
September 2012

This document describes the methods used to produce the national, regional and local authority population estimates for mid-2011 for England and Wales. These estimates are based on 2011 Census population estimates, updated to account for population change in the period between Census day (27 March) and the mid-year point (30 June).

The methods for estimating population change in the 95 day period between Census day and mid-year are adapted from the standard methods used to estimate population change in non-census years. For each component of population change, this document describes both the standard method and the new method developed specifically for the mid-2011 estimates.

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1. Introduction

The Mid-Year Population Estimates (MYEs) are published annually for the UK, its constituent countries, the regions of England and Wales, and for local authorities. They refer to the 30 June each year and show how many people live in the UK together with information on the age-sex structure of the population. Estimates for Northern Ireland are produced by the Northern Ireland Statistics and Research Agency (NISRA) and those for Scotland are produced by National Records of Scotland (NRS). The Office for National Statistics (ONS) produces population estimates for England and Wales and collates estimates for the UK as a whole.

The most authoritative population estimates come from census counts of all people and households which take place every 10 years in England and Wales. The most recent census was held on Sunday 27 March 2011. The census is the most complete source of information about the population that we have, and is used as a base for most population estimates.

Mid-2011 population estimates for England and Wales, rebased using 2011 Census data, were published in September 2012. UK level population estimates for mid-2011 are due to be published in spring 2013.

The census ‘population base’ is updated annually (using various data sources) to produce the population estimates between census years. The population estimates made between census years are revised following a subsequent census in order to provide a consistent series of population estimates over time. This avoids a step change in the estimates when they are rebased using new census counts.

This document describes the methods used to calculate the estimate of the resident population in mid-2011, for England and Wales, down to local authority level. The methods are similar to those used in non-census years but have been adapted to account for population change in the 95 day period between Census day and mid-year. They reflect the extent of population change that has occurred during the shorter period for each component of the population and the data sources that are available.

This document does not cover methods used for calculating the census estimates and does not cover the methods used for calculating estimates for areas smaller than local authority level. Although also based on census counts, small area population estimates are derived using different methods which reflect the availability of reliable data sources for making population estimates at more detailed geographical levels.

2. Definitions

The MYEs refer to the usually resident population of an area on 30 June of each year. The usually resident population is defined by the standard United Nations definition for population estimates, and includes people who reside in the area for a period of at least 12 months whatever their nationality.

Long-term international migrants (people who move into or out of the country for at least 12 months) are accounted for in the estimates but visitors and short-term migrants (who enter or leave the country for less than 12 months) are not accounted for. Students are taken to be resident at their term-time address. Members of Her Majesty's armed forces stationed in England and Wales are included in the estimates.
at their place of usual residence. This is in line with European regulations for population data which states that members of the armed forces who live at military barracks or camps should be estimated at the residence where they spend most of the daily period of rest. This is different to the 2011 Census which recorded armed forces at their ‘permanent or family home’ in order to ensure that the members of the armed forces were enumerated consistently. Her Majesty’s armed forces stationed outside England and Wales are excluded from the estimates, however, members of the US armed forces stationed in England and Wales are included.

From mid-2011 onwards, prisoners are regarded as usually resident at an institution if they are serving a custodial sentence of six months or more. Previously, prisoners were considered usually resident if they were serving a custodial sentence and had already been in prison for six months or more. The definition was changed in order to be more consistent with the 2011 Census definition of usual residence for prisoners.

The resident population is not always the same as the number of people actually present in an area at a particular time of day or year. The daytime population of cities and the summer populations of holiday resorts for example will normally be larger than their usual resident population.

3. Methods

3.1 Summary of the cohort component method

National and local authority population estimates are produced using a well established demographic approach called the cohort component method. This is a standard demographic method and is used by many other countries that do not have a population register. The cohort component method uses information on components of population change to update a population base (in this case the decennial census estimates). It involves combining information from a number of data sources, using the previous census population count as the population base, and survey data and administrative registers to measure the components of population change for the years following the census.

In its simplest form, the cohort component method calculation can be expressed in equation form as:

\[ P_t = P_{t-1} + B_{t-1,t} - D_{t-1,t} + M_{t-1,t} \]

where

- \( P_t \) = population at time \( t \);
- \( P_{t-1} \) = population at time \( t-1 \);
- \( B_{t-1,t} \) = births, in the interval from time \( t-1 \) to time \( t \);
- \( D_{t-1,t} \) = deaths, in the interval from time \( t-1 \) to time \( t \); and
- \( M_{t-1,t} \) = net migration, in the interval from time \( t-1 \) to time \( t \)

In a census year, the starting point for the mid-year population estimate is the resident population on Census day. The age of the population (in completed years) is adjusted to reflect age at the mid-year point (for example, a person aged 15 years and 11 months on Census day in 2011 would be 16 years old by the mid-year point whereas a person aged 15 years and 4 months would still be 15). Those who have been born during the period between Census day and the mid-year reference point

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1 ‘Permanent or family home’ is regarded as the usual residence of armed forces under 2011 Census definitions but is not necessarily considered to be their usual residence under MYE definitions.
are added to the population aged 0, and those who have died during the same period are removed according to their age at the mid-year point.

Net migration includes the movement of people between England and Wales and countries outside of the UK (international migration) and movements between local authorities within England and Wales (internal migration). Movements of people between the UK constituent countries are also accounted for in the internal migration component. For subnational estimates the components of population change are required by the relevant subnational geography.

Once the data for all the components have been processed and are ready for final compilation, the national population estimate is calculated. The subnational estimates are then compiled and constrained to the national estimate so that the local authority totals sum to the national total.

3.2 Adjustment for special population subgroups

For the years between censuses, adjustments are made for changes to special population subgroups, including prisoners and the armed forces and their dependants. These groups are estimated separately from the rest of the population since they are not fully covered by the data sources used for migration estimates. The movement of armed forces personnel is not captured by the data sources used to estimate both international and internal migration, and the movement of prisoners is not captured by the data sources used to estimate internal migration. The age structure of these population subgroups tends to remain constant over time and this static structure must be maintained within the population estimates.

Prior to mid-2011, school boarders were also treated as a special population as it was believed their movements were not captured in the data sources used to estimate internal migration. However, further research has shown that school boarder moves are measured in the internal migration estimates and therefore this component will no longer be included in the mid-year estimates. Revised estimates for mid-2002 to mid-2010 will also have the school boarders component removed from the population estimates.

For 2011, investigations have determined that there was only minimal change in the population of armed forces and prisoners between Census day and the mid-year point. Therefore no adjustment is required to account for any change in these special population subgroups. However, an adjustment was made to account for definitional differences in the usual residence of armed forces between the Census and the mid-year population estimates. This adjustment redistributed armed forces personnel who were recorded in Census estimates at their family home to their location of usual residence (the local authority in which their base is located) where the two locations were different.
3.3 Diagrams illustrating cohort component method including adjustments for special population subgroups

Figure 1 – National level

1. Census day national resident population
2. Age-on population by 95 days to get age at mid-year point
3. Add births and subtract deaths occurring between Census day and mid-year point
4. Add international in-migrants arriving between Census day and mid-year point and subtract international out-migrants for the same period
5. Estimated national resident population for mid-2011
**Figure 2 – Subnational level**

1. Census day subnational resident population (with armed forces at place of usual residence)
2. Age-on population by 95 days to get age at mid-year point (include armed forces special population group at their place of usual residence)
3. Add births and subtract deaths occurring between Census day and mid-year point
4. Add international in-migrants arriving between Census day and mid-year point and subtract international out-migrants for the same period
5. Add internal in-migrants from other areas of England and Wales and cross-border in-flows from other UK constituent countries arriving between Census day and mid-year point
6. Subtract internal out-migrants and cross-border out-flows for the same period
7. Estimated subnational resident population for mid-2011
8. Constrain to mid-2011 national resident population estimate
9. Final estimated subnational resident population for mid-2011
4. Data sources and methods for estimating components of population change

The compulsory registration of births and deaths with the General Register Office ensures that administrative records for these life events are accurate. There is no similar administrative system for registering migration. International migration is estimated using survey data, but limitations of the data make it necessary to combine the survey estimates with other data sources to obtain estimates at subnational level. Internal migration is estimated using changes in administrative data as a proxy measure of movements of individuals between areas within the UK.

This section describes the data sources and methods used to derive the components of population change at national, regional and local authority level for mid-2011. For each component of change a description of the standard full year method is also given. This is because the methods for mid-2011 are heavily based on the standard methods applied in non-census years. A brief description is also given of the limitations of the sources and the secondary data sources used to overcome these.

4.1 Births

Standard full year method

Data on live births are collected by the civil registration system at the General Register Office. The number of live births between 1 July and 30 June each year are added to the population estimates at age zero. For the subnational estimates, births are allocated to the local authority where the mother is usually resident.

As well as births to resident mothers, the data include births to non-resident mothers who give birth within England and Wales (who do not fall within the definition of the usually resident population). Births to non-resident mothers are included as a proxy for the number of births to resident mothers of England and Wales who give birth abroad, who would otherwise be missed from the population estimates. These babies are allocated to local authorities based upon the distribution of resident women in England and Wales aged 15 to 44 (inclusive).

Birth registrations may legally take place up to 42 days after the birth, as such the data used for the population estimates refer to the date of birth rather than the date of registration.

Method for Census day to mid-year 2011

The method is identical to the standard method except that only births between 28 March and 30 June 2011 are included in the population estimates at age zero. Births occurring between 1 July 2010 and 27 March 2011 are reflected in the census base.

4.2 Deaths

Standard full year method

Data on the number of people who have died, by local authority of residence, are also collected by the General Register Office. The number of people who have died for the period from 1 July to 30 June each year are subtracted from the population by the age of the person at the mid-year reference point. For subnational estimates
those who have died are subtracted from the local authority where they were resident at the date of death.

The data refer to the date of death rather than the date the death was registered. Data received for the period from January to June of the year prior to the mid-year reference point are provisional as some very late registrations are not included by the time of processing. An adjustment is made to account for late registrations occurring in the previous year, based on the difference between the previous year's provisional and final data for the number of deaths. The number of late registrations is small and varies little over time, the method of applying an adjustment for late registrations avoids the need for an annual revision for this small change. Late registrations can occur as a result of a lengthy inquest.

**Method for Census day to mid-year 2011**

The method is identical to the standard method except that only deaths between 28 March and 30 June 2011 are accounted for in the population estimates.

**4.3 International migration**

International migration can be broken down into three main components:

- Immigration – the number of people entering England and Wales for a period of 12 months or more
- Emigration – the number of people leaving England and Wales for a period of 12 months or more
- Asylum Seekers

Estimates of international migration at national level for England and Wales are derived from the International Passenger Survey (IPS). Data on the number of people intending to enter (or leave) England and Wales for a period of 12 months or more (long-term international migrants) are obtained from the IPS. These estimates are supplemented with other sources to obtain more accurate estimates at subnational levels of geography. See Appendix 1 for more information on the use of the IPS.

**4.3.1 Immigration**

**Standard full year method**

At national level for England and Wales, an estimate for the number of international in-migrants arriving in each mid-year period is obtained from the IPS.

Prior to mid-2011, the method for calculating international in-migrants at local authority level has used a regression model based approach, introduced in May 2010 as part of the Migration Statistics Improvement Programme. This method is described in more detail in the population estimates Short Methods Guide.

For future years, an improved method for estimating in-migrants at local authority level will be introduced. This method splits the England and Wales immigration total from the IPS into different 'streams' based on reason for migration. A range of administrative sources are then used to directly distribute the national total down to local authority level. An overview paper of this new method provides further details.
Method for Census day to mid-year 2011

At national level for England and Wales, an estimate for the number of international in-migrants arriving between Census day and mid-year 2011 is obtained from the IPS. This is the estimate for the second quarter of 2011 (April to June) adjusted to include the short additional period from 28 to 31 March.

IPS data shows that immigration to England and Wales varies by season, particularly in relation to the reason for migration, for example between 2006 and 2009, 60 per cent of student migrants arrived in the third quarter of the year with only 9 per cent arriving between April and June. Therefore, the number of in-migrants to a particular local authority between Census day and the mid-year point will depend on the type of migrants attracted to that specific area of the country.

To account for these seasonal variations, estimates of international in-migration for local authorities in England and Wales for the Census day to mid-year period are derived from a combination of IPS data and information from administrative sources on migrants and their reason for migration. The resulting estimates are then constrained to the national level estimate for England and Wales.

To estimate immigration at local authority level, the method requires two key pieces of information:

- Estimates of the number of immigrants to each local authority by main reason for migration (work, study or other), mid-2010 to mid-2011
  
  The data obtained from local authority level immigration estimates developed as part of the Migration Statistics Improvement Programme are used to provide information on the number of migrants to each local authority by reason for migration. These estimates are based on a number of administrative sources including National Insurance Number allocations from the Department for Work and Pensions (DWP), data from the Higher Education Statistics Agency (HESA) and GP patient registrations data. These data are only available for annual mid-year periods.

- Estimates of the proportion of immigrants to England and Wales by main reason for migration (work, study or other) that arrived in Q2 (April-June 2011)

  The IPS provides quarterly data on the main reason for migration of in-migrants entering England and Wales. Quarter 2 (April-June 2011) most closely matches the period between Census day and mid-year 2011. These data are not available at local authority level.

An estimate for the number of immigrants to a specific local authority, X, is then calculated as follows:

\[
\text{Total Immigrants} = (\text{Number of ‘work’ migrants in X in year to mid-2011} \times \text{proportion of ‘work’ migrants who entered England and Wales in Q2})
\]
\[
+ (\text{Number of ‘study’ migrants in X in year to mid-2011} \times \text{proportion of ‘study’ migrants who entered England and Wales in Q2})
\]
\[
+ (\text{Number of ‘other’ migrants in X in year to mid-2011} \times \text{proportion of ‘other’ migrants who entered England and Wales in Q2})
\]

Estimates for all local authorities are then constrained to the national level estimate.
4.3.2 Emigration

Standard full year method

At national level for England and Wales, an estimate for the number of international out-migrants leaving during the year to mid-2011 is obtained from the IPS.

The sample counts of migrants in the IPS are too small to make reliable estimates directly at local authority level. Local authority emigration estimates are obtained by apportioning higher level estimates down to local authority level, using a model-based distribution. The distribution is based upon estimates from a regression model using weighted IPS estimates of migration and a range of predictor covariates.

The predictor variables include counts from administrative and survey sources and the census; variables used include immigration estimates for the previous year, full-time students, and population estimates by ethnic group. This modelling approach reduces the variability in the IPS estimates at local authority level by making use of their relationship with the predictor variables.

Method for Census day to mid-year 2011

At national level for England and Wales, an estimate for the number of international out-migrants leaving between Census day and mid-year 2011 is obtained from the IPS. This is the estimate for the second quarter of 2011 (April to June) adjusted to include the short additional period from 28 to 31 March.

Local authority emigration estimates for the period Census day to mid-year 2011 are derived by multiplying the estimate for the period mid-2010 to mid-2011 obtained from the regression model by the national proportion of emigration occurring between 28 March and 30 June 2011. Analysis of IPS data suggests that there is no significant seasonal variation in reason for emigration. Therefore no additional methods are required to account for seasonal variation in emigration at local authority level.

The local authority estimates are then constrained to the national level estimate for England and Wales.

4.3.3 Asylum seekers

Standard full year method

Counts of principal applicant asylum seekers and their dependants are included as a separate component in the total long-term international migration estimates, as the IPS does not represent all asylum seekers entering or leaving the UK. The Home Office collates data on the number of asylum seekers and their dependants including those who remain in the country for more than 12 months (and are therefore migrants by definition). Data are collated for different types of asylum seekers, including those who applied for asylum, those who were refused asylum, those who appealed against their asylum decision (for principal applicants only), those who were returned home, and those who withdrew their applications.

Applications for asylum provide the basis for estimated inflows of asylum seekers, adjustments are made to exclude those removed from the UK within one year and a small number of asylum seekers captured by the IPS. Data collated by the National Asylum Support Service (NASS) are used to determine the subnational distribution of
asylum seekers. Regional estimates of asylum seekers and their dependants are broken down to local authority level using information on the location of asylum seekers receiving financial support and/or accommodation.

**Method for Census day to mid-year 2011**

The estimate of the number of asylum seekers entering or leaving England and Wales in the period from Census day to mid-year 2011 is analogous to the standard full year method, but is based on the Home Office data for the second quarter of the year (April to June) only, plus a small proportion to account for the 4 days of March included in the period.

**4.4 Internal migration**

**Standard full year method**

There is no single system to record population movements between local authorities within England and Wales, or moves between the UK constituent countries. Internal migration estimates must therefore be derived using administrative data as proxy sources. Three administrative data sources are used: the National Health Service Central Register (NHSCR), GP Patient Register Data System (PRDS) and the Higher Education Statistics Agency (HESA) data on student registrations.

The NHSCR receives notification when a patient in England and Wales transfers to a new NHS doctor within a different former health authority boundary. There is a similar system in both Scotland and Northern Ireland. Counts of these re-registrations are used as proxy indicators for movements between areas within the UK. Estimates derived from the NHSCR are considered to give the most comprehensive coverage of the population and provide the most reliable indicator of internal migration within the UK. However, they are only based at the broad geographic level of the former health authorities.

The PRDS data source is used to estimate internal migration at smaller geographical levels. This system holds lists of all patients and their respective residential addresses registered with each NHS general practice. ONS receive an annual mid-year download from each former health authority which, when combined, forms a total patient register for England and Wales. By comparing registers from consecutive years, linked by NHS number, estimates of the number of people whose postcode differs between the two consecutive years can be made. An internal migrant is defined as a person who between one year and the next, changes their area of residence.

Some internal moves may not be captured in estimates derived from the PRDS as a patient must be present in each consecutive annual download. The PRDS counts are constrained to NHSCR former health authority level data to produce the final internal migration estimates. The NHSCR is considered to be more complete than the patient register and has the advantage that it is constantly updated. Combining the relative strengths of the two sources, ONS is able to produce products that detail estimates of internal migration at local authority level accounting for between-year moves.

HESA data are used to supplement patient registration data to improve internal migration estimates by improving the estimation of higher education students. Adjustments are made to better account for moves made when students begin their studies and moves made at the end of studies. The adjustments are based upon comparisons between moves identified in the HESA data and those identified in the
patient register data. As students/former students will eventually re-register with a GP at some point, a double counting adjustment is also made which prevents adjusted moves being double counted.

**Method for Census day to mid-year 2011**

Estimates of internal migration for the 95 day period between Census day and the mid-year point are calculated from annual estimates by:

- Calculating the proportion of internal migrants in the year to mid-2011 who moved between Census day and the mid-year point (by age at mid-year, sex and local authority) from the PRDS data
- Applying proportions to the annual estimate of internal migrants to obtain estimates for the 95 day period
- Moves between the constituent countries of the UK (cross border flows) are constrained to the total cross border flows for Q2 2011 scaled up to account for the 95 day period

It should be noted that the adjustment made to the annual internal migration estimates to account for student moves within the UK is not included in the estimates for Census day to mid-year. The student adjustment methodology can only be applied to annual estimates as important assumptions may not hold for shorter time periods.

**5. Data sources and methods used for estimating special population subgroups**

As discussed in section 3.2, it has been determined that there was not any significant difference in the population of armed forces and prisoners between Census day and the mid-year point. Therefore no adjustment is required to account for any change in the size or age distribution of these special population subgroups.

However, adjustments are required to account for definitional differences between the census and the mid-year estimates, relating to the usual residence of some members of the armed forces.

**5.1 Armed forces**

The MYEs include all armed forces usually resident in England and Wales, including both UK (home) armed forces and foreign (United States) armed forces stationed in England and Wales. There are currently only small numbers of armed forces from countries other than the US resident in England and Wales, except for armed forces on short term training who are excluded from population estimates.

At local authority level armed forces are included in the MYEs at their location of usual residence, which may be either their ‘permanent or family home’ or the armed forces base, depending on individual circumstances. However, in order to ensure that the members of the armed forces were enumerated consistently, the 2011 Census was designed so that members of the armed forces were enumerated at their ‘permanent or family home’\(^2\), even if they were living at the base for the majority of their time.

\(^2\) ‘Permanent or family home’ is regarded as the usual residence of armed forces under 2011 Census definitions but is not necessarily considered to be their usual residence under MYE definitions.
To account for this definitional difference, the 2011 Census data on which the MYEs are based has been specified to include home armed forces at place of usual residence - an armed forces base if applicable, rather than their permanent or family home, where these locations are different. This is in line with the European regulation for population data which states that members of the armed forces who live in a military barracks or camp should be estimated at the residence where they spend most of their daily period of rest. Therefore, the 2011 Census data underlying the MYEs will not exactly match the published 2011 Census data due to the definitional differences in the location of home armed forces.

6. Summary of primary data source/suppliers

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<th>Data Source and Supplier</th>
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<td>Births and deaths</td>
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<tr>
<td>International Migration</td>
<td></td>
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<tr>
<td>Immigration</td>
<td>International Passenger Survey (IPS), ONS; Migrant Worker Scan, DWP; Lifetime Labour Market Database, DWP; Student administrative and survey data, HESA; Flag 4 patient registration data, NHSIC</td>
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<tr>
<td>Emigration</td>
<td>International Passenger Survey (IPS), ONS; 2001 Census, ONS; Population Estimates by Ethnic Group, ONS; Annual Population Survey, ONS; International Migration estimates, ONS;</td>
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<td>Asylum Seekers</td>
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</tr>
<tr>
<td>Prisoners</td>
<td>Census, ONS; Prisoner counts, Ministry of Justice</td>
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</tbody>
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7. Validation and quality assurance

Extensive analysis is carried out to validate and quality assure the data and estimates at every stage of the process. When the Population Estimates Unit receives data for the various components, checks are carried out and comparisons made with previous years’ data to gauge consistency and completeness of coverage. The data are then processed electronically to produce the mid-year estimates. Quality assurance takes place at each stage to ensure the processing has been carried out correctly. The final estimates are analysed to ensure the new population figures are plausible. As well as comparisons across time this analysis includes the calculation of demographic rates and ratios to help check the plausibility of the estimates (for example: sex ratios by single year of age; fertility rates where the population estimate is used as the denominator; and life expectancy at birth).

8. Further information

Mid-year population estimates

Information and data about the Mid-Year Population Estimates can be found on the UK National Statistics Publication Hub:

Population estimates: definitions, technical data and glossary can be found in the Topic Guide to population estimates page:

Population estimates data can be found on the ONS website at:

A short guide to the methodology used to produce local authority population estimates between Censuses is available on the ONS website from:


Quality and Methodology Information for Mid-Year Population Estimates can be found on the page for Quality reports for social statistics:

Information on plans for reviewing Mid-Year Population Estimates and related outputs, following the release of 2011 Census data
Census

More information on the Census in England and Wales can be found on the ONS website: [www.ons.gov.uk/census/index.html](http://www.ons.gov.uk/census/index.html)

Small area population estimates

Detailed guides to small area population estimates methodology are available from the population estimates methodology webpage:

Quality and Methodology Information for small area population estimates can be found on the page for Quality reports for social statistics:

International migration

More information about migration estimates can be found on the UK National Statistics Publication Hub and on the ONS website:

Methods used to estimate Long-Term International Migration can be found on the ONS website at:

Information on the quality of the migration statistics can be found in the Quality and Methodology Information for Long-Term International Migration Releases:


Detailed information on the LFS can be found in the LFS user guide on the ONS website and in the Quality and Methodology Information for the Labour Force Survey at:

Further information on the data and methodology used to estimate the asylum seeker component of international migration can be obtained from the Home Office and the methodology documents published on the ONS website:
[www.homeoffice.gov.uk](http://www.homeoffice.gov.uk)
Internal Migration

Further information regarding the internal migration estimates can be found here: www.ons.gov.uk/ons/taxonomy/index.html?nscl=Migration+within+the+UK

Customer guidance notes about estimating internal migration can be found in: www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/estimating-internal-migration-customer-guidance-notes.pdf

Quality and Methodology Information for internal migration estimates can be found on the page for Quality reports for social statistics: www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/social-statistics/index.html

Improvements made to migration and population statistics

Appendix 1: Information on use of International Passenger Survey in population estimates

The IPS is a voluntary sample survey of passengers arriving at, and departing from, the main UK airports, seaports and the Channel Tunnel. It identifies migrants and their towns of destination or residence prior to departure. The main IPS sample is approximately 250,000 responding passengers per annum, and in 2008 about 2.2 per cent of those sampled were migrant interviews, which amounted to a sample count of just over 5,000 migrants. The IPS sample is stratified to ensure that it is representative by mode of travel, route and time of day. The migrant counts are weighted to produce national estimates of migration.

The data collected are intention based; the survey asks how long each migrant intends to remain within or outside the UK, as opposed to recording what they have done retrospectively. A limitation of the IPS is that it does not initially take into account any change in intention. An adjustment is made to the IPS estimates of long-term international migration to account for people who change their intended length of stay within the country or away from the country (these people are known as visitor and migrant switchers).

Another limitation of the IPS is that some immigrants do not realise the location of residence as stated in their response to the IPS. For example, respondents may state a large city as their intended location of residence but then take up residence in a different location nearby, or move on quickly after arriving at their initial destination to become usually resident at a different destination. Using additional administrative sources in combination with the IPS provides more accurate estimates of where new migrants live within England and Wales.