

2011 Census

Understanding Your Census Estimates

This is a brief guide to the process of arriving at the Census estimates of population and households. The Office for National Statistics (ONS) has produced a more detailed explanation of the statistical procedures undertaken.

What is the Census?



The Census has been carried out every ten years since 1801, with the exception of 1941 when war intervened.

All households in the UK are sent a questionnaire so that national and local governments and other public organisations have the detailed statistics needed to plan and target resources efficiently and effectively. The data can also be used by private companies, voluntary groups and members of the public.

The latest Census was carried out on 27th March 2011. Despite being compulsory, not every household returned a completed Census questionnaire, although in Somerset, the response rate was a very impressive 96%.

Each questionnaire had a unique ID number which allowed them to be tracked and households who had not returned the questionnaire to be identified. Considerable effort was made to re-contact addresses from where no questionnaire was returned.

Response rates are optimised by very detailed preparation in the years leading up to the Census, covering the identification and checking of all known addresses, working with local communities and promoting awareness of the Census and explaining why it is so important to return the questionnaire.

How were households identified?

Every known household in the country received a Census questionnaire, although people had the option of completing it online. The complete address register achieved by combining the Royal Mail PAF/AL2 and the local government National Land and Property Gazetteer (NLPG) address files.

A number of quality checks were carried out to ensure the addresses on the register were correct, one of checks was to remove duplicate addresses (for example, 11a High Street and Flat 1, 11 High Street).

A second address list for communal establishments (e.g. universities or gypsy/traveller sites) was also created. This involved collation of over 80 third party information sources such as University UK's educational establishment list. In total 169,000 census questionnaires were delivered to households on the communal establishment address list.

Maximising the number of questionnaires completed

Stakeholders were consulted as part of the process to help maximise overall return rates and minimise variations in return rates in specific areas and among particular sections of the population. Local authorities worked with the Office for National Statistics (ONS) for a considerable period leading up to Census Day to advise on communal establishments (like halls of residence or prisons), unusual addresses (for example, narrowboats on canals), local publicity and engagement with local communities.

Through community engagement projects the ONS wanted to engage with 'hard to reach' communities that may have been unwilling or unable to complete the Census questionnaire, thus improving response rates in these communities. Such projects were carried out nationally and locally, in conjunction with a major media and marketing campaign to increase awareness during the Census period.

Producing robust estimates of the total population

As mentioned previously, the Census fieldwork did not count every single household or individual person for various reasons (for example, refusal to complete the questionnaire, inadvertent omission of household members or the building of new houses immediately prior to the Census period). There is also an element of duplication (for example, where separated parents each included the same child at different addresses or where people completed the questionnaire online and on paper).

As part of their rigorous quality assurance procedures, the ONS used sophisticated statistical techniques to adjust for these under- and over-counting and produce the best possible estimate of the number of occupied households and individual people living permanently or temporarily in each part of the country.

This paper won't cover these techniques in detail but they are explained, along with other Census information, on the ONS website at <http://www.ons.gov.uk/ons/guide-method/census/2011/census-data/index.html>

However, the methods used include:-

- Conducting a Census Coverage Survey (CCS)

This was an additional independent survey featuring a questionnaire much shorter than that used in the Census (just 13 questions). It was asked in May and June 2011 at a large number of households across the country, including areas where it had proved hard to count people in the Census.

The households and people counted in the CCS were matched with those recorded in the Census so that the ONS could estimate the number and the characteristics of people who were not included on a Census questionnaire.

You can see this technique, called Dual System Estimation, being explained by presenter Johnny Ball on BBC TV's 'Bang Goes the Theory' <http://www.bbc.co.uk/programmes/p00qq9c4>.

- Checking against other administrative databases and registers

Organisations such as the NHS and local councils already hold information about large numbers of people. For instance, data is captured on the GP patient register, Council Tax register, Higher Education Statistics Agency list of students and the Schools Census, so Census returns could be compared with these datasets to improve the estimates of households and people in each area

- Checking against other major surveys

Further adjustments could be made by comparing Census demographic data with figures derived from national surveys such as the ONS Longitudinal Study. If, say, the age-sex ratio found in Census returns was seen to vary from what was expected, this was investigated and where considered appropriate, an adjustment to the count was made.

Quality assurance panels reviewed evidence compiled and the analysis carried out in each of the 348 Local Authorities (LA) in England and Wales. Only when they were satisfied that all the necessary investigations and checks had been carried out correctly did they recommend the National Statistician to sign off the Census estimates for the LA. For each Local Authority (LA), the ONS has produced a quality assurance pack detailing what checks were carried out, anomalies identified and actions taken to produce the final estimates of the population size and profile.

The pack containing these data for all local authorities, including the five districts within Somerset can be accessed here:

<http://www.ons.gov.uk/ons/guide-method/census/2011/census-data/2011-census-data/2011-first-release/local-authority-quality-assurance/index.html>

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