

# Mid-year population estimates short methods guide

This document is a short methods guide to the national, regional and local authority population estimates. It refers to the methods used to calculate the published mid-year population estimates from 2009 onwards, and the revised 2002-2008 mid-year estimates published on 13 May 2010. The revised estimates incorporate new improved methods developed under a programme of work to improve migration and population statistics following recommendations by the National Statistician's Task Force on Migration.

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## 1. Introduction

The Office for National Statistics (ONS) produces annual estimates of the resident population of England and Wales as at the mid-year (30 June), broken down by age, sex and local authority. The population estimates show how many people live in the UK as a whole and in each local authority, and provide information on the age-sex structure of the population in these areas.

The Mid-Year Population Estimates (MYE's) are published for the UK, its constituent countries, the regions of England and Wales, and for local authorities. Population estimates for Northern Ireland are produced by the Northern Ireland Statistics and Research Agency (NISRA), those for Scotland are produced by the General Register Office for Scotland (GROS). 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 29 April 2001, and the next will take place 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.

The census 'population base' is updated annually (using various data sources) to produce the population estimates between census years. The population estimates made in-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 on new census counts.

This short guide describes the methods used to calculate the annual estimates of the resident mid-year population, for England and Wales, down to local authority level. The definition, data sources and methods used by GROS and NISRA are broadly consistent, providing comparable population estimates across the UK constituent countries and a coherent UK national compilation. This guide 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 MYE's 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. Members of Her Majesty's armed forces stationed in England and Wales are included at their place of residence but those stationed outside England and Wales are excluded. Members of the US armed forces stationed in England and Wales are included. Students are taken to be resident at their term-time address. Prisoners are regarded as usually resident at an institution if they have served six months or more

of a custodial sentence. The figures for the UK do not include the population of the Channel Islands or the Isle of Man.

The resident population is not always the same as the number of people actually found 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 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  $t$

The starting point for the mid-year population estimate is the resident population on 30 June in the previous year. This population by single year of age is then aged-on by one year (for example, all three-year-olds become four year olds one year later). Those who have been born during the 12 month period prior to the mid-year reference point 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. Other factors taken into account are the movement of people between England and Wales and countries outside of the UK (international migration) and, for estimating the population for different areas within England and Wales, 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.

In census years the population is aged-on by the period of time between the census and the mid-year reference point of 30 June (in 2001 this was nine weeks). Similarly the components of population change only need account for change during this shorter period.

### **3.2 Adjustment for special population subgroups**

Adjustments are made for changes to special population subgroups, including prisoners, school boarders, and the armed forces and their dependents. 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 and school boarders are 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.

For the national estimates, before ageing on the previous years population, foreign armed forces stationed in England and Wales are removed from the resident population. Armed forces from England and Wales (home armed forces) serving overseas in the previous year, plus their dependants (service families) living overseas in the previous year, are added into the population. After the usually resident population has been aged-on, the home armed forces (and service families) who are stationed overseas for the current year are subtracted from the estimates and the foreign armed forces stationed in England and Wales for the current year are added in.

In the subnational compilation the procedure is similar, but armed forces resident in England and Wales are allocated to their local authority of residence. Prisoners and pupils resident in boarding schools for the previous year are removed before the local authority resident population is aged-on, and the population for these subgroups for the current year added back to the updated population estimates.

## **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. It gives a brief summary description in the limitations of the sources and the secondary data sources used to overcome these.

### **4.1 Births**

Data on live births are collected by the civil registration system at the General Register Office. The number of live births between 1 July of the previous year to 30 June of the reference 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.

## **4.2 Deaths**

Data on the number of people who have died, by local authority of residence, are also collected by the Central Register Office. The number of people who have died for the period from 1 July of the previous year to 30 June of the reference 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 allocated to the local authority of residence 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.

## **4.3 International migration**

Estimates of long-term international migration are obtained from three main sources:

- the International Passenger Survey (IPS)
- the Labour Force Survey (LFS) and
- Home Office data on asylum seekers and their dependants.

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.

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).

Migrant switchers are people who enter or leave the UK intending to migrate for a period of 12 months or more, who actually stay in the UK or abroad for less than a year. Their initial intention leads them to be defined as a migrant, but they subsequently change to non-migrant status. Visitor switchers are people who visit or leave the UK intending to stay for less than 12 months, but who actually stay for a year or longer, so become migrants. These switchers are identified by the IPS as they complete their journey when subsequently entering or leaving the UK (the passenger is asked how long they intended to stay in the UK or overseas when they initially arrived or departed, and how long they actually remained in or out of the UK).

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 the LFS in combination with the IPS provides more accurate estimates of where new migrants live within England and Wales.

Subnational estimates of immigration, for regions within England and for Wales, are calibrated using data from the Labour Force Survey (LFS). The LFS is a quarterly sample survey of households at private addresses within Great Britain. Its purpose is to provide information on the UK labour market, but it also provides estimates of international migration that have already occurred.

Regional estimates of immigration are calibrated to control totals which are derived from both LFS and IPS data. The method draws upon the strengths of both data sources: whilst the larger sample count of the IPS provides the most accurate estimates for the national total and age distribution of immigrants within the UK, the LFS provides a more accurate regional distribution because data are collected retrospectively. As the location of (previous) residence of migrants leaving the country are collected retrospectively, regional distributions for emigrants can be estimated directly using IPS data.

The sample counts of migrants in the IPS are too small to make estimates directly at local authority level. Local authority migration estimates (for both immigration and emigration) 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 aggregate counts from administrative sources; variables used for immigration estimates include National Insurance Numbers (NINOs), GP registrations to overseas nationals (Flag 4s) and armed forces; those used for emigration estimates 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.

These estimates are then constrained to match the IPS national and regional estimates.

#### **4.4 Asylum seekers**

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 Immigration and Nationality Directorate of 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, and 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.

#### **4.5 Internal migration**

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. Two administrative data sources are used: the National Health Service Central Register (NHSCR), and the GP Patient Register Data System (PRDS). Both of these sources have different properties in terms of coverage and content but used together they represent the best available source of internal migration information.

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.

One of the known limitations of relying on GP registration changes is that young people, particularly young men, can be slow to change their registration when they move. One of the most common reasons for migration among young people is to attend a course at a higher education establishment, so this limitation is a key issue in the estimation of internal migration for this population subgroup.

Higher Education Statistics Agency (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.

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

### **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 the England and Wales, except for armed forces on short term training who are excluded from population estimates.

Population estimates do not include armed forces and their dependants stationed overseas since these persons are not considered to be usually resident in England and Wales. However, armed forces on active duty abroad that are based in England and Wales are included in the resident population.

Individual members of the armed forces and their dependants move relatively frequently into and out of the coverage of national population estimates due to periods of stationed service outside England and Wales. When calculating the national population estimates it is necessary to consider changes in the numbers of armed forces from England and Wales, and their dependants, living abroad, as well as the numbers of foreign armed forces living in England and Wales (movements of dependants of foreign armed forces and civilian personnel are captured through the IPS). Any increase or decrease in the number of forces and their dependants abroad has an effect on the population resident in England and Wales.

Service families overseas are the civilian dependants (spouse and children) of those forces from England and Wales that are stationed abroad. It is assumed that these dependants (like the forces serving overseas themselves) will return to England and



Wales when tours of duty abroad end, and that their return will not be captured by the IPS.

### **5.1.1 Home armed forces (HAF)**

Data for UK armed forces are collated by Defence Analytical Services and Advice (DASA). The data used for the population estimates include:

- The total number of UK armed forces (based in the UK and overseas) by sex, service and stationed location as at 1 July.
- The number of UK armed forces, including Gurkhas, stationed in England and Wales by sex, service and the local authority of the base they are stationed as at 1 July. Quarterly data are averaged to best represent the armed forces present in each area throughout the year. Averaging the data allows for personnel who are away at a given point in time (eg on a training exercise) to be included at the base in which they are normally stationed

At national level, the changes in the HAF population resident in England and Wales, and in the HAF population from England and Wales stationed overseas are determined using the number of HAF stationed in England and Wales and the share of total UK armed forces including those stationed overseas who are from England and Wales. This share is estimated using 2001 Census data. The difference between the England and Wales share of UK armed forces and the HAF resident in England and Wales represents the overseas armed forces from England and Wales which are necessary for estimates of service families overseas.

To estimate changes at subnational level, the DASA data on UK armed forces by local authority of base are converted to represent local authority of residence using a base-to-residence matrix compiled from information on both the workplace and residence of armed forces from the 2001 Census. This is because not all home armed forces are resident on the base on which they are stationed; many have family homes outside the base in the same or a different local authority.

### **5.1.2 Service families overseas**

Data on the number of service families and children accompanying armed forces overseas are not available so are derived from the best indicators that can be obtained.

DASA data on the proportion of male forces serving overseas who are married are used with scaling factors for the number of married men serving abroad that are accompanied by their wives. These scaling factors are applied separately for army, navy and RAF personnel. The assumption is made that only married men have dependants.

A similar method using scaling factors is applied to estimate the number of service children overseas from England and Wales. The number of service wives overseas from England and Wales is used with scaling factors for the number of dependent children per service wife. The scaling factors are derived from DASA data. It is assumed that the numbers of male and female children are equal. Finally, the data for service wives and service children abroad are combined to create 'service families overseas'.

Dependants of home armed forces are not treated as a separate component in the subnational population estimates since their moves within the country will be picked up in the internal migration estimates based on GP re-registrations.

### **5.1.3 Foreign armed forces (FAF)**

Data for foreign armed forces resident in England and Wales are collected by the US Air Force. They collate data from RAF Mildenhall (US Air Force), the US Embassy (for the US Army) and the US Navy HQ. Personnel from the US Air Force make up the great majority of US armed forces stationed in England and Wales. US civilians working on US military bases are not included in the foreign armed forces component as movements are captured through standard civilian migration routes as they do not travel on military flights.

Data on base of residence for US armed forces resident in England and Wales are used for the population estimates. Foreign armed forces personnel are assigned to local authorities based on the geographic location of their place of residence. Aggregating the local authority data produces a national estimate of foreign armed forces.

### **5.1.4 Dependants of foreign armed forces**

From mid-2006 ONS ceased to treat foreign armed forces dependents as a separate component of population change. This was due to a change in the use of military flights. Foreign armed forces dependents no longer travel on military flights, as is the case for civilian personnel. Therefore they are captured through standard civilian migration routes (the IPS). Moves of home armed forces dependants in and out of the UK continue to be treated as a separate component at national level.

## **5.2 School boarders**

Data on boarding school pupils from the Annual Schools Census are provided by the Department for Education and the Welsh Assembly Government. Data for each school with boarders (state and independent) include the school address and the number of male and female boarding school pupils.

Data on boarding school pupils are used only in the subnational estimates. It is assumed that changes in the number of school boarders in an area are not captured by the internal migration estimates because boarding school pupils receive health care through school services.

Each school is allocated to a local authority based on its address and postcode. The number of boarders are then aggregated to derive estimates at local authority level. School boarders are aged-on by one year to account for the time difference between the schools census and the mid-year reference point.

The adjustment for school boarders accounts for changes in the number of school boarders between the two mid-year points and reflects new schools or new boarding facilities, any amalgamations of schools, and schools that have closed or stopped taking boarders during the year.

### 5.3 Prisoners

Data on the number of prisoners resident in each prison, as at 30 June, are collated by the Ministry of Justice. For the purposes of the population estimates, a person is regarded as usually resident in a prison if they have been sentenced and have served six months or more of their sentence in any prison. Prisoners are allocated to a local authority based on the postcode of the prison in which they reside. The numbers of prisoners are aggregated to obtain estimates at local authority level.

Data on prisoners are used only in the subnational population estimates. Moves of people into, out of and between prisons are not captured in the internal migration estimates used in the population estimates.

The adjustment for prisoners in the subnational population estimates takes into account new prisons and wings of prisons, as well as prisons that have closed during the year.

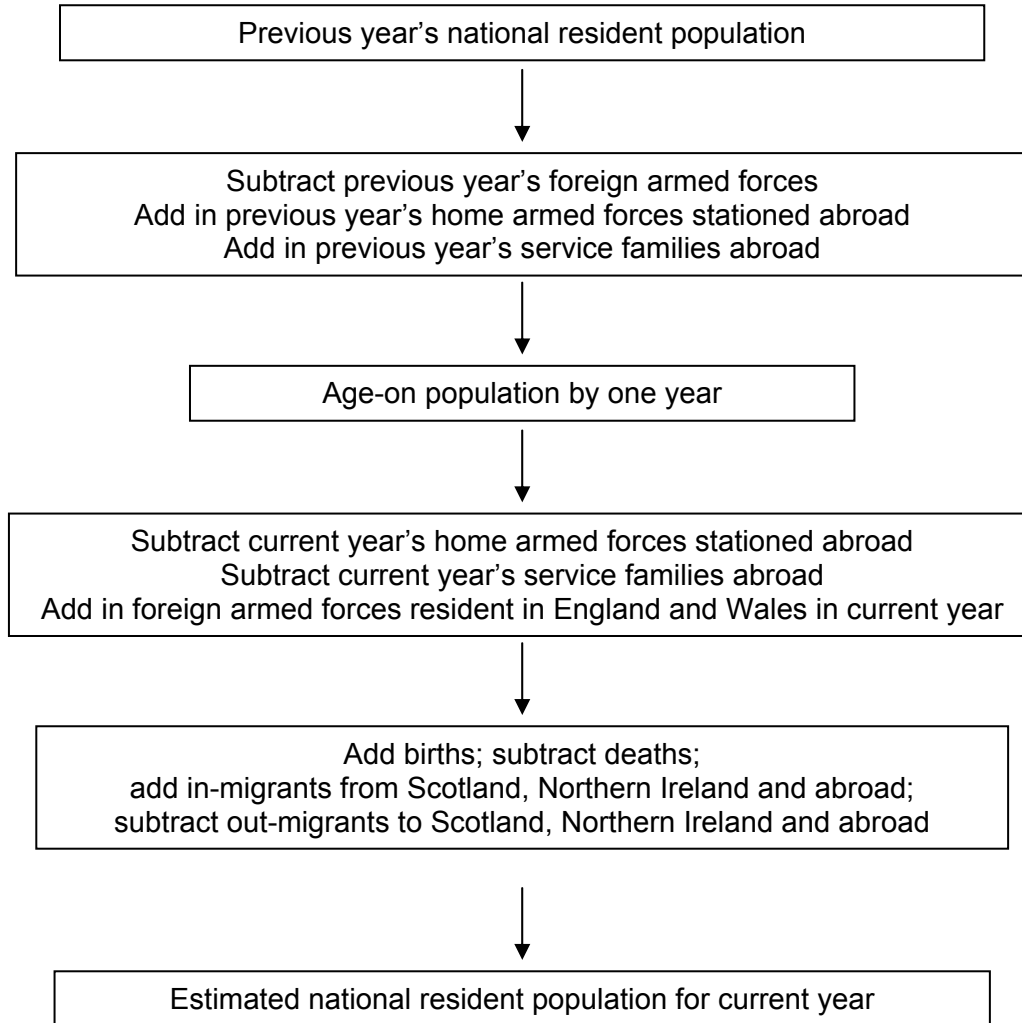
## 6. Summary of primary data source/suppliers

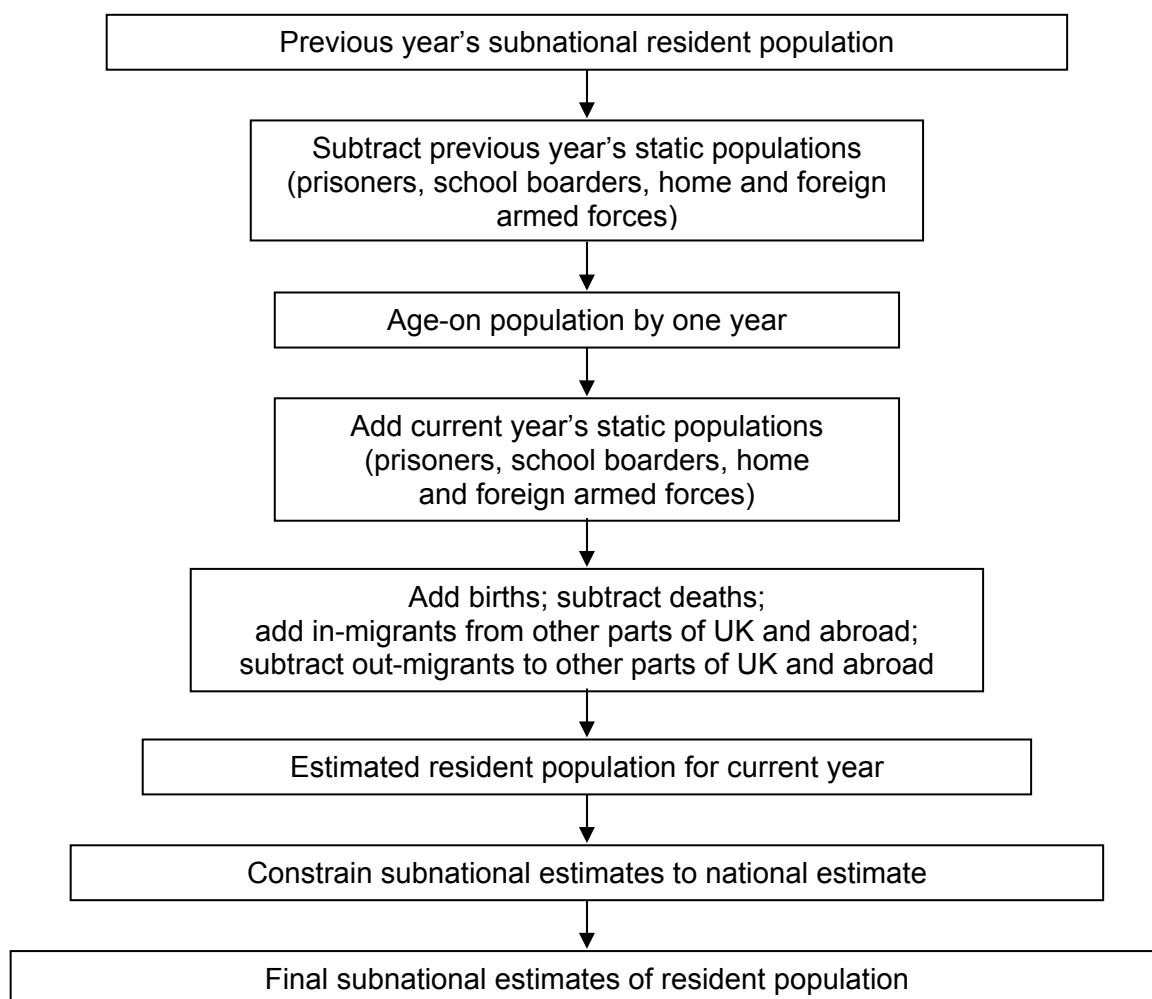
<b>Population base and components of change</b>	<b>Data source/supplier</b>
Population base	Census, ONS
Births and deaths	Civil registration data, General Register Office
International Migration	International Passenger Survey (IPS), Labour Force Survey (LFS), ONS
Migrant switchers	International Passenger Survey (IPS), ONS
Visitor switchers	"
Asylum seekers	Immigration and Nationality Directorate and National Asylum Support Service (NASS), Home Office
Internal migration	NHS Central Register, GP Patient Register Data System (PRDS)
Armed forces	
Home armed forces	Defence Analytical Services Advice (DASA), US Air Force
Foreign armed forces	
School boarders	Department for Education and the Welsh Assembly Government
Prisoners	Ministry of Justice

## 7. Final compilation of the population estimates

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 sum of local authority totals match the national total.

**Figure 1 – The national compilation**



**Figure 2 - Subnational compilation**

## 8. 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 feasible. 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).

## 9. 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:

[www.statistics.gov.uk/hub/population/index.html](http://www.statistics.gov.uk/hub/population/index.html)

Population Estimates Definitions, Technical Data and Glossary can be found in the Topic Guide to Population Estimates page:

[www.statistics.gov.uk/hub/population/population-change/population-estimates/index.html](http://www.statistics.gov.uk/hub/population/population-change/population-estimates/index.html)

Population estimates data can be found on the National Statistics website at:

[www.statistics.gov.uk/statbase/Product.asp?vlnk=15106](http://www.statistics.gov.uk/statbase/Product.asp?vlnk=15106)

Detailed guides to local authority population estimates methodology are available from the population estimates methodology webpage:

[www.statistics.gov.uk/StatBase/Product.asp?vlnk=575](http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=575)

A description of the methodology used to calculate the 2001 mid-year population estimates following the publication of 2001 Census results can be found in Population Trends 109. (Autumn 2002):

[www.statistics.gov.uk/statbase/product.asp?vlnk=6303](http://www.statistics.gov.uk/statbase/product.asp?vlnk=6303)

The Summary Quality Report for Mid-Year Population Estimates can be found on the page for Quality reports for social statistics:

[www.ons.gov.uk/about-statistics/methodology-and-quality/quality/qual-info-economic-social-and-bus-stats/quality-reports-for-social-statistics/index.html](http://www.ons.gov.uk/about-statistics/methodology-and-quality/quality/qual-info-economic-social-and-bus-stats/quality-reports-for-social-statistics/index.html)

### Census

More information on the Census in England and Wales can be found on the National Statistics 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:

[www.nswcopy/about/data/methodology/specific/population/PEMethodology/](http://www.nswcopy/about/data/methodology/specific/population/PEMethodology/)

The summary quality report for small area population estimates can be found in the Summary Quality Report for Super Output Area (SOA) Population Estimates:

[www.ons.gov.uk/about-statistics/methodology-and-quality/quality/qual-info-economic-social-and-bus-stats/quality-reports-for-social-statistics/sum-rpt-for-pop-est.pdf](http://www.ons.gov.uk/about-statistics/methodology-and-quality/quality/qual-info-economic-social-and-bus-stats/quality-reports-for-social-statistics/sum-rpt-for-pop-est.pdf)

### International migration

More information about migration estimates can be found on the UK National Statistics Publication Hub and the migration statistics product page:

[www.statistics.gov.uk/hub/population/index.htm](http://www.statistics.gov.uk/hub/population/index.htm)

[www.statistics.gov.uk/statbase/Product.asp?vlnk=15108](http://www.statistics.gov.uk/statbase/Product.asp?vlnk=15108)

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

[www.statistics.gov.uk/StatBase/Product.asp?vlnk=507](http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=507)

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

[www.ons.gov.uk/about-statistics/methodology-and-quality/quality/qual-info-economic-social-and-bus-stats/quality-reports-for-social-statistics/index.html](http://www.ons.gov.uk/about-statistics/methodology-and-quality/quality/qual-info-economic-social-and-bus-stats/quality-reports-for-social-statistics/index.html)

More information on the International Passenger Survey (IPS) can be found on the ONS website at:

[www.statistics.gov.uk/ssd/surveys/international\\_passenger\\_survey.asp](http://www.statistics.gov.uk/ssd/surveys/international_passenger_survey.asp)

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

[www.statistics.gov.uk/statbase/Product.asp?vlnk=1537](http://www.statistics.gov.uk/statbase/Product.asp?vlnk=1537)

[www.ons.gov.uk/about-statistics/methodology-and-quality/quality/qual-info-economic-social-and-bus-stats/quality-reports-for-social-statistics/index.html](http://www.ons.gov.uk/about-statistics/methodology-and-quality/quality/qual-info-economic-social-and-bus-stats/quality-reports-for-social-statistics/index.html)

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 Migration Statistics Unit's methodology documents found on the Long-term International Migration (MN series) product page at

[www.homeoffice.gov.uk](http://www.homeoffice.gov.uk)

[www.statistics.gov.uk/statbase/Product.asp?vlnk=507](http://www.statistics.gov.uk/statbase/Product.asp?vlnk=507)

Further information regarding the internal migration estimates can be found here:

[www.statistics.gov.uk/statbase/Product.asp?vlnk=7070](http://www.statistics.gov.uk/statbase/Product.asp?vlnk=7070)

Customer guidance notes about estimating internal migration can be found in "Estimating Internal Migration: Customer Guidance Notes":

[www.statistics.gov.uk/statbase/EXPODATA/commentary/EstimatinginternalMigration.doc](http://www.statistics.gov.uk/statbase/EXPODATA/commentary/EstimatinginternalMigration.doc)

The summary quality report for internal migration:

[www.ons.gov.uk/about-statistics/methodology-and-quality/quality/qual-info-economic-social-and-bus-stats/quality-reports-for-social-statistics/summary-quality-report-for-internal-migration.pdf](http://www.ons.gov.uk/about-statistics/methodology-and-quality/quality/qual-info-economic-social-and-bus-stats/quality-reports-for-social-statistics/summary-quality-report-for-internal-migration.pdf)

### **Improvements to migration and population statistics**

Access to the recommendations of the Inter-departmental Migration Task Force Report:

[www.statistics.gov.uk/statbase/Product.asp?vlnk=14731](http://www.statistics.gov.uk/statbase/Product.asp?vlnk=14731)

Information about Improving Migration and Population Statistics (IMPS) and the Migration Statistics Improvement Programme:

[www.ons.gov.uk/about-statistics/methodology-and-quality/imps/index.html](http://www.ons.gov.uk/about-statistics/methodology-and-quality/imps/index.html)