/site-information/information/terms-and-conditions/index.html>
- Copyright and reuse of published data: <http://www.ons.gov.uk/ons/site-information/information/creative-commons-license/index.html>
- Pre-release access (including conditions of access): <http://www.ons.gov.uk/ons/guide-method/the-national-statistics-standard/code-of-practice/compliance/index.html>
- Access to unpublished data: <http://www.ons.gov.uk/ons/about-ons/who-we-are/services/unpublished-data/index.html>
- Accessibility: <http://www.ons.gov.uk/ons/site-information/information/accessibility/index.html>

In addition to this Quality and Methodology Information, Basic Quality Information relevant to each release is available in the background notes of the Statistical Bulletin published [here](#).

Useful Links

The latest release of the PEEGs is accessible at <http://www.ons.gov.uk/ons/rel/peeg/population-estimates-by-ethnic-group--experimental-/current-estimates/index.html>

APPENDIX: Tables

ID	Title
Table 1	Population by Ethnic Group: England and Wales, 2009
Table 2	Population by Ethnic Group: England, Wales and Regions, 2009
Table 3	Children aged 5-15 by Ethnic Group: England, 2009
Table 4	Children aged 5-15 by Ethnic Group: England and Regions, 2009
Table 5	Births by Ethnic Group of Child: England and Wales 2007/08
Table 6	Births by Ethnic Group of Child: England, Wales and Regions, 2005-2008
Table 7	Population by Ethnic Group: Sources of Uncertainty from international Migration: England and Wales, 2009

Table 1: Population by Ethnic Group: England and Wales, 2009*Percentage of total population*

	Annual Population	
	PEEG	Survey
White British	83.3%	82.7%
Other White	4.6%	5.2%
White and Black Caribbean	0.6%	0.5%
White and Black African	0.2%	0.2%
White and Asian	0.6%	0.3%
Other Mixed	0.4%	0.3%
Indian	2.6%	2.4%
Pakistani	1.8%	1.8%
Bangladeshi	0.7%	0.8%
Other Asian	0.7%	0.9%
Black Caribbean	1.1%	1.1%
Black African	1.5%	1.6%
Other Black	0.2%	0.1%
Chinese	0.8%	0.4%
Other	0.8%	1.6%

Notes:

White Irish has been combined with White Other in the PEEG estimates.

Table 2: Population by Ethnic Group: England, Wales and Regions, 2009

Percentage of total population

PEEGs	White British	Other White	Asian	Black	All other groups
England and Wales	83.3%	4.6%	5.9%	2.8%	3.4%
England	82.8%	4.7%	6.1%	2.9%	3.5%
North East	92.4%	2.2%	2.7%	0.8%	1.9%
North West	88.4%	3.2%	4.7%	1.2%	2.5%
Yorkshire & Humberside	86.8%	2.8%	6.2%	1.4%	2.7%
East Midlands	87.0%	3.1%	5.4%	1.6%	2.9%
West Midlands	82.4%	3.2%	8.5%	2.7%	3.2%
Eastern	85.2%	4.9%	4.4%	2.1%	3.5%
London	59.5%	10.2%	13.2%	10.1%	7.0%
South East	85.7%	5.0%	4.2%	1.9%	3.2%
South West	90.5%	3.5%	2.3%	1.2%	2.5%
Wales	93.0%	2.9%	1.8%	0.6%	1.7%

Annual Population Survey (APS)	White British	Other White	Asian	Black	All other groups
England and Wales	82.7%	5.2%	5.9%	2.9%	3.3%
England	82.1%	5.3%	6.1%	3.0%	3.4%
North East	94.4%	1.4%	2.2%	0.4%	1.6%
North West	88.9%	2.4%	5.1%	1.2%	2.4%
Yorkshire & Humberside	87.9%	2.8%	5.7%	1.5%	2.1%
East Midlands	86.8%	3.9%	5.1%	1.8%	2.4%
West Midlands	82.0%	2.4%	9.6%	3.0%	2.9%
Eastern	85.9%	6.3%	3.5%	1.5%	2.7%
London	51.2%	12.6%	15.0%	11.9%	9.3%
South East	86.1%	6.5%	3.6%	1.4%	2.5%
South West	92.6%	4.1%	1.0%	0.8%	1.6%
Wales	93.5%	2.9%	1.5%	0.4%	1.7%

Difference in percentage point share (PEEGs-APS)	British	Other White	Asian	Black	All other groups
England and Wales	0.6%	-0.6%	0.0%	-0.1%	0.1%
England	0.7%	-0.7%	0.0%	-0.1%	0.1%
North East	-2.0%	0.8%	0.5%	0.4%	0.3%
North West	-0.5%	0.8%	-0.4%	0.0%	0.1%
Yorkshire & Humberside	-1.1%	0.1%	0.5%	-0.1%	0.6%
East Midlands	0.1%	-0.8%	0.2%	-0.2%	0.6%
West Midlands	0.4%	0.9%	-1.2%	-0.3%	0.3%
Eastern	-0.7%	-1.5%	0.9%	0.6%	0.7%
London	8.3%	-2.4%	-1.8%	-1.8%	-2.3%
South East	-0.4%	-1.5%	0.7%	0.5%	0.7%
South West	-2.0%	-0.5%	1.2%	0.4%	0.9%
Wales	-0.5%	0.0%	0.2%	0.2%	0.0%

Notes:

White Irish has been combined with White Other in the PEEG estimates.

Table 3: Children aged 5-15 by Ethnic Group: England, 2009*Percentage of all children aged 5-15*

	PEEGs	School Census
White British	81.6%	76.9%
Other White	2.7%	4.3%
White and Black Caribbean	1.5%	1.3%
White and Black African	0.5%	0.4%
White and Asian	1.1%	0.8%
Other Mixed	0.8%	1.4%
Indian	2.5%	2.4%
Pakistani	2.9%	3.5%
Bangladeshi	1.2%	1.4%
Other Asian	0.7%	1.2%
Black Caribbean	1.1%	1.4%
Black African	1.9%	2.8%
Other Black	0.4%	0.5%
Chinese	0.5%	0.3%
Other	0.6%	1.3%

Table 4: Children aged 5-15 by Ethnic Group: England and Regions, 2009

Percentage of all children aged 5-15 in area

PEEGs	White British	Other White	Asian	Black	All other groups
England	81.6%	2.7%	7.2%	3.4%	5.0%
North East	92.7%	1.3%	3.0%	0.7%	2.4%
North West	87.3%	1.5%	6.5%	1.1%	3.6%
Yorkshire & Humberside	84.9%	1.5%	8.7%	1.2%	3.7%
East Midlands	86.5%	1.7%	6.0%	1.4%	4.3%
West Midlands	79.0%	1.5%	11.7%	2.5%	5.3%
Eastern	85.4%	3.0%	4.6%	2.3%	4.7%
London	54.2%	6.7%	14.8%	14.1%	10.1%
South East	86.2%	3.1%	4.2%	1.9%	4.5%
South West	91.5%	2.0%	2.0%	1.1%	3.4%

School Census	White British	Other White	Asian	Black	All other groups
England	76.9%	4.3%	8.6%	4.7%	5.5%
North East	93.2%	1.3%	3.1%	0.5%	1.9%
North West	84.6%	2.2%	7.9%	1.7%	3.6%
Yorkshire & Humberside	81.5%	2.8%	10.3%	1.6%	3.8%
East Midlands	83.7%	3.0%	6.9%	2.1%	4.2%
West Midlands	74.3%	2.4%	13.9%	3.9%	5.5%
Eastern	83.1%	5.1%	4.8%	2.3%	4.7%
London	35.4%	10.6%	18.5%	21.4%	14.1%
South East	83.9%	4.5%	5.1%	1.8%	4.7%
South West	90.9%	3.4%	1.6%	1.0%	3.1%

Difference in percentage point share (PEEGs-School Census)

	White British	Other White	Asian	Black	All other groups
England	4.8%	-1.6%	-1.4%	-1.3%	-0.5%
North East	-0.6%	0.0%	-0.1%	0.2%	0.4%
North West	2.8%	-0.7%	-1.4%	-0.6%	-0.1%
Yorkshire & Humberside	3.5%	-1.3%	-1.6%	-0.4%	0.0%
East Midlands	2.8%	-1.3%	-0.9%	-0.7%	0.1%
West Midlands	4.8%	-0.9%	-2.2%	-1.4%	-0.2%
Eastern	2.3%	-2.1%	-0.2%	0.0%	0.1%
London	18.8%	-3.9%	-3.7%	-7.3%	-4.0%
South East	2.4%	-1.4%	-0.9%	0.1%	-0.2%
South West	0.6%	-1.4%	0.4%	0.1%	0.3%

Table 5: Births by Ethnic Group of Child: England and Wales 2007/08*Percentage of all births with ethnicity stated*

	Births by ethnic	
	group statistics	PEEGs
White: British	69.9%	79.3%
White Other (incl. Irish)	7.3%	2.5%
Bangladeshi	1.5%	1.2%
Indian	2.9%	2.6%
Pakistani	4.2%	3.2%
African	3.6%	2.0%
Caribbean	1.2%	0.9%
Others	9.5%	8.2%

Table 6: Births by Ethnic Group of Child: England, Wales and Regions, 2005-2008

*Percentage of all births in area
with ethnicity stated*

PEEGs	White	Asian or Asian British	Black or Black British	All other groups
England and Wales	82.4%	7.7%	3.4%	6.5%
England	81.8%	8.0%	3.6%	6.6%
North East	92.5%	3.4%	0.7%	3.5%
North West	87.0%	7.0%	1.2%	4.8%
Yorkshire & Humberside	84.2%	9.6%	1.3%	5.0%
East Midlands	86.0%	6.6%	1.5%	5.9%
West Midlands	78.4%	12.2%	2.6%	6.8%
Eastern	86.0%	5.7%	2.0%	6.3%
London	63.7%	13.2%	11.8%	11.4%
South East	87.0%	5.2%	1.8%	5.9%
South West	91.0%	3.0%	1.2%	4.8%
Wales	94.0%	2.0%	0.6%	3.4%

Births by ethnic group statistics	White	Asian	Black	Other
England and Wales	77.5%	9.9%	5.7%	6.9%
England	76.7%	10.3%	5.9%	7.1%
North East	89.8%	3.6%	0.9%	5.7%
North West	83.1%	9.9%	2.5%	4.5%
Yorkshire & Humberside	79.9%	12.6%	2.2%	5.3%
East Midlands	86.8%	5.0%	3.1%	5.0%
West Midlands	70.5%	17.0%	4.9%	7.6%
Eastern	84.4%	6.7%	3.1%	5.8%
London	49.8%	17.6%	19.4%	13.2%
South East	85.5%	6.2%	2.4%	5.9%
South West	92.3%	2.1%	1.5%	4.1%
Wales	92.1%	3.0%	0.9%	4.0%

Difference in percentage point share (PEEGs-Births by ethnic group statistics)

	White	Asian	Black	Other
England and Wales	4.8%	-2.2%	-2.3%	-0.4%
England	5.1%	-2.3%	-2.4%	-0.4%
North East	2.7%	-0.3%	-0.2%	-2.3%
North West	3.9%	-2.9%	-1.3%	0.2%
Yorkshire & Humberside	4.2%	-3.0%	-0.9%	-0.3%
East Midlands	-0.9%	1.6%	-1.6%	0.9%
West Midlands	7.8%	-4.8%	-2.2%	-0.8%
Eastern	1.6%	-1.1%	-1.0%	0.5%
London	13.8%	-4.3%	-7.6%	-1.8%
South East	1.5%	-1.0%	-0.6%	0.0%
South West	-1.3%	0.9%	-0.3%	0.7%
Wales	1.9%	-1.0%	-0.3%	-0.6%

Table 7: Population by Ethnic Group: Sources of Uncertainty from International Migration: England and Wales, 2009

Thousands, and percentages of group total

	Population estimate (000)	Sampling Error: 95% CI is+/-	Effect of alternative COB mapping: Alternative-Release 8.0	Effect of error (corrected-Release 8.0)
White: British	45,682	0.2%	-1.0%	0.0%
White: Irish	574	1.3%	6.7%	0.0%
Other White	1,933	3.8%	20.5%	-0.3%
White and Black Caribbean	311	2.1%	-0.2%	0.0%
White and Black African	132	6.1%	1.8%	0.1%
White and Asian	302	3.8%	-1.8%	-0.1%
Other Mixed	243	4.7%	-0.1%	-0.2%
Indian	1,434	1.9%	0.9%	0.6%
Pakistani	1,007	2.1%	-0.6%	0.0%
Bangladeshi	392	1.9%	-0.5%	-0.2%
Other Asian	386	3.8%	0.8%	0.0%
Black Caribbean	615	1.9%	-3.1%	0.1%
Black African	799	2.7%	5.7%	0.1%
Other Black	126	4.9%	-2.8%	0.1%
Chinese	452	6.1%	-0.6%	-1.0%
Other	423	5.3%	-0.3%	0.2%

Notes:

1. Effects are shown as percentages of group total. For example, the estimate for White British in England and Wales would be 1.0% lower than the published figure if the alternative Country of Birth (COB) mapping was used.
2. Sampling error figure relates purely to sampling error resulting from use of IPS estimates by country of birth.
3. Alternative COB mapping is applied to in-migrant flows only. These figures are indicative only, as they are calculated by deriving the difference between in-migration estimates using existing factors and the alternative factors and do not take account of subsequent births, deaths or migration.
4. 'Release 8.0' refers to the current published Population Estimates by Ethnic Group.