

Information paper

Census strategic development review: User requirements report

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Census strategic development review: User requirements report

1 Introduction

In order to consider how best to meet future requirements for the type of information traditionally provided by the census, one must first understand what users' future needs may be. This report describes the findings from initial research and consultation undertaken as part of the Census Strategic Development Programme (CSDP). The programme's aims are to identify not only current uses of census data, but also to consider what future requirements may be. The conclusions will feed into the recommendations made for the future direction of population statistics within the Office for National Statistics.

Census data are used by a wide range of businesses and organisations, including government departments (including internal ONS users), local government and academics. The uses they make of census data are equally wide ranging and include allocation of finances, monitoring initiatives, and benchmarking other estimates. A consultation process was designed to provide an understanding of key uses and basic requirements of census data in order to inform the development of the traditional and alternative census research, and the cost-benefit assessment of the various options. It did not attempt to determine the detail of user requirements, such as the precise questions set. Such requirements will be investigated during phase two of the CSDP, as outlined in the testing and development strategy report¹.

The user requirements outlined in this report are the result of four key exercises:

- consultation with key users (see **Annex A** for details);
- consultation conducted as part of the review that resulted in the report *A demographic statistics service for the 21st century* that was published in July 2003²;
- consultation with experts and policy leaders within and outside ONS; and
- research into changes in society and the implications for statistical requirements.

2 Current characteristics and uses of census data

This section describes the current aspects and uses of census information, as identified from the consultation mentioned above and detailed in **Annex A**. Planning for a census in 2011 needs to take account of current needs and yet be flexible enough to meet additional emerging requirements. Emerging requirements are discussed in **Section 4**.

2.1 Key aspects of census data

Census data have many uses - they are used at very high levels (for example at the national data) as well as at small area (Output Area) levels. There are three key categories of census data, relating to:

- population units: people and housing with key characteristics such as sex and age;
- population structures: households and families; and
- population/housing characteristics: for example, occupation, tenure.

There are certain characteristics of the way in which this information is provided that are unique to a census:

- *Benchmark/denominator population counts*
The most essential aspect of a census is the basic count of the population. The census provides a benchmark for all UK population statistics. Counts are used as denominators in a wide range of economic and social statistics, using other census data as numerators and also data from a huge variety of other sources, by a vast range of users from the public, private and voluntary sectors.
- *Ability to produce multivariate statistics*
Census data allow multivariate analysis of the variables collected. This is a powerful tool for many users who use census data as part of their research or to inform policy decisions.

- *Snapshot of the population*
A traditional census provides a 'snapshot' of the whole population at a single point in time. As a result data are consistent and comparable across all areas.
- *Small area data*
The census provides data down to very small geographical areas, including Census Output Areas, covering 125 households on average. The census is the only source that provides nationally consistent information at this low level.
- *Small population data*
Census data also provide information on small populations - for example, small ethnic communities can be identified and their characteristics captured by the census.
- *Social or market research*
The ability to produce multivariate statistics on census data is vital for many research uses. Basic population counts and counts by characteristics are also required.

More generally, census data are used to improve the quality of many other statistics, which may be used for the above categories. The collection of other data (from surveys for example) is also made more efficient by the possession of accurate census counts.

More details of census users and uses can be found at **Annex A4**.

It is with these key aspects in mind that the uses and requirements of census data were considered.

2.2 Key uses of census data

The main current uses of census data can be classified into four broad categories, shown below. Also noted are the aspects of census data that are most critical to each use.

- *Resource allocation/targeting investment*
For resource allocation purposes it is crucial that population counts (both total counts and by key characteristics) are accurate, consistent and comparable over the area that the resources are allocated. For many government funding uses, the data must be consistent nationally.
- *Planning*
Basic population counts and counts by key characteristics (such as age, sex, ethnic group, household type) are important for planning. If the different characteristics of an area's population can be identified, plans can then be made for the sort of services that are necessary. In particular, data for small areas are crucial in local planning.
- *Policy formulation or review*
There is a clear drive across government for policy initiatives to be evidence based. Since many initiatives are implemented and assessed at a local level, census data can form a crucial part of this process. Multivariate analysis feeds into local planning policies as do data on small areas and populations.

3 User requirements

This section provides an outline of the user requirements for census-type data.

3.1 Overview

The bulk of the consultation undertaken by the CSDP has been with established users of census data. For these users, content, geography, accuracy and coverage were generally seen as relatively more crucial than frequency and timeliness of delivery - though these are important issues too.

It is difficult to move away from a traditional census approach when discussing requirements with established users of census information. They are well versed in the many strengths of data provided by a traditional census and have found ways of coping with the limitations. This familiarity may cause issues to appear less significant than they may actually be; users have become used to dealing with (or even ignoring) problems caused by using figures that are produced so infrequently and hence are out of date.

Other consultation with users of population statistics more generally has also helped to formulate the user requirements in this section. The ONS report, *A demographic statistics service for the 21st century*², describes the uses of population statistics with the aim of informing decisions on the best way to meet future needs. Key findings from this, and key strategic aims identified by other experts and policy makers within and outside ONS, are as follows:

- The rate of demographic change in the UK means we need to monitor that change and assess the consequences.
- Simple counts of the population by age and sex no longer provide a sufficient understanding of the demographic picture. The usual residence population base needs to be complemented by other measures of the population to meet user needs.
- Small populations, such as ethnic communities, need community-specific assessments of demographic patterns.
- At present, the reliability of data from administrative sources to measure population on an unadjusted basis can be low, and is variable between sources.
- There is a requirement for a local count of the population on a periodic basis - at least every ten years - that brings with it an accounting accuracy and provides a benchmark for calibrating the regular annual estimates of population and households.
- The ONS strategy for population estimates should aim to achieve consistent accuracy rather than setting out to apply consistent methods across all areas.
- The census must be inclusive, with care taken not to exclude any population subgroups (for example, people with literacy problems or with visual impairment).
- Assessments of the levels of over- and under-count must be made and compensated for as necessary.
- Multivariate analysis at small area levels must be possible.
- An assessment of the accuracy of the census results must be provided.
- Public confidence in the confidentiality of data provided must be maintained at all times.
- high national standards with clear accountability;
- devolved decision-making to the frontline;
- greater flexibility in how, when and what services are delivered, including greater staff flexibility and the use of incentives; and
- more consumer choice - where appropriate, alternative providers should be offered

Implicit in these principles is a requirement for more frequent, detailed, comparable information nationally, regionally and locally, for small areas and small populations.

3.2 Counting basis

It is clear from all of the strands of consultation that different users have different requirements. In order to satisfy these different requirements it will be necessary to produce population figures on a number of different definitions in order to reflect the increasingly diverse and dynamic living patterns in the UK.

It is important to make the distinction between the counting base at enumeration and the counting base at output of results. There are really only two options for the counting base at enumeration: 'usual residence' or 'persons present'. Further questions can be added to the form in order that other bases can then be derived for output. A major drawback to defining households and population bases at collection is that householders and field staff may not fully understand the definitions. This will affect coverage if it leads to individuals being incorrectly omitted from census forms. Therefore the 'all persons present' definition may be preferable for enumeration purposes. The discussion paper on the 2011 Census design³ covers these issues in more detail; the remainder of this report focuses mainly on the counting base in output.

The bases for which requirements were mentioned most frequently during the consultation process were:

- individuals usually resident;
- households usually resident;
- daytime population;
- working population; and
- visitors.

In a recent speech on enabling delivery and reform of public services given to the Centre for Management and Policy Studies, Sir Andrew Turnbull, Secretary of the Cabinet and Head of the Home Civil Service, outlined the Prime Minister's four key principles behind the reform of public services:

These are described in more detail below. More work is required to assess which bases should be produced. The usually resident population (for individuals and households) continues to be the definition needed for most uses, and is generally assumed to be reasonably stable over the year. Other populations, such as daytime or visitor populations, are likely to be less stable and may require different and specific methods to measure them.

An understanding of different living arrangements is important if we are to get the best possible counts of the population, for example in circumstances where families are split because one member spends weekdays living outside the family home, or where individuals do not consider that they have a single usual address because they live at a number of addresses.

Patterns of residence and working in an increasingly fluid society mean that it is not always easy to assign individuals to a unique household or residence. Collecting information on more than one population base increases the amount of information about those on the boundary of different population definitions, both nationally and for local areas.

While obtaining information on multiple definitions would increase the burden on respondents, the choice of a single definition makes it more difficult to explain usual resident estimates in the context of other populations. The usually resident and other populations are likely to vary considerably, the variation being higher in those local areas with a high turnover of population, or a high number of commuters, for example. Other populations are likely to be different from the usually resident population in their demographic and social attributes. The availability of information on different population definitions may help provide an understanding of volatile, less attached populations and a description of their attributes compared to more stable populations.

Different types of area offer different challenges, so it is possible that methods of data collection will need to be tailored to these challenges in specific areas. The needs of users also vary from area to area; the capture of more than one population base may be important to inner city or tourist areas, but rather less useful to areas with more stable populations. However, certain uses require data that are comparable nationally, so it is important that consistency is maintained.

The 2001 Census definition of the usually resident population, below, currently provides the sole basis for measuring the population of an area. A list of the other commonly requested population bases is also provided below. This is a list of possible bases for future population figures, but a census may not be suitable for the collection of some of these (as noted in each relevant section). A decision on which ones need to be tested will be made in the next phase of the research.

3.2.1 Usual residence

This is the current basis of population estimates figures. The instructions to respondents that defined 'usual residence' in the 2001 Census were:

- List all members of your household who usually live at this address, including yourself.
- Start with the householder or joint householders.
- Include anyone who is temporarily away from home on the night of [reference date] who usually lives at this address.
- Include schoolchildren and students if they live at this address during the school, college or university term.
- Also include schoolchildren and students who are away from home during the school, college or university term and for whom only basic information is required [but these were not part of the usually resident population in 2001].
- Include any baby born before 30 April 2001, even if still in hospital.
- Include people with more than one address if they live at this address for the *majority of time*.
- Include anyone who is staying with you who has no other usual address.
- Remember to include a spouse or partner who works away from home, or is a member of the armed forces, and usually lives at this address.

Many other national statistics institutes have a population base of 'usual residents'. Collecting information on a usually resident basis means that information on household relationships may easily be collected - a commonly requested requirement of census data.

3.2.2 Household and communal establishment populations

The population living in private households and communal establishments (such as student's halls of residence, military camps), provide base figures both for household surveys and informing planning and housing policies.

As society becomes more fluid, it becomes increasingly difficult to assign a group of people to one household. The census definition of a household may be interpreted differently by respondents, producing counts that are inconsistent with the census definition.

Misclassification of households is a common source of underenumeration of households. In 1991, for example, the Census Validation Survey indicated that there was a net undercount of 96,000 spaces for the reason that enumerators failed to record that a single building had been subdivided into accommodation for different households. The residents at these addresses had not always been missed but, instead, misclassified as being in a single household rather than in two or more. There is also likely to be a blurred border between the definition of a household and some communal establishments.

3.2.3 Term-time/out of term population

These refer to the populations usually resident in an area during, and out of, term time. Figures on this basis may help to provide a better indication of the relative pressures on services at different times of the year in towns or cities where the student population is a significant proportion of the total.

The annual mid-year population estimates count students as being resident at their term-time address. In the 1991 Census, students were counted as resident at their vacation address. However, because users wanted the census to be comparable with the mid-year estimates, the 2001 Census counted students as resident at their term-time address, although a limited number of counts were produced showing students at their 'home' address.

3.2.4 Seasonal populations

Seasonal populations encompass the population usually resident at different times of the year or enhanced to include, for example, overnight tourists. Information on such populations would assist in monitoring and planning for variable demands on local services.

This would require more frequent collection of data, and the census is thus not the right vehicle to capture this type of population base.

3.2.5 Population present (the *de facto* population)

This defines people where they actually spend the night of a particular reference date. Up until 1981 this was used as the main population base for the census. However, user requirements changed as lifestyles meant that people moved about more, and usual residence became the preferred base. Both the *de facto* and usually resident population were captured in 1981 and 1991. However, the tables using the *de facto* population were little used, and it was decided to capture people only at their usual residence in 2001, irrespective of where they were present on census night, particularly as this reduced the burden on the public. This also enabled the capture of information in respect of households that were wholly absent – and who may even have been out of the country – on census night, which had not been possible previously.

The *de facto* count can be compared with the usually resident base to provide estimates of the transient or temporary population in an area. Such a comparison provides information on the relationship between the two populations; the difference between the two may vary greatly between different types of area. There is also likely to be a difference in the demographic and social characteristics of the usually resident population compared with people who move around and are less attached to one particular area.

Collecting census forms from people at the address where they are on census night may help increase response rates, in that it may be easier to enumerate people wherever they are, rather than trying to capture information from their place of usual residence. The *de facto* count may also reduce confusion about who to include on the census form.

3.2.6 Week-day and weekend populations

These are the numbers of people usually resident during the week or over the weekend, say, from Monday to Thursday night, or from Friday to Sunday night. The two may be quite different, particularly in areas where many people have second homes elsewhere.

3.2.7 Working population

This is similar to the weekday population, in that it is the number present in an area during normal working hours, Monday to Friday.

Again, areas that have a large number of commuters, or workplaces, will have populations that are markedly different during working hours from those present during the evenings and at weekends.

3.2.8 Daytime population

The population present in the daytime, will include tourists and visitors to the area, as well as people working and at school during the day. Local authorities need to fund services which are also used by tourists and visitors to the area, so this population base may provide useful information on the numbers of people in the area that would not be covered by a usually resident base. The census, however, is not suited to the collection of this type of data.

3.2.9 *De jure* (legal) population

This encompasses any 'legal' definition of the population to serve a particular purpose, for example, those eligible to vote in an area. The term is rather imprecise and is often also taken to mean the usually resident, home or total population of an area.

3.3 Frequency

During the census consultation exercise, users did not state a particular requirement for the types of information traditionally provided by a census to be available more frequently than five-yearly. However, this is unlikely to be because users do not really need information more frequently - those consulted may not have been thinking outside of traditional census data environment and perhaps assumed that more frequent data collection would not be possible. Within many government departments, however, there is a drive for evidence-based policy, including monitoring policy implementation at the small area level, which would clearly require more frequent and timely information for small areas and population subgroups.

There is also a requirement for accurate population estimates at least annually, and a preference for at least some basic population figures quarterly (although the requirement for increased accuracy and reliability in the annual estimates is much stronger), and this should be considered when assessing the various options for providing census-type information. The provision of accurate population estimates needs to be considered alongside the production of census-type data rather than seeing the two as separate processes.

3.4 Timeliness of delivery

The census consultation exercise identified no clear requirement for information to be provided more quickly than within 12 months of Census day. However, should the ONS be successful in its aim of providing more timely intercensal population estimates, then user expectations may change with respect to the delivery of census results.

Delivery of census data needs to be coherent with other population estimates figures released by the ONS. Neighbourhood Statistics is currently the main vehicle in this aim. It is important that the intercensal population estimates are as accurate as possible, to ensure user confidence in the figures produced. The proposed use of administrative data in the calculation of population estimates will eventually help further this aim, producing more robust population statistics.

3.5 Geography

Census data are required to be available and accurate at all geographies, nationally down to Output Area level. The four key principles behind the government's reform of public services give an implicit requirement for detailed and comparable information for small areas. Many users need to be able to build aggregations of areas, so providing data on the smallest areas possible increases flexibility. Most users indicated that it is important to be able to run multivariate analyses not only nationally but also at smaller geographies.

3.6 Content

It has been assumed throughout the consultation that the basic demographic details of age, sex and marital status will be available from the 2011 Census data. However, the consultation at the User Workshops, identified a number of additional topics for which users had expressed a requirement. The main topics identified, in order of frequency, were:

- income/wealth;
- ethnicity;
- employment/business;
- household relationships;
- health;
- education;
- language;
- migration;

- social status; and
- economic status.

It is important to note that the users consulted at the Workshops were not necessarily a representative sample of all users, and that there will be significant further research into the future topic set required.

3.7 Comparability across areas

Certain uses, in particular resource allocation, require strict comparability across all areas. Fairness, and a perception of fairness, are both absolutely critical, particularly when such large amounts of money are at stake. A number of users felt that it was not acceptable for certain areas to have more up-to-date population estimates than others, even if this means that all areas are out of date; users' views were that it is better to use older data for all than to update on a piecemeal basis. For this reason, many users did not see a rolling census as an acceptable replacement for a traditional census, even if data for non-sampled areas could be modelled. Users felt that population figures not only had to be consistent, but also that they had to be seen to be so.

4 Future needs

As already noted, much of the discussions with users have focused on current needs of census data. It is important that the ONS is able to identify how these needs are likely to change in the future. This section highlights those areas where changes are likely to occur, and how this may impact on the needs and requirements of users in the future. The ONS needs not only to identify the sort of information that users require, but also how best to collect this information as the population becomes increasingly more mobile and harder to locate.

Users expect a high level of reliability from census data and population statistics, and with a rapidly changing society it is important that any underlying assumptions on the collection and modelling of data are made clear. In rapidly changing areas, the importance of producing data that enables users to calibrate and benchmark population figures and administrative sources is increasing. It is vital that the data collected captures these changes and that users can rely on their accuracy.

4.1 Counting basis

Society is becoming increasingly fluid, and it is becoming more difficult to place people into strict categories, whether it be households, ethnic

groups or a single place of usual residence. The concept of 'usual residence' may not be relevant to a number of people in the population; second home ownership is becoming more common, and working patterns may mean that many people split their working and leisure time between two or more different places. Similarly, it is likely to become more difficult to define a household when people's attachments to one particular household are much less rigid than in the past. Simple counts of age and sex, on their own, no longer provide enough information on the demographic structure of communities so we need to ensure that we collect data that are relevant and meaningful.

Collecting the whole range of census information from wherever people are present on census night may be easier than capturing people at their usual residence. As people travel more (both within the country and abroad) and spend more weekends away, catching people at their main homes will become increasingly difficult. It should be recognised that discrepancies between population bases are likely to vary between different geographical areas (rural and urban communities, for example). Collecting information that allows flexible population bases to be produced (as described in **Section 3.2**) may be the only way to gather the whole spectrum of information that will satisfy user needs. The concept of 'usual residence' needs to be clarified and supplemented by other population definitions that can account for 'non-standard' situations such as people who live in more than one location at, for example, different times of the week and/or different times of the year.

4.2 Frequency

Greater frequency of data collection is becoming increasingly important due to the rapidly changing society we now live in. Most users attending the Workshops indicated that at least some information collected more frequently than every 10 years is desirable, if not essential. The report *A demographic statistics service for the 21st century*² indicates that much more timely estimates of the *population* than this are needed (perhaps partly because the emphasis in the report was on population data, rather than census data, and partly because the Workshops consulted people that actually use the data, rather than policy makers).

Patterns of migration, regeneration and decline may mean that areas change radically over a 10- year period, and there must be some means

of capturing this change. The ageing of the UK population has been well documented, but shifts in the ethnic and demographic make-up of communities may occur rapidly, for example, as people move to areas where jobs are more easily obtainable. This sort of movement is hard to predict (although there is a general North to South move of the workforce, more local shifts may be less obvious) and will be influenced by the future economic climate. The prospects of cheaper air travel and improved road infrastructure also have the potential of adding to society's increasing mobility.

It is clear that we need more frequent data to keep up-to-date with the characteristics of the population in different parts of the country, and this is something that the future population statistics system must deliver. The proposed use of administrative data in population statistics provides the potential to move away from the decennial cycle of census information to the annual production of data.

4.3 Geography

As with present usage, future census data need to be output to very small geographical areas to allow users as much flexibility as possible when aggregating areas. Some users of census data require detailed, comparable information for small geographies, and it is unlikely that the demand for small area data will lessen in the future. As already mentioned, the population is becoming increasingly mobile so it is important that census data can accurately capture these movements at a local as well as a national level.

4.4 Content

Changes in the content of the census will almost certainly be required to fit the needs of a changing society. However, some of these needs are impossible to predict, and many will depend on government policy at the time. It is important that these needs are reviewed nearer the time, so that decisions can be based on relevant and up-to-date information. But the timescale for such review must be balanced against the need for sufficient provision for thorough testing of questions, and form design and printing in advance of the next census.

Changing patterns in demography may have implications for the types of data that need to be collected in future. The UK population is ageing, with more people than ever living alone (particularly women). There are also shifts in the ethnic profile of communities, and ethnic populations may have markedly different

characteristics to the majority of the population (for example, in their demography, household structure and fertility rates). Population data need to identify these communities so that any specific needs they have can be addressed.

Possible changes in content may reflect the need for questions relating to income and language. There is, for example, an increasing call for data to be collected on income, despite the fact that this may have a deleterious effect on coverage, and with the increasing mix of ethnic groups living in the country, the need for data on language is likely to increase. Government initiatives to increase the number of Welsh speakers will also mean that more information is needed on Welsh speakers across the country, and this may also apply to other Celtic languages. Questions on access to IT resources may also become relevant in the future.

5 Summary conclusions

This report has detailed some of the many different users and uses of census data. For many of the key uses, there are certain aspects of a census (benchmark population counts, counts by characteristics, multivariate analysis, consistency, small area and small populations) that are essential. The consultation process has established that in order for an alternative to a traditional census to be acceptable to users, it must be able to achieve the following:

- Consistent and accurate data must be available for all geographies traditionally provided by a census, with an accurate assessment of coverage and quality.
- The topic set must be at least equivalent to that provided by a traditional census, and the inclusion of other topics such as income are strongly desired.
- The population estimates must be seen to be equitable (that is, fair to all local authorities and free from local authority influence), more accurate and more timely.
- Multivariate analyses for small geographies and populations must be possible.
- Usually resident individual and household counts must be possible, in addition to flexible outputs enabling analysis on other population definitions.
- Must provide value for money.

References

- 1 ONS. *Proposals for an Integrated Population Statistics System*. Discussion Paper. ONS, October 2003.
- 2 ONS. *A demographic statistics service for the 21st century*. The Stationery Office, July 2003.
- 3 ONS. *The 2011 Census: a proposed design*. Discussion Paper. ONS, October 2003.

Annex A: Consultation with users

This section provides an overview of the consultation carried out with various users of census data. It should be noted that the Workshops and meetings focused mainly on users and uses of census data, rather than other population figures produced by ONS. The separate Fullerton Review on the future of demographic statistics (*A demographic statistics service for the 21st century*²) provides more of an insight into what users require from population statistics in general, as opposed to their requirements for census data. This should be borne in mind when considering the conclusions listed in this section.

A1 Aims of the consultation

The aim of the Census Strategic Development Programme consultation was to understand the key uses made of census data in order to determine which aspects of the data were most important, and how best to provide this information in future. As part of this exercise, information was sought about what alternative sources of information could be used in the absence of data from a census. The purpose for collecting this information was three-fold:

- (a) it allowed the ONS to identify whether alternative sources provided a sufficient proxy for the census for particular uses, thereby possibly obviating the need for a traditional enumeration;
- (b) it provided the ONS with a valuable audit of the sources of information available to users; and
- (c) where the alternative was not a sufficient proxy, this provided assistance in assessing the benefits provided by a census.

In order to justify the expense of any future operations, an estimate of the cost of not holding a census in 2011 was produced. The Office for the Deputy Prime Minister, Welsh Assembly Government, the Department of Health and the Home Office were asked to produce figures on the extent to which individual areas lost out due to the mis-allocation of resources that results from using inaccurate population figures. As a result of resources being mis-allocated some areas will gain and some will lose. This matters

if society places a value on areas receiving a minimum allocation of resources (per resident) to ensure a certain level of service can be provided. It is more likely that concern will be greater for areas that lose than for those that gain. If the mis-allocation means that some areas receive less than the minimum level of resources the value of this shortfall could be seen as the immediate social cost of the mis-allocation. It is this information that the ONS asked users to provide.

Links between allocations and other variables may exist, for example, council tax levels, health indicators, crime statistics, etc. If such relationships exist, then some of the cost of (for example) crime or health to society may be attributed to not getting the census right. For example, a health authority may have to cut the numbers of operations done each year if it receives reduced funding due to incorrect census figures, or a local authority may set its council tax higher to reach its required funding levels. The ONS asked the above government departments to provide information on this if it was relevant.

A2 Workshops

Two User Workshops were held during the initial stages of the consultation. The first involved external users of census data drawn from the academic, health, local government, central government and business sectors, together with representatives from the Statistics Commission, the General Register Office (Scotland) and the Northern Ireland Statistical Research Agency. The second involved users of census data internal to ONS, and included those with interests in population and demography, ethnicity and identity, health and care, and Neighbourhood Statistics.

The approach for the two Workshops was the same, with users being asked to identify their key uses for information traditionally provided by a census. The key attributes of the data were then identified for each use; alternative data sources were identified and the disadvantages associated with these alternative data were discussed.

Additionally, users were presented with some alternatives to a traditional census and invited to discuss the advantages and disadvantages of the various approaches. The alternatives discussed during this session were an administrative sources census and a rolling census.

A full report on these Workshops can be found in Census Advisory Group paper AG(03)07. Summary conclusions are that:

- The census is a key source of information for a wide range of uses.
- Key features of census data are numerators and denominators for characteristics, small area and small population data, ability to produce multivariate statistics and the ‘snapshot’ of the population a census provides.
- The census provides consistent information for small areas and populations which is not available from any other source.
- For most uses, usually resident individual and household populations are essential, but there is also a requirement for daytime and visitor populations.
- Quality, coverage and geography are more important than gains in frequency or timeliness.
- There was general unease about a rolling census.
- The users’ ideal was for a full traditional census, supplemented by data from administrative sources.

The impression from the Workshops was that users found it difficult to consider the advantages that alternatives to a traditional census might bring. They were confident in the advantages that a traditional census approach provided, and were used to working within its limitations.

As already noted, little reference was made to other population statistics produced by the ONS – the focus was on uses of census data only.

A3 Meetings

The following government departments were identified as key users of census data:

- Office of the Deputy Prime Minister;
- Department of Health;
- Department for Education and Skills;

- Home Office;
- Department for Transport; and
- Welsh Assembly Government.

Other key users consulted were:

- Local Government Authorities;
- Census-linked study of non-response; and
- Internal users.

Meetings were conducted, or correspondence exchanged, with, the above departments to understand their requirements in more detail. The structure of the discussions was similar to the approach taken at the User Workshops. Where a department had sent delegates to the Workshop, their responses were used as the starting point of discussions.

Findings were broadly similar to those of the Workshops. The increasing use of administrative data, and the desire to link information from different sources and census data was also often mentioned.

A4 Details on users and uses

The following table summarises the key users and uses of census data identified, and the value for resource allocation that is dependant on complete, accurate, consistent census data. (It should be noted, however, that census results form just part of the allocation process.) These are broken down into the four main categories outlined in **Section 2.2**.

Table 1
Resource allocation and targeting investment

	TOTAL FUNDS ALLOCATED
CENTRAL GOVERNMENT	
Office for the Deputy Prime Minister	£44 billion
Standard spending assessments (these fund local authority spend on services such as education, transport, police, social services, fire)	
Housing Investment Programme	
Rural regeneration	
Social exclusion	
Home Office	£3.8 billion
Police	
Prisons	
Refugee funding	
Probation service grant	
Welsh Assembly Government	£3.5 million
Welsh Local Government Finance Settlement	
Department of Health	£45 billion
Hospital and Community Healthcare Service (HCHS) resource allocations: acute, psychiatric, community health services	
GP deprivation payments	
Prescribing allocations	
Personal social services	
LOCAL PUBLIC SERVICES	
Local Government Authorities	Allocation of £44 billion from ODPM
Revenue spending on all LA resources	
Local Health Authorities/Local Health Boards	
Allocating financial resources throughout NHS down to primary care practitioners	
Regeneration programmes	
Business users	?
Identifying areas for community investment	
General resource allocation	
Site location planning	
TOTAL FUNDS ALLOCATED PER YEAR USING CENSUS DATA	£93.3 billion

Planning**Central government**

Office for the Deputy Prime Minister
Household projections
Land use planning
Modelling social housing need

Home Office

Population projections by cultural variables
Emergency and disaster planning

Department for Transport

National Road Traffic forecasts
Demand planning for driving licence volumes (DVLA)

Department for Education and Skills

Projections of supply and demand of highly qualified people

Welsh Assembly Government

Policy decisions feeding into aspects of planning

Department of Health

Policy decisions feeding into aspects of planning

Local public services

Local Government Authorities
Land use planning
Population/household projections
Transport planning
Housing services
Education services
Training initiatives

Local Health Authorities/Local Health Boards

Projection of health needs
Local service planning

Business users

Service planning
Staff training and recruitment

Policy formulation or review**Central government**

Office for the Deputy Prime Minister
Used in conjunction with other LA statistics (for example, finance) to measure spend on a per capita basis to inform policy development (for example, taxation)
Policy advice on rural areas
Planning and land use
Performance assessment of local government
Housing uses, for example overcrowding at small level

Home Office

Monitoring service delivery by ethnicity, religion, nationality, country of birth and migration data at small area level by range
Monitoring effectiveness of policies to tackle racial discrimination and disadvantage
Monitoring performance across policing and crime reduction
Targeting resources to overcome cultural and linguistic barriers
Targeting resources to promote the successful settlement of refugees
Targeting and evaluating preventative action against crime

Department for Transport

Developing regional transport strategies
Transport statistics (to monitor trends, inform decisions and to respond to requests for information)
Monitoring effectiveness of local authority transport expenditure

Department for Education and Skills

Monitoring education policy
Tracking outcomes for different qualification levels
Local Environment Information to put performance of individual areas into context
Achieving National Targets for Education and Training
Identifying disadvantage and priorities for action

Welsh Assembly Government

Evidence base for Assembly policies and programmes, to identify key factors and monitor effectiveness (includes equality, social/health care, transport and rural issues, spatial planning)
Measure the effect of initiatives to promote and facilitate the use of Welsh language

National Statistics

Base for population estimates, projections and migration

Production of life expectancy estimates
 Longitudinal study
 Multi-source topic reports
 Benchmark/grossing up survey data

Department of Health

Development of services in specific areas, targeting inequalities
 Benchmark for surveys
 Monitoring initiatives

Local public services

Local Government Authorities

Monitor the supply of qualified persons in key areas, for example teaching
 Unitary development/structure/local plans
 Accommodation and housing needs assessments
 Multicultural education policies
 Providing and monitoring social services
 Meeting statutory duties
 Quantify caring locally and assess the implications for social services
 Improving access to services such as education, training and leisure.

Local Health Authorities/Local Health Boards

House condition surveys
 Providing, planning and monitoring education services
 Providing, planning and monitoring social services
 Tackling discrimination

Business users

Development of products
 Strategic development of estate
 Store performance analysis
 Identifying past and future trends
 Setting targets

Social or market research

Central government

Home Office

Research into:

- ethnic minorities and disadvantage
- race relations
- causes of crime
- drug offenders and drug seizures

Analysis of British Crime Survey

Department for Transport

Small area travel patterns
 London area transport survey
 Transport statistics and modelling

Department for Education and Skills

Tracking outcomes for different qualification levels
 Labour market skills

Welsh Assembly Government

Analysis of person level data to complement schools census
 Analysis of migration data used for rural and economic policies

Local public services

Local Government Authorities

Labour market studies
 Retail analysis
 Deprivation studies

Local Health Authorities/Local Health Boards

Geographic and socio-economic relationship with health patterns

Business Users

Analysis of customer behaviour
 Strategic marketing analysis
 Segmenting and classifying areas, geodemographic profiling
 Customer targeting
 Modelling market estimates

A5 Uses by, and requirements of, particular government departments

Welsh Assembly Government

Uses

- Benchmark information to compare with other sources of data in order to judge their relevance and applicability, for example education, employment or training.
- Grossing the Welsh household and dwelling survey.
- Resource allocation:
 - for Welsh Local Government Finance Settlement;
 - to identify groups and areas for the allocation of financial resources and the distribution of grants, etc.
- Policy decisions:
 - Evidence base for Assembly policies and programmes, to identify key factors and monitor effectiveness. Includes:
 - Equality
 - Social and health care
 - Transport
 - Rural issues
 - Spatial planning
 - Measure the effect of initiatives to promote and facilitate the use of Welsh language, and allow effective targeting of associated public funds. Aid employers to meet their obligations under the Welsh Language Act 1993.
- Analysis:
 - of individual person data to complement that collected annually via the pupil-level schools census;
 - of destination following education or training; and
 - of migration data (used for rural and economic policy).

Requirements

Usually resident population (daytime and seasonal important but not essential) and households. Would like information every 5 years, results produced within 6 months/one year, down to postcode/output area level.

Would like linkage of census data with a number of other administrative sources, for example British Crime Survey. A Welsh language form is also required (this can be a separate form to the English one, but both need to be delivered together).

Content

- All variables relevant to equality (for example, ethnicity, disability);
- All variables relevant to deprivation;
- Economic activity and related factors (such as transport to work);
- Full range of socio-economic variables;
- Access to individual records;
- Cull cross-section of person and household characteristics additional to existing questions by incorporating elements covered in other surveys such as the General Household Survey, British Crime Survey, and Labour Force Survey.
- Welsh language question throughout England and Wales (including detail on how it is spoken, and under what circumstances);
- Tenure;
- Central heating;
- Limiting long-term illness;
- Dependant children;
- Employment/education status (including information on full-time or part-time employment)
- Destination following education or training (that is, is the person in education or employment now, and what was their status 6 or 12 months ago); and
- Migration data (both patterns and histories).

Department for Transport

Uses

- Planning
 - Preparing regional planning guidance;
 - Small area travel patterns - analysis of geographical links between home, workplace and other facilities;
 - National Road Traffic Forecasts (results used in the assessment of road building programmes);

- London Area Transport Survey;
- Planning and auditing accessibility of services;
- Demand planning for driving licence volumes (DVLA); and
- National Transport Model.
- Policy:
 - Developing regional transport strategies;
 - Transport statistics (to monitor trends, inform decisions and to respond to requests for information);
 - Transport modelling; and
 - Monitoring effectiveness of local authority transport expenditure

Requirements

Population bases: usually resident population, population present, households, workplace population.

Geography: data needed at Output Area/postcode level (transport needs cross administrative boundaries, so wards or Output Areas are often needed to build customised geographic units).

Frequency/delivery: Data to be collected every 5 years, results to be produced within one year.

Content

- Method of travel to workplace;
- Workplace address - also need information on where people travel from (not always clear if people have second homes, etc);
- Access to car/van - and availability to each household member throughout the day;
- Car ownership and number of cars owned;
- Household type;
- Employment status;
- Socio-economic group (but prepared to accept what would be most useful to other users);
- Income question would be desirable; and
- Ethnicity.

Department for Education and Skills

Uses

- Monitoring:
 - Monitoring education policy to ensure equality of opportunity and to raise educational achievement for gypsies;
 - Monitoring disability in the population • briefing/policy on working at home, and on combining work with jobsearch;
 - Tracking outcomes for different qualification levels;
 - Local Environment Information to put performance of individual areas into context;
- Policy decisions:
 - Achieving national targets for education and training;
 - Identifying disadvantage and priorities for action;
- Planning:
 - Projections of supply and demand of highly qualified people
- Analysis:
 - Teacher supply; and
 - Labour Market Skills.

Requirements

Require census information more frequently than every 10 years. Would like time-series data at a local level.

Content

Main questions used at present are those on students, qualifications and demographic characteristics.

- Income;
- Long-term illness;
- Ethnic origin including 'gypsy' category;
- Religion;
- Socio-economic class;
- Language question - language spoken in the home;
- Relationship within the household;

- Qualifications (need to link with relationship matrix - qualification of parents needed). Data on diplomas helpful;
 - Data on student migrations and populations;
 - Travel to work;
 - Caring status;
 - Industry/occupation;
 - Supervisory status;
 - Country of birth;
 - Migration information;
 - Demographic characteristics; and
 - Would like to link survey, census and health records
- evaluating preventative action against crime;
 - Research:
 - on drug offenders and seizures;
 - on ethnic minorities, race relations, racial disadvantage, race and crime;
 - on causes on crime; and
 - analysis of the British Crime Survey.

Requirements

Usual residence, households, data collected on a yearly basis with results produced within 6 months. Daytime populations also useful. Output area/postcode level to allow flexible geographies.

Content

Home Office

Uses

- Monitoring:
 - Service delivery by ethnicity, religion, nationality, country of birth and migration data at small area level by range;
 - Performance across policing and crime reduction; and
 - Effectiveness of policies to tackle racial discrimination and disadvantage;
- Resource allocation:
 - Probation service revenue grant;
 - Prisons funding;
 - Refugee funding - National Asylum Support Service (NASS); and
 - Police funding formula;
- Planning:
 - Projections of population by cultural variables; and
 - Emergency planning and research for disaster scenarios;
- Targeting resources:
 - to overcome cultural and linguistic barriers;
 - to promote the successful settlement of refugees; and

- Transport;
- Health;
- Ethnicity;
- Religion;
- Country of birth;
- Nationality;
- Migration;
- Employment and occupation;
- Income;
- Lifestyle;
- Multi-occupancy;
- Household composition;
- Accommodation type;
- Tenure;
- Information on daytime populations (travel to work, place of study);
- Language; and
- Where people spend time in the evening (useful to criminal justice system).

Department of Health

Uses

- Resource allocation:
 - Hospital and Community Healthcare Service (HCHS) resource allocations: acute, psychiatric, community health services;
 - GP deprivation payments;

- Prescribing allocations;
- Personal social services
- Policy uses (allowing services to be designed and planned for specific areas):
 - Children;
 - Workforce;
 - Elderly;
 - Health/outcome indicators;
 - Community care;
 - Mental illness needs indicator;
 - Air quality;
 - Inequalities:
 - general;
 - ethnic health monitoring and promotion;
 - environment; and
 - locality profiles;
 - Deprivation; and
 - Catchment populations and registration with service providers (for example GPs)
- Monitoring initiatives; and
- Benchmarking surveys.

Requirements

Population base: usually resident, visitors (since they will use health services in the area they visit). Need information more frequently than every 10 years. Data required down to postcode/output area level.

Content

- Limiting long-term illness;
- General health;
- Income;
- Household composition and relationships (lone parent families, number of children);
- Carers;
- Accommodation type;
- Professional medical qualifications;
- Ethnic group;
- Industry/occupation;
- Religion;
- Language (including language spoken in the home);
- Migration;
- Socio-economic indicators;
- Comparability of Census data with registration data (particularly death registration)

Office for the Deputy Prime minister

Uses

- Resource allocation:
 - Calculation of standard spending assessments which funds local authority spend on education, personal social services, police, highways, fire;
 - Allocating resources to local authorities for housing through the Housing Investment Programme;
 - Rural regeneration;
 - Neighbourhood Renewal Unit; and
 - Social Exclusion Unit;
- Planning:
 - Producing household estimates and projections;
 - Rebasing dwellings estimates;
 - Modelling social housing need; and
 - Modelling migration
- Policy decisions:
 - Used in conjunction with other LA statistics (such as finance) to measure spend on a per capita basis to inform policy development (for example, taxation);
 - Policy advice on rural areas;
 - Planning and land use;
 - Performance assessment of local government; and
 - Housing uses, for example overcrowding at small level;
- Monitoring:
 - Measuring deprivation;
 - Monitoring equal opportunities;
 - Checking/rebasing administrative sources;

- Calculation of indicators (for example, best value performance indicators) to measure local authority performance;
- State of the cities
- Sampling and grossing the English House Condition Survey

Requirements

Population base: usually resident, population present, households, visitors, part-time and seasonal residents all required. Data collected every 5 years, results produced within one year, down to output area/postcode level. Urban/rural output.

Content

- Tenure;
- Ethnicity;
- Accommodation type;
- Language;
- Income;
- Socio-economic status;
- Household relationships;
- Country of birth;
- Ability to produce multivariate statistics;
- Employment;
- Qualifications;
- Self-contained accommodation;
- Number of rooms;
- Car ownership;
- Communal establishment residents;
- Area (hectares);
- Health (limiting long-term illness); and
- Workplace address (to give net in-commuters, daytime population)

Business users

Uses

- Targeting new investment to local areas:
 - Segmenting and classifying areas;
 - Modelling market estimates;
 - Matching supply to local demand;
 - Site location planning/strategic development of estate;

- Service planning - location of shops, banks, retailing;
- Network analysis; and
- Identifying areas for community investment programmes
- Reviewing local performance, and marketing:
 - Establishing market penetration rates;
 - Store performance analysis;
 - Merchandising decisions;
 - Media selection;
 - Targeting areas for door-to-door delivery;
 - Targeting local advertising;
 - Operational planning; and
 - Staff training and recruitment;
- Customer and Prospect analysis:
 - Market segmentation (geodemographic);
 - Customer and prospect targeting;
 - Pre-mail credit scoring;
 - Response analysis;
 - Economic analysis of customer behaviour; and
 - Data fusion on customer files
- Market research surveys and marketing strategy:
 - Sample frame building;
 - Setting weights and quota targets;
 - Grossing up survey results;
 - Strategic marketing analysis;
 - Geodemographic profiling;
 - Development and marketing of financial products; and
 - Creative development.

Requirements

Population bases requested: usually resident, households seen as essential. Population present was also commonly requested. Geography: information is needed down to output area/postcode level.

Content

A number of variables were identified as being used, including:

- Social class;
- Ethnicity;
- Religion;
- Household structure;
- Car ownership;
- Employment/occupation;
- Demographic data;
- Workplace populations;
- Income was identified as a variable which would be very useful - currently other variables are used as a proxy (for example size of home, number of cars);
- Qualifications data are used to identify training needs.