



Advisory Group Paper AG (04) 01

NB Advisory Group members were sent a link to the paper on the website – not actually issued as an Advisory Group paper but recorded as such for archive purposes.

**CONSULTATIONS WITH USERS ON POPULATION DEFINITIONS FOR
THE 2011 CENSUS**

As highlighted in the Information Paper The 2011 Census: A design for England and Wales published in March

http://www.statistics.gov.uk/downloads/theme_population/2011_design_information.pdf

consultations would be undertaken with users in defining population definitions for the 2011 Census.

A consultation document on population definitions for the 2011 Census is now available on our website

http://www.statistics.gov.uk/about/consultations/general_consultations/downloads/Population_definitions.pdf

If you would like to make any comments please send them by 25 July 2004 in writing either by email to chris.w.smith@ons.gov.uk

or by post to

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CONSULTATIONS WITH USERS ON POPULATION DEFINITIONS FOR THE 2011 CENSUS

Consultation Document (Final Draft)

Introduction

1. Population statistics such as population estimates based on the census and mid-year estimates and projections produced during the intercensal period, are widely used to provide some of the key basic information about people and where they live. They are used to allocate resources to local and health authorities, and also are an essential input to the derivation of indicators and targets to monitor the impacts of public policies, covering economic and social, national and local issues. Understanding the needs of users is important in determining the most appropriate reference base or bases selected for population statistics output e.g. resident population, working population, population in households and so on.
2. This paper is being produced now as part of work in preparation for the 2011 Census and thus includes some analysis of the implications for that Census. However this paper is restricted to a discussion of population bases; it is not about the case for the population statistics themselves nor does it address other topics within the Census.
3. The paper contains a summary of users' needs for a variety of population bases and a discussion of the implications for meeting these needs. **Users are asked to comment. Please make comments in writing to Chris W Smith at ONS by email (chris.w.smith@ons.gov.uk) or in writing (address at end of paper) by 25 July 2004.**

Previous Consultation

4. There has been extensive consultation on users' data needs in recent years; this has included a detailed consultation on uses made of population and household statistics, consultation on design of the 2011 Census, for the 1998 Population Statistics Review and in assembling of business cases for the 2001 Census. Any further consultations in preparation for 2011 must build upon this information gained, rather than needlessly replicate it. The summary provided in Table 1 is based on an analysis of responses to all these consultations, and considers mainly those potential population bases enumerated in the recent ONS report (July 2003) *A Demographic Statistics Service for the 21st Century*.
5. Table 1 has been divided on the basis of population bases adjudged as *key uses* (which are the main ones that have been used in the past, either as an enumeration base in censuses and surveys or for population statistics) and those categorised as *other uses*, as based upon information assembled from earlier consultations.
6. Increasingly diverse and dynamic living patterns mean that the reference population required for particular decisions will need careful thought. The system of population statistics needs to recognise this complexity by providing information on a range of

definitions to suit different purposes. In consultations the following bases were mentioned by users most frequently:

- Individuals usually resident
- Households usually resident
- Population present
- Daytime population
- Working population

7. The primary distinction is between the set of measures that capture a *usual residence* concept and those which capture a *de facto* or actual population, such as population present or the daytime population. The usual residence definition is all those who usually live in an area, whatever their nationality. Members of HM Forces stationed abroad are excluded. UK and US Armed Forces stationed in the UK are included. Students are taken to be resident at their term-time addresses. However, for some people defining usual residence presents a significant challenge. *De facto* or actual population is defined as where people actually spend the night of a particular reference date. Comparing these definitions, the *usual residence* figure would be expected to be higher than the *actual population* figure in student areas or other places where there are large numbers of people resident for most but not all of the year. *Usual residence* figures will be expected to be lower than *de facto/actual population* figures in tourist areas, areas of seasonal working or other areas where there are large numbers of people present for some but not most of the year.

Changing Society

8. The existing population statistics are founded on the concept of *usual residence*. Analysis of the user requirement suggests that in modern society, to provide best estimates of the usually resident population, a better conceptual basis for measurement might be the *actual population*, either on its own or in combination with another base or bases. If confirmed, this would be a most important conclusion. There are a number of reasons for reaching it:

- It is simpler to understand. This should mean that it is both capable of better measurement and better able to be related to some specific use of the statistics
- If it were possible to estimate an average actual population over a period of time such as a year then this might provide a measure more closely aligned to many uses. As noted above *usual residence* statistics include students even though they are only present for part of the year. *Usual residence* figures exclude seasonal workers, tourists and other temporary residents even though they are present for some of the year
- It can be easier to link *actual* population measures to other measures including weekday/weekend and daytime population.

However, there are drawbacks to measuring population on an actual population basis. For instance there is the potential difficulty of producing full household information for people who are not present when the count is taken. Careful thought is also needed on the issue of the burden imposed on those temporarily present and to the question of how to assess coverage. ONS are taking forward work to evaluate this.

9. In deciding the way forward here, we will need to fit with international standards. We will also need to think through how other definitions would link within a framework that has *actual population* at its core. For instance, one consequence of collecting data in a census or a survey on a *population present* basis is that complete information on all family relationships may not be obtained. There may additionally be impact upon other census topics such as travel to work statistics. It may be necessary to use more than one base to overcome these issues. However clear guidance would be needed on how the data should be used to avoid confusion for users. These issues will be assessed in reaching a decision about the most appropriate population base(s).

Quality

10. The prime motivation for renewed emphasis on population statistics has been twofold. The quality required from the figures has increased. At the same time the ability of the current sources and methods to deliver even previous levels of quality has declined. The decline in quality of the estimates was clearly revealed by the 2001 census which showed in many areas substantial variation between estimates rolled forward from the previous census and the new benchmark estimates. The increasing scale of migration, especially since the late 1990s, different living arrangements (e.g. split households) and the increasing difficulty of reliably measuring the population whether it be in the census, surveys or through administrative means have all played a part in this.

11. Two particular aspects of quality are worthy of note in discussing the definition of the reference population that are to underpin the key population statistics produced by ONS. One is the need for coherence between sources and specifically that core population statistics must be on a base that is coherent with the base underlying the sources used to estimate population change. Second, the widespread use of population statistics as denominators may require population statistics to be available for more than one base, so that in generating rates population statistics for the denominators are available on the same definition as the numerators. These rates may be calculated at different geographical levels, and having an understanding of what these levels are may be important for decision making.

12. There is a wide range of users who require population statistics for a multitude of purposes. Some simply need high level figures, whereas others require great detail, either in terms of small area geography and/or the characteristics of the population, or information about the underlying components explaining changes in population. There are two broad types of users: those who require absolute numbers (e.g. to enable allocation of resources) and those who use the information to derive indicators and who are therefore usually interested in monitoring trends over time. The former requires a high degree of accuracy using the best data sources and methods available at the time of production, whilst the latter requires consistency from year to year.

Next Steps

13. This paper summarises user needs. It will be used by those planning the 2011 Census to help inform the choice of the enumeration base. In taking the work forward to address the issues identified here ONS will work with key users and plans to set up a population definitions working group in summer 2004. In particular we would welcome the responses of users to the following:

1. Are the needs for population bases reflected in this summary document?
2. Would output relating to an estimate which is based on both actual population and those resident in the census, meet your needs?
3. To provide the fullest possible picture, should supplementary outputs showing usual residence and population present on census day also be provided?

8 June 2004

References

1. *A Demographic Statistics Service for the 21st Century* (ONS; July 2003)
2. *Census Strategic Development Review: User Requirements Report* (ONS; October 2003)
3. Benton, P. and White, I. (Autumn 2003) 'Looking Beyond the 2001 Census' Population Trends
4. *Covering All Bases: early plans for population bases for the 2011 Census* (forthcoming in Population Trends 116, June 2004)
5. *ONS Population Statistics Review: Actions in Response to the Identified Requirements* (ONS March 2000)

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Table 1: Summary of Potential User Needs for Population Bases

Part A: Key Uses

| Population Base | Uses | Users | Source(s) |
|---|---|---|-----------------------------------|
| Usual Residence | Resource allocation; Planning; Monitoring; Base for Projections; Denominator in Production of Key Rates; Weighting Surveys; Socio-economic and Demographic Analyses | Central Government (including ONS) (CG); Local Authorities (LAs); Health Authorities (HAs); Academics and Researchers; Business; General Public | Census; ONS Mid-year estimates |
| Usually Resident in Households | Planning Base for Projections; Control Totals for Survey Weighting | CG; LAs; HAs; Academics and Researchers; Business; General Public | Census; ONS Mid-year estimates |
| Institutional Population | Planning; Base for Projections; Control Totals for Survey Weighting | CG, LAs; HAs | Census |
| <i>De Facto</i> Population (Population Present) | Traditional in Censuses before 2001. Simple but does not measure people likely to use services | CG; LAs; HAs | Census (pre-2001) |

Part B: Other Uses

| Population Base | Uses | Users | Source(s) |
|--|---|--|---|
| Term-time/Out-of-term Population | Provides better indication of relative pressure on services at different times of the year | LAs; HAs | Census |
| Seasonal Population | Monitoring and planning for variable demands for local services, including impact of migrant working and tourism; As a Comparator to Usual Residence above, to provide estimates of transient or temporary population in an area | CG; LAs; HAs; Businesses | Frequent collection of data required, thus Census not right vehicle for this population base. In the future: Quarterly Population Estimates |
| Weekday/Weekend Populations-variant of <i>de facto</i> | Provides potentially useful indicator of relative pressures on sources during week (Mon-Thur)/weekend (Fri-Sun) | LAs; Businesses; HAs | Census is held at weekend; Work-place statistics used in some countries to estimate weekday populations |
| Daytime Population (Population Present in the daytime including tourists and visitors) | Funding allocation for LAs | CG; LAs; Leisure and Tourism Businesses | International Passenger Survey; British Tourism Survey; Summary of visits to paid Attractions |
| Temporarily Resident Population (people here for regular short-term visits; e.g. children of divorced/separated parents dividing their time between parents) | Funding allocation for LAs; Service Planning | CG; LAs; HAs; Leisure and Tourism Businesses | International Passenger Survey; British Tourism Survey |

| | | | |
|--|---|--|--|
| Working Population | Provides potentially useful indicator of relative pressures on services during normal working hours; Socio-economic and Demographic Analyses | CG; LAs; HAs; Economic users | Labour Force Survey; National Insurance Lists? |
| Legal Population | Encompasses any 'legal' definition of the population (e.g. those eligible to vote in an area) | It is not a <i>legal</i> requirement to be officially registered at an address in UK | Not Applicable |
| UK Residents Living Abroad | UK Citizens are eligible to vote in Parliamentary elections; Socio-economic and Demographic Analyses | Electoral Registration Officers; Researchers | Electoral Registers; Not feasible for a Census (though the US Census Bureau are piloting a project) |
| Non-UK Residents Living in UK | Similar to Temporarily Resident Population | | |
| Registered Population/bespoke service population | Target population for particular services (people registered for specific services such as GPs, voting, pensions and benefits) | Service Providers | Administrative Registers |