

The Census and Future Provision of Population Statistics in England and Wales: Recommendation from the National Statistician and Chief Executive of the UK Statistics Authority

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1 Executive summary

- The UK Statistics Authority asked the Office for National Statistics (ONS) to review the options for the future provision of population statistics and the next census in England and Wales after the previous census was concluded. Scotland and Northern Ireland are conducting their own reviews.
- ONS launched the Beyond 2011 Programme of research and reviews, including a major public consultation at the end of 2013. The results of this [consultation can be found here](#). The Programme examined and compared various approaches to counting the population, both here and overseas, engaged with a diverse group of users, commentators and public bodies, commissioned a major independent review of methodology (the [Skinner Review](#)) and undertook quantitative and qualitative research into [public attitudes to the use of personal data for statistics](#).
- The Programme identified as options for the future, two broad approaches:
 - An online decennial census replacing the traditional paper census (the census in 2011 for the first time allowed online responses for those who wished)
 - Annual population statistics derived from the use and re-use of administrative data supplemented by household surveys
- The decennial census is tried, tested and broadly popular. Users, public and private, large and small, value the detail provided for small area and small population groups. Genealogists and social historians value the wealth of information about past generations that each successive census adds.
- In 2011, 16 per cent of respondents chose to respond to the England and Wales census online. Our research suggests that the general public is ready to move to a fully online census, as long as there is appropriate help and support for those who cannot or will not go online.
- The use of administrative data, already collected from the public for specific purposes and held by the state, has the potential to improve the accuracy, frequency and efficiency of population statistics.
- Some of our international neighbours have moved over entirely to an administrative data approach. However, all of these countries have a population register to underpin the approach which England and Wales do not. Many countries are still operating a decennial or quinquennial census.
- [The Skinner Review of methodology](#) attached a low risk to the online approach, noting that it would represent a natural evolution of the traditional decennial census, paralleling developments elsewhere.
- The Skinner Review attached a higher risk to the administrative data use approach, pointing out the problems of population estimation in a country without a population register, and the prior requirement for enhanced data-sharing between public bodies holding personal data and ONS.
- The Skinner Review recommended further research in to the administrative data use approach and identified the need for ONS to demonstrate that the proposed methodology could work. Skinner would not recommend substituting it for the decennial census yet.
- As National Statistician and Chief Executive of the Authority, having reviewed the whole of the Beyond 2011 Programme – the international comparisons, the statistical research and the Skinner Review, the public attitudes research and the responses to the public consultation - my recommendation to the Board of the UK Statistics Authority for the future provision of population statistics and the next census is:
 - An online census of all households and communal establishments in England and Wales in 2021 as a modern successor to the traditional, paper-based decennial census. ONS recognises that special care would need to be taken to support those who are unable to complete the census online.
 - Increased use of administrative data and surveys in order to enhance the statistics from the 2021 Census and improve annual statistics between censuses.

- This would make the best use of all available data to provide the population statistics which England and Wales require and offer a springboard to the greater use of administrative data and annual surveys in the future.
- Further research is to be carried out over the coming months and years to determine the most appropriate blend of methods and data sources.
- However, it is clear that the future development of the administrative data use approach depends on public consent as expressed through Parliament. Data sharing legislation would be required to maximise the benefits of this approach.

2 Introduction

In May 2010 and ahead of the census in 2011, the UK Statistics Authority asked the Office for National Statistics (ONS) to begin a review of the future provision of population statistics in England and Wales in order to inform Government and Parliament about the options for the next census. After every census, ONS reviews how the census was conducted and what lessons could be learned. On this occasion, the Authority asked a more fundamental question about the best way to provide population statistics in the future. Separate reviews are underway in Scotland and Northern Ireland.

Counting the population of England and Wales, Scotland and Northern Ireland has always been important to Government and Parliament, and is vital in underpinning much of the wider government statistical system. It is the means by which the nation knows itself and can plan for its future. Historically, in the UK, counting the population has meant the census - a questionnaire completed on a designated day once every ten years – but new ways of counting the population, including use and re-use of administrative data (provided to government by the public as they use public services) have emerged. The Board of the Authority asked ONS to consider the relative merits of modernising the decennial census (taking it predominantly online) and moving to annual statistics based on administrative data, supplemented by household surveys.

Over the past three years ONS has undertaken extensive research and consultation into new approaches to counting the population and reviewed practices in other countries (the Beyond 2011 Programme). In particular, and with the co-operation of the Royal Statistical Society (RSS), ONS commissioned [an independent review of methodology](#) by Chris Skinner, Professor of Statistics at the London School of Economics. This was published in November 2013. ONS has engaged with a diverse group of users, commentators and with public bodies across England and Wales and has recently undertaken a major public consultation. [The report of the consultation](#) is published in parallel with this recommendation.

This paper summarises the main conclusions of the Beyond 2011 Programme and presents my recommendation to the Board of the UK Statistics Authority on the future provision of population statistics and the next census for England and Wales. Scotland and Northern Ireland are carrying out their own reviews, and we will work together with the Devolved Administrations to continue to provide population statistics across the UK in line with European Union and international requirements for statistical outputs.

3 Continuity and change

The decennial census has a 210 year history. Every household in England and Wales has been required by law to respond to a series of questions about the household. The result has been the production of an unparalleled source of consistent and comparable information about the population, household characteristics, housing and occupations. The census is highly valued by government departments, local authorities, public bodies, business, the voluntary sector, academic researchers, commentators and individuals. For genealogists and historians, household responses from the decennial census are a key source, released after 100 years, to support family or social history research.

Population and housing statistics, particularly small area and small population statistics, underpin the allocation of billions of pounds of public spending each year at the national and local level. They are fundamental to policy formulation, decision making, research and outcome monitoring across the public, private and voluntary sectors. They also underpin the allocation of European regional aid and enable the UK to fulfil international obligations. The need for population and housing statistics is a constant.

The decennial census, as the ONS research and public consultation demonstrates, is invaluable and popular. However it is a snapshot once a decade, whose currency necessarily deteriorates over time. In periods of rapid societal change like the present, there is also a demand for more frequent updates of the rich detail provided by the census. Using and re-using administrative data supported by household surveys, if methodologically proven, statutorily enabled and publicly acceptable, offers the attractive prospect of more frequent updates of population statistics. The Authority and ONS took the view that it would have been remiss not to consider the potential alternative to the decennial census.

4 The administrative data approach

Using and re-using administrative data provided to the government by the public when engaging with public services (with suitable protections to protect confidentiality and privacy) offers the prospect of producing detailed population statistics without obliging every householder to complete a detailed census form. At its best this could mean greater accuracy, frequency and timeliness of statistics at a lower cost. Once a new system of sharing administrative data is up and running, the ongoing cost of obtaining statistics in this way could be lower.

Administrative data approaches to producing population statistics are becoming more common around the world: Germany, the Scandinavian countries, the Netherlands, Switzerland, Austria and Israel have moved to systems based primarily on administrative data. However, all such countries are able to link person information using a population register; the UK has no such register. Other countries, including the USA, Canada, Australia and New Zealand, continue to rely on the tried and tested approach represented by the quinquennial or decennial census. The first approach puts the onus on the state or public body to collect and analyse the relevant statistics from information it already holds about the public. The second relies on the public to complete a set of questions about family and household circumstances, which are then analysed by the statistics authorities.

ONS already makes some use of some administrative data for population statistics. For example the number of child benefit recipients in local areas was used to quality assure the number of children in the 2011 Census. The annual number of births and deaths in each local authority and information from GP registrations are used to roll forward the population estimates between censuses.

The Beyond 2011 Programme's research on population estimates produced from administrative data already provided to government, has progressed to publication of results which demonstrate strong promise for the future production of population estimates. However, it should be noted that statistics about population characteristics such as ethnicity could not yet be reliably produced from administrative data sources, so a large household survey would be needed to supplement the results.

The UK Statistics Authority and ONS recognise that enhanced use of administrative data could have many benefits for the nation in providing more frequent, more detailed statistics to support national and local decision making. For example, if it were acceptable to the public and Parliament, detailed statistics about income and employment could be produced using data from the tax and benefit systems. At its best, this could place us among the foremost users of best practices relating to the use of administrative data collected by government.

5 Public opinion, privacy and confidentiality

ONS already makes limited use of the administrative data to which it has access, and would like to do more in order to improve the quality and frequency of statistics between decennial censuses. The Authority and ONS are absolutely committed to preserving the confidentiality of personal data and to protecting the privacy of individuals and recognise that the public must have confidence in this if the uses of administrative data are to advance. The *Statistics and Registration Service Act 2007* makes it a criminal offence unlawfully to disclose personal information. Respecting confidential personal information is a fundamental tenet of the Authority and ONS.

As part of the Beyond 2011 Programme, ONS carried out [research into public opinion](#) about the different approaches to providing population statistics and the use of administrative data. This has included focus groups, opinion surveys and a series of workshops, undertaken by IPSOS MORI and commissioned jointly with the Economic and Social Research Council.

This research has demonstrated that:

- the public is generally positive towards the decennial census as a means of gathering information about the population;
- the majority of the public do not object to data held by other government departments being shared with ONS;
- objections are largely related to security and privacy concerns;
- the majority of the public trust ONS to protect the confidentiality of their data; and
- when provided with reassurance with regard to security and privacy, the public broadly support ONS re-using administrative data to produce statistics.

The Authority also recognises that greater use of administrative data will require more sharing of personal data by government departments and public bodies with ONS, and that new legislation to enable this will require continuing public understanding and support if it is to be acceptable. The Authority and ONS will continue to work closely with data protection, confidentiality and privacy experts, and will undertake privacy impact assessments as appropriate before making detailed decisions about the census and further uses of administrative data.

6 The public consultation

The ONS Beyond 2011 Programme developed two broad approaches to the future provision of population statistics:

- A predominantly online version of the traditional decennial census in 2021 (with due care for those who might not be able or wish to complete the online version). As is customary, this would require regulations made by Parliament under the provisions of the *Census Act 1920*.
- An annual census based on the collation of administrative data provided by individuals to the state and supported by compulsory annual surveys of representative samples of the population. This would require primary legislation to enable the sharing of such data with ONS from different government departments and to enable surveys to be compulsory.

Both approaches would provide statistics about the size of the population, nationally and for local authorities. A census using existing administrative data and household surveys would provide more frequent statistics about the characteristics of the population, while an online census would continue to provide more detailed statistics for small areas and small populations once a decade.

The consultation described the strengths and weaknesses of each approach and asked users to provide their views. The three month public consultation resulted in over 700 responses from government, local authorities, public bodies, commercial organisations, charities, academics and genealogists. 444 were from individual citizens and users, 271 were from organisations representing users. The overwhelming majority were submitted online. The [report of the public consultation](#) is published with this recommendation and assesses the range and weight of opinions. We are grateful to all those who responded to the consultation.

The key messages from the consultation are as follows:

- Population statistics are highly valued by a range of national and local users across England and Wales.
- Statistics for small geographic areas and small populations, currently produced only by a full decennial census, are regarded by users as essential to local decision making, policy making and diversity monitoring in fulfilment of legally binding public duties.
- Most users recognise the value of making greater use of administrative data to produce more frequent population statistics.
- There is a general concern that a decennial census is too important to lose until there is more certainty about the quality of data which could be provided by increasing use of administrative data. Many respondents note that other countries have taken decades to develop replacement systems, and some stated that it would be 'reckless' to move too fast.
- Many individual users acknowledge that their primary interest is in the census as a historical source and urge continuation of the historic series.

The consultation did not divide respondents into opposing camps, although there was a small but vocal minority, mainly individuals, who did not want to see any move away from the traditional paper-based decennial census. The great majority of respondents value the decennial census and particularly the small area, small population data which have always been at its heart. They also see the potential benefits of using administrative data to increase the range and frequency of population statistics. Support for one approach clearly did not preclude support for the other.

7 The independent review of methodology (Skinner Review)

In order to test its approach to assessing the options for the next census and the future provision of population statistics, ONS commissioned an [independent review of the methodology](#) by Chris Skinner, Professor of Statistics at the London School of Economics (LSE), Mike Murphy, Professor of Demography at the LSE and John Hollis, former President of the British Society for Population Studies and demographic consultant. The study was supported by the Royal Statistical Society and published in November 2013 .

The review accepted the ONS decision to consult on two front-running approaches:

- An online census “*to be carried out every ten years as at present and supplemented by the use of administrative data to take account of population change in intervening years*”.
- An administrative data option which would focus on the increased use of administrative data about the public which is already held by government, supplemented by a 4 per cent rolling annual survey to help estimate for characteristics of the population.

The review commended ONS for the thoroughness of the Beyond 2011 Programme and commented that “*ONS has a strong understanding of the methodological challenges and risks it faces*”.

The review noted that the online census would represent a natural evolution of the traditional decennial census and would mirror lines of development in some other countries - for example Canada where 54 per cent completed the census online in 2011 (as against 16 per cent in England and Wales in the same year). But it emphasised that the administrative data option would represent “*the most substantial change in the production of statistics for over one and a half centuries*”.

The review team read and analysed the many reports and publications produced by the ONS Beyond 2011 Programme. It also engaged with key users in order to ensure that no needs were overlooked, and consulted relevant experts on specific issues.

The Skinner Review noted the success of the administrative data option in census taking in other countries but attached a higher risk to it in the UK at present. In particular it noted the problems surrounding population estimation in a country without a population register and the consequent risk of over-estimating the population. In practice this could mean that the administrative data option would not produce reliable estimates of some population counts. In order to progress the administrative data option for the future provision of population statistics, the Skinner Review proposed further research by ONS and the statistical community.

Furthermore, the Skinner Review said that “*a key requirement is that there is suitable data sharing legislation between the statistical office and the authorities with control over the administrative systems so that these data will meet the statistical needs over time*”. As National Statistician I recognise that this legislation, desirable as it is for statistics and their users, requires understanding and support from an informed general public, and appropriate safeguards to protect personal privacy. It should be noted that the review was also clear that the administrative data option would require the proposed annual survey of 4 per cent of the population to be compulsory in order to guard against non-response distorting the statistics.

Professor Skinner and his colleagues came to the conclusion that the online census option was relatively low risk and “*would represent a natural evolution of the traditional census, drawing on technological innovations and developments in best practice for census taking around the world*”. They stressed the importance of maintaining the compulsory nature of the census and following up

any households where there was no online return. The Skinner Review had no hesitation in saying that an online census represented “*a methodologically sound basis for replacing Census 2011*”; they were not prepared to say the same for the administrative data option at the current stage of development in England and Wales.

8 Recommendation

The Authority is responsible to the UK Parliament for the production of population statistics and the decennial censuses for England and Wales. Recent legislation (*Transfer of Functions Order 2006* made under the *Government in Wales Act 1998*) gave a formal role in the approval process for the decennial census in Wales to the National Assembly for Wales. The Scottish Parliament and Northern Ireland Assembly have responsibility for their own censuses and are undertaking their own reviews.

The recommendation here has been prepared following discussion with the Registrars General for Scotland and Northern Ireland and the Chief Statistician in Wales. We will continue to work with the Devolved Administrations to ensure consistency and comparability of population statistics across the historic series of censuses and across the nations of the UK.

My recommendation to the Board is that the UK Statistics Authority should make the best use of all sources, combining data from an online census in 2021 *and* administrative data and surveys. This would include:

- An online census of all households and communal establishments in England and Wales in 2021, as a modern successor to the traditional, paper-based decennial Census. As in 2011, ONS recognises that special care would need to be taken to support those who are unable to complete the census online.
- Increased use of administrative data and surveys in order to enhance statistics from the 2021 Census and improve statistics between censuses.

Such an approach would provide the population statistics which the nation requires for the next decade and offer a springboard to the greater use of administrative data and annual surveys. This approach may offer a future Government and Parliament the possibility of moving further away from the traditional decennial census to annual population statistics provided by the use of administrative data and annual surveys. Further research will be required over the coming months and years to determine the optimal blend of methods and data sources.

However, it is clear that the future development of the administrative data approach depends on public consent, as expressed through Parliament. We recognise that data sharing legislation would be required to maximise the benefits of use of administrative data for statistical purposes.

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