

Session 1: Developments in Official Population Statistics: Census 2021

Tuesday 15 September - 16:00-17:15

Chair: Professor Nicola Shelton (UCL)

PRESENTATION 1

Author: Nathan Williams

Affiliation: ONS

Title: Use of geo-demographics to understand characteristics of non-responders and inform decision making in the 2021 Census

Abstract: We need at least 94% of the population to respond to meet our quality targets for high-quality census estimates. However, not everyone will respond to the census without intervention, such as visits from census officers or reminder letters. Our hard-to-count index determines patterns of resource allocation, ensuring that we have the resources where they are most needed. However, this doesn't tell us why an area may be hard-to-count. Our Target Action Groups define groups of the population defined by some characteristic who may need additional tailored intervention to ensure that they have the ability and awareness to respond to the census, such as by providing translation materials, engagement with community representatives or special field operation procedures. To manage live operations and maximise response we need to understand not just the populations at risk of non-response and the locations of the hard-to-count areas, but where these two interact, enabling us to understand why an area might have a lower response rate than expected and to tailor our messaging and interventions towards the non-responding population. We propose using geo-demographics to understand the characteristics of the populations likely to need interventions to ensure response. Presenting the characteristics of those who responded after the start of the field-follow-up period in the 2011 Census, at least 10 days after Census Day, in the form of radial plots, will enable us to easily identify particular groups representing an area of low-response and enable rapid comparisons between areas, informing decision making in an effective and accessible manner.

PRESENTATION 2

Author: Adam Kelly

Affiliation: ONS

Title: Taking a steer from 2019 Census Rehearsal to drive forward the question design of the 2021 Census

Abstract: In preparation for the 2021 Census ONS ran the 2019 Census Rehearsal. The rehearsal was mainly an operational exercise, but also presented ONS with an opportunity to evaluate the electronic and paper questionnaire designs on a large scale and in a close to census context.

ONS used a mixed methods approach to identify issues with the 2019 Census Rehearsal questions; considering respondent burden, public acceptability, data quality, financial concerns and mode effects.

The quantitative data included; online analytics such as; time on screen, error messages, previous button and accordion usage, and questionnaire returns. Qualitative data included respondent feedback from within the questionnaire and via social media platforms. Together, these sources of information were measured against specific criteria to inform design decisions for 2021 Census electronic questionnaire.

This paper shows how these findings informed question design decisions for the demography and migration questions in 2021 Census electronic questionnaire. Results revealed that the questions mainly performed as expected. However, some issues did emerge. For example, respondents were unsure whether to record expired passports within the passports question. Similarly, respondents expected search-as-you-type functionality on questions such as Country of Birth.

The application of these findings had led ONS to implement changes to further improve the 2021 question design for the Passports and Country of Birth Census questions. These changes are expected to ensure the data accuracy whilst placing minimal burden upon respondents.

PRESENTATION 3

Author: Gracie Cooper

Affiliation: ONS

Title: Census 2021: Long-term health condition or illness and unpaid care questions

Abstract: The 2011 Census asked a question to classify if a person has a long-term health conditions or illnesses and whether this reduces their ability to carry out day-to-day activities. The 2011 question was superseded by a GSS Harmonised question which was developed in line with the 2010 Equality Act.

For the 2021 Census we aimed to bring the health and care questions back in line with GSS Harmonised standards - to improve data collected whilst-optimising for the primary census modes, online and paper.

Through research and stakeholder consultation, we optimised terminology and instructional texts. This was to ensure that respondents understood that these questions encompassed both mental and physical conditions.

On the health question for 2021, we will be able to separate those with no conditions from those with conditions that don't reduce their ability to carry out day-to-day activities. This is by using a two-stage question in line with GSS harmonised principle design.

On the unpaid care question, we added two further breakdowns of the number of hours providing care and optimised the question design for online. The unpaid care question design has been adopted as the GSS Harmonised principle, alongside ongoing work updating this principle for other modes.

Improvements to both question topics for the Census 2021 and alignment with GSS harmonised principles, increases the quality of data captured by these questions for users of census data and survey data alike. This step to harmonisation paves a path to conduct experimental data linkage potentially in the future.

PRESENTATION 4

Author: Adam Kelly

Affiliation: ONS

Title: Census 2021: Electronic questionnaire functionality - focus on voluntary questions and mutually exclusive

Abstract: The 2021 census offers the opportunity to help collect data better.

This presentation will focus on two functionality design areas;

- voluntary questions, and
- select all questions with a 'none of these' type option.

We had to ensure the functionality developed met user needs whilst ensuring legislation and outputs were not compromised.

For the voluntary questions, the important criteria were to have a 'de-select' single response feature, with visible write-in fields. Research showed without a visible write-in field, respondents struggled if they did not fit in to the pre-defined response options. These criteria were not considered best practice from a Government Digital Standard perspective.

A solution was sought by research and stakeholder engagement, resulting in developing eQ that allowed, a single response, visible write-in fields and enabling respondents to clear any selection they had made.

The mutually exclusive feature was designed to mitigate against nonsensical responses in questions that had multiple response options which included a 'none of these apply'. It is designed to de-select the other response options within the question, if the 'none' response is also selected.

It has been used in the qualification section, where the data is widely used by central and local government as the underpinning for key education planning, policy delivery, and targeted learning and skills programmes for sub-groups of the population. Users identified the need to obtain the highest levels of qualifications and those who have no qualifications. This data is required to target interventions and address skills gaps

PRESENTATION 5

Author: Ralph McDevitt, Kirsty Naylor

Affiliation: National Records of Scotland

Title: Scotland's Census 2021: Statistical methods and data processing in Scotland's Census

Abstract:

Scotland's Census is the official estimate of every person and household in Scotland. The census has collected information about the population every 10 years since 1801 (except in 1941 when no census was taken due to the Second World War).

Census information is needed to help the government develop policies and initiatives, and for local authorities to plan services and to make effective use of resources that benefit the people of Scotland. Key users of census information also include academia, research organisations, the private and voluntary sectors, the media, and the general public. Decisions are taken every day using census statistics.

Data processing for Scotland's Census is key to ensuring the data we collect is clean and complete to accurately represent Scotland's population. During this presentation, we will give an overview of how we carry out census coverage adjustment in Scotland and then dive into more detail on how we use the Census Coverage Survey to estimate how many households and people were missing during the census and how artificial records are created to represent them.

Session 2: Developments in Official Population Statistics

Wednesday 16 September - 16:00-17:15

Chair: Dr. Esther Roushedge (National Records of Scotland)

PRESENTATION 1

Author: Stephanie Harries and Martin Parry

Affiliation: Welsh Government

Title: 2018-based subnational population projections for Wales

Abstract: Presenting the results from the latest 2018-based subnational population projections for Wales. 2018-based local authority population projections were published in February 2020. 2018-based national park population projections and additional migration variants are due to be published in the next few months.

We will also discuss the methodology used in the calculation of the projections, including the changes compared with the last set of projections. This will include the issues we encountered when producing the projections, which resulted in changing the methodology to constrain the projections to the national population projections, produced by the Office for National Statistics.

PRESENTATION 2

Author: Priya Tanna

Affiliation: ONS

Title: Exploring existing administrative and survey data on gender identity and sexual orientation

Abstract: The Office for National Statistics (ONS) 2021 Census topic consultation (which reported in 2015) identified a user need for information on gender identity and improved information on sexual orientation. Part of the research and testing plans for these topics was to explore existing data that was already available. This presentation outlines the ONS' exploration of both administrative data and social surveys that collect data on these topics.

Administrative data sources and social surveys were identified using the ONS Equalities Data Audit and through liaising with other government departments and data collectors. Each data source was assessed against the criteria outlined below.

For gender identity, the ONS assessed whether existing data would:

- Meet the research definition for gender identity, covering all those whose gender is different from their sex registered at birth.
- Provide a reliable estimate for England and Wales.
- For sexual orientation the ONS assessed whether existing data would:
- Provide a reliable estimate for England and Wales of those identifying as lesbian, gay; bisexual or any other sexual orientation, other than heterosexual.
- Provide estimates of sexual orientation by local authority.
- Meet needs for cross tabulation of sexual orientation with other topics.

Our findings suggest that at the current time, existing data sources for these topics, would not fully meet user needs. The conclusions provided support to the recommendations of the 2021 Census White Paper which recommended asking questions on gender identity and sexual orientation in the 2021 Census. Furthermore, this research adds to understanding of pre-

PRESENTATION 3

Author: Christopher McCrum, Robert McKenna

Affiliation: National Records of Scotland

Title: Scotland's Census: Plans for 2022 outputs and Statistical Disclosure Control (How we protect personal information)

Abstract:

Scotland's Census is the official estimate of every person and household in Scotland.

Census information is needed to help the government develop policies and initiatives, and for local authorities to plan services and to make effective use of resources that benefit the people of Scotland. Key users of census information also include academia, research organisations, the private and voluntary sectors, the media, and the general public. Decisions are taken every day using census statistics.

For this presentation the Statistical Disclosure Control and outputs team will talk about our outputs project which will develop requirements for the outputs website and the outputs dissemination system in time for a phased set of results. This will cover our plans for a flexible table builder and how we will work with the other UK census offices to harmonise outputs for users of UK users.

We will also discuss disclosure control methodologies that will be implemented to Scotland's Census 2022 data prior to being released.

The NRS Data Access team will talk about how we ensure personal information is protected in outputs from Scotland's Census 2011 and 2001. This will include how we deal with tables of census data which are made publicly available and outputs from academic research which use census data. We will also be highlighting some of the valuable ways census data is used.

PRESENTATION 4

Author: Liz McLaren

Affiliation: ONS

Title: Dissemination plans for Census 2021 outputs

Abstract: The ONS is developing the range of data products and services that will be made available following the 2021 Census. We are currently planning to publish 2021 Census data on the ONS website in a combination of 'readymade' tables and 'build your own' tables where users can specify the data they need. This will mean the 2021 Census data are:

- flexible – the web-based interactive dissemination system would allow users to be able to build their own tables (selecting the geography, population base and variables they need) and statistical disclosure control would be automated
- timely – we aim to disseminate national- and local authority-level population estimates for England and Wales within 12 months of census day, and all other estimates within 24 months of census day
- accessible – we aim to host the web-based interactive dissemination system through the ONS website, meaning that most census data will be available from one location and follow Government Digital Service guidelines on accessibility

This session will provide:

- An overview of ONS plans to disseminate the results of the Census 2021
- An update on the development of the flexible dissemination system
- An update on plans for user research and stakeholder engagement

PRESENTATION 5

Author: Emma Hand

Affiliation: ONS

Title: An update on population and migration statistics transformation

Abstract: ONS is working to provide the best insights into our society using a range of new and existing data sources to meet the needs of our users. The current population system relies on the decennial census, which provides granular data at the lowest levels of geography every 10 years, but less detail throughout the interim years. We are transforming our system to one led by administrative data which offers opportunities to provide more frequent statistics and new analysis that better meet our user needs. Census 2021 is a key bridge to the future transformed population and social statistics systems. We will consult with users on how administrative data can come towards the front of the statistical system and ensure we are ready to make recommendations to Government in 2023 on what will be needed to support a transformed population and social statistics system.

This session will provide;

- An overview of ONS plans to support the National Statistician's recommendation in 2023 about the future population statistics system.
- An update on the progress ONS has made towards development of new methods to produce admin-based estimates of population, migration and population characteristics. This will include how we plan to use admin sources to expand topics and support quality assurance of Census outputs.
- The changing role that social surveys will have to support the future 'Admin First' approach at ONS, including plans to test a new Integrated Population and Characteristics Survey.

This session will build on the earlier session on Census design and methods.