
**Scotland's Census 2021
Island Communities
Impact Assessment
v1.0**

January 2020

Contents

1. Title of Programme	2
2. Summary of aims and expected outcomes	2
What is the census?	2
The Census Act 1920.....	2
Why have a census?.....	3
Data Collection.....	5
Data Processing and Statistical Outputs	5
Publicity, Communications and Engagement	5
Digital participation	6
Field Operations and Recruitment.....	8
Census Rehearsal.....	8
3. The need for an Island Communities Impact Assessment.....	8
4. Summary of impacts identified.....	9
Statistical Outputs	9
Digital Exclusion.....	10
Field Operations and Data Collection.....	12
Communications and Stakeholder Engagement	12
5. Authorisation	13
Annex A - Online Collection Instrument: Research	14

1. Title of Programme

Scotland's Census 2021.

2. Summary of aims and expected outcomes

What is the census?

The census is the official count of every person and household in Scotland. It is held every ten years and provides the most complete statistical picture of the nation available. It also provides information that central and local government need to develop policies and to plan and run public services.

Scotland's census is taken by the [National Records of Scotland](#) (NRS) on behalf of the Registrar General for Scotland. The NRS is a non-ministerial department of the Scottish Administration, established on 1 April 2011, following the merger of the General Register Office for Scotland (GROS) and the National Archives of Scotland (NAS).

NRS's main purpose is to collect, preserve and produce information about Scotland's people and history and make it available to inform current and future generations. It holds records of the census of the population of Scotland from 1841 and every 10 years after that. The one exception was the wartime year of 1941 when no census was taken. Census records are closed for 100 years under the Freedom of Information (Scotland) Act 2002.

The plan for Census 2021 is that it will take place on Sunday 21 March, subject to Scottish Parliament approval, and will be conducted predominantly online. The last census was conducted mainly on paper (80%), and 20% online.

The Census Act 1920

The Census Act 1920 ("the 1920 Act") provides for a census to be taken not less than five years after the previous census. The 1920 Act applies to England, Wales and Scotland. In Scotland it is the duty of the Registrar General to undertake the census, in accordance with the 1920 Act and any Order in Council or regulations made in terms of the 1920 Act, under the direction of Scottish Ministers. In England and Wales, the responsibility for the census rests with the UK Statistics Authority and it is conducted by the Office for National Statistics (ONS). In Northern Ireland it is conducted by the Northern Ireland Statistics and Research Agency (NISRA).

Section 1 of the 1920 Act provides the enabling power which underpins the taking of the census. It allows the making of an Order in Council ("the Census Order") which directs that the census be taken; the date on which it is to be taken; the persons by, and in respect of whom, returns are to be made; and the particulars which are to be stated in the returns. The form (or forms) used in the census are prescribed in regulations ("the Census Regulations") under section 3 of the 1920 Act. This is where the census questions, as they will be seen by individuals completing the forms, are legally set out. The questions must, of course, solicit the particulars set out in the Census Order.

A similar process will be followed in England, Wales and Northern Ireland, reflecting the importance of harmonisation and of carrying out the Census on the same day across the UK.

If a person refuses to answer a census question, or gives a false answer, they are liable to a fine not exceeding £1,000. Currently, the only exceptions to this are the voluntary questions on religion and on sexual orientation and trans status or history, which were added by the Census (Amendment) (Scotland) Act 2000 and Census (Amendment) (Scotland) Act 2019 respectively. Together, both Acts specifically exclude penalising non-response to these questions.

Why have a census?

For over 200 years, Scotland has relied on the census to underpin local and national decision making. Around 200 countries worldwide now undertake a regular census under the [UN census programme](#). The census is the only survey to ask everyone in Scotland the same questions at the same time. It is unique in the provision of comprehensive population statistics. It is used by central and local government, health boards, the education sector, the private sector, and the voluntary sector to plan and distribute resources that match people's needs. The information collected must be "authoritative, accurate and comparable" for all parts of Scotland, and down to very small levels of geography. Only the census can consistently provide such information.

Basic information on population size, age, sex and location are crucial to work on pensions, migration, economic growth and labour supply. Other information gathered helps governments to:

- identify housing demand and create housing supply including information on household size and family make-up. which are crucial to policies on local housing demand and planning, and poor housing and overcrowding.
- identify areas of deprivation, enabling them to target services
- gather data on equality groups, enabling them to tackle discrimination
- gather information on housing,

Census information is also used for a range of social and economic indicators:

- population estimates
- employment and unemployment rates
- birth, death, mortality, and fertility rates
- equalities data, such as age, sex, ethnicity, religion/belief and disability.

Census data is also used by local public services to meet local needs in health, education, transport, planning, and community care services.

NRS calculated the cost to health board funding allocations if the census was not carried out in 2011. If census figures from 2001 had been used to make population estimates and allocate funding to health boards, in 2014/15 there would have been misallocations of between £30m and £40m. Some health boards would have received more, some less, than their appropriate share.¹

¹[Scotland's Census 2011 General Report](#)

Following the 2011 Census, NRS, in conjunction with the other UK Census offices, explored alternative ways to produce population statistics. NRS had an open mind in identifying potential options and examined and compared various approaches to counting the population, both here and overseas, engaged with a diverse group of users, commentators and public bodies, and undertook qualitative and quantitative research into attitudes to the census and population statistics. More information on the work which was done can be found in the [Beyond 2011](#) section of the NRS website.

Having considered all the [evidence](#), in March 2014, NRS recommended that a modernised 'traditional' census was the best way to meet users' needs. Specifically, NRS announced its intention to focus on planning for a census in 2021 which will be primarily online, while offering alternative modes of completion where necessary, and also aiming to make best use of technology and administrative data in its design, building on the online approach used successfully in the 2011 census.

The main objectives of Scotland's Census 2021 are to:

- to produce high-quality results;
- to generate outputs that meet the needs of our users;
- to maximise online response rates for the census;
- to produce timely outputs to maximise benefits;
- to protect, and be seen to protect, confidential information;
- to do so in a cost effective way; and
- to make recommendations for the approach to future censuses in Scotland.

The census is for, and about, everyone in Scotland. In conducting it, an objective is to gather as wide a dataset as possible. It is recognised that people in Scotland have a wide range of needs therefore our designs have to take account of these diverse needs, and these needs may be influenced by them having one or more of the protected characteristics as defined in the Equality Act 2010. NRS is therefore trying to make sure that firstly people are able to access the census in order to fulfil their legal obligation to participate and secondly to enable their access to the anonymised statistical outputs derived from the data collected from them, which in turn enable them to reap the benefits realised.

The census is the only survey to ask everyone in Scotland the same questions at the same time. It is unique in the provision of comprehensive population statistics. It is used by central and local government, health boards, the education sector, the private sector, and the voluntary sector to plan and distribute resources that match people's needs. The information collected must be "authoritative, accurate and comparable" for all parts of Scotland, and down to very small levels of geography. Only the census can consistently provide such information.

The numerous uses made of census data outlined above represent a key benefit and a positive impact of the census which is shared by all.

There are a number of barriers and challenges which can potentially limit or hinder participation in the census. These include lack of awareness, lack of understanding, privacy concerns, language, mistrust in/lack of engagement with officialdom, impairments such as physical or learning disabilities, and known limitations around

the 'reachability' of communities and groups. Some relate specifically to digital participation, such as digital access or connectivity issues, lack of digital skills or confidence, data security concerns and mistrust of digital systems. In support of its objectives the programme is taking steps to address and overcome all of these challenges. Significantly, whilst the 2021 census will be predominantly online, paper questionnaires and materials will also be available. This represents a major mitigation against the risk of negative impact through digital exclusion.

Data Collection

Respondents will be able to complete the census questionnaire online, or can request a paper questionnaire for return by post. Enumeration processes include the use of a robust address list to ensure everyone can have a fair chance of completing a census return. This is complemented by deployment of a large field force who will seek to ensure every household and communal establishment is able to participate in the census. The Census Coverage Survey, which follows up a sample of the main operation, assesses the extent of coverage across the whole population.

Data Processing and Statistical Outputs

Statistical data processing, and the methodology underpinning it, will seek to ensure that all characteristics captured by the census are processed appropriately and consistently to best meet the identified user needs, and are considered throughout the data lifecycle. Statistical Disclosure Control policies and processes protect individuals, particularly those who hold certain protected characteristics, from being identifiable from census outputs.

Publicity, Communications and Engagement

The census website will feature the online data collection instrument and a wide range of help and guidance. Specifically, this will include a general content portal, the online census questionnaire engine, and specific questions guidance.

Extensive user research has been conducted to support and inform the development of the online collection instrument, including the following strands of research: -

- Information Needs User Research
- Usability and Accessibility Testing Research
- Online User Testing Research
- Audience Discovery Research

This work has specifically targeted potential users from a wide range of backgrounds and capabilities, providing valuable insights into the needs and motivations of different groups and communities. These include people with skills limitations, low literacy, reading impairments, English language limitations, ethnic minorities and care home residents.

A free-to-use dedicated Contact Centre will be established and promoted to handle all census enquiries, fulfilment requests and complaints. It will be operated by fully-trained staff and will offer translation services, telephone data capture and other support functions.

Publicity, marketing and communications will seek to raise awareness and maximise motivation to participate amongst all groups and communities. Messaging will be tailored to a number of different audiences using a range of platforms, including social media and will seek to educate and reassure whilst highlighting the benefits of the census, and allaying concerns around security of data.

NRS will seek to maximise response amongst those groups who are considered to be at most risk of non-participation, by building relationships through direct engagement with their representative and support organisations, and local authorities. This engagement will seek to identify, explore and maximise our understanding of the motivational, attitudinal and circumstantial barriers of relevance to each group. Community engagement activities will seek to develop knowledge and intelligence at local levels to inform messaging and tactics, including local and regional prevalence of target populations and the communications channels and networks they use.

Work to establish working stakeholder relationships to support this approach is already well underway and will grow and intensify moving forward towards 2021.

Digital participation

The public sector in Scotland is committed to respond to the changing expectations of customers by realising the opportunities that technology provides and delivering an increasing proportion of services online. Part of the [Scottish Government's Digital Strategy](#) is to increase digital participation in order to enable social mobility and tackle persistent inequalities. The online delivery of public services will also provide services which are easier, quicker and more convenient for people to use, and at a lower cost than other methods allow. The UK Government's Digital Efficiency Report suggests that transactions online are 20 times cheaper than by phone, 30 times cheaper than by post and as much as 50 times cheaper than face-to-face.

In general terms Scotland can be considered a digital nation. The 2018 Scottish Household Survey (SHS) reports that home internet access has increased steadily over time, reaching an all-time high of 87 per cent of households in 2018². Previously, other sources have shown that 40 per cent of people are reported to have a tablet computer (SCVO, 2015) and 63 per cent use a smartphone (Ofcom, 2015a).

While this information is a useful indicator of internet availability it is not necessarily indicative of potential response to a requirement to use the internet for a specific task such as completing a census form. A report published by the Carnegie UK Trust (Carnegie UK, 2014) highlights this fact noting that the barriers to getting online are multiple, varied and complex. They state that "being digitally connected is not the same as being digitally included". The same point was also made in a report outlining research looking at links between digital and social disengagement (Helsper, 2008) which notes "simply providing access to these platforms is not enough – digital disengagement is a complex compound problem involving cultural, social and attitudinal factors and in some cases informed 'digital choice'".

² [Scottish Household Survey 2018: Annual Report](#)

It is important therefore to have a full understanding of all factors influencing internet use before any assessment of potential digital participation can be made.

Everybody has their own individual set of circumstances and their own reasons for not being online. There are 4 main kinds of challenge people face: access (accessibility, location, cost, technology, infrastructure, language); skills (literacy, digital, security, confidence); motivation (risks, necessity, financial benefits, social benefits, health and wellbeing benefits); trust (identity, security, standards, reputation). The first two, a lack of access or skills result in 'Digital Exclusion' while the latter two, lack of motivation or trust may be best grouped with those situations where individuals have access and make use of the internet but will choose not to complete an online census as 'digital choice'.

Both exclusion and choice could have a significant impact on online response rates therefore it is important that a focus for Scotland's Census 2021 is on promoting online participation and not just tackling digital exclusion.

We are also keenly aware of the demographics and infrastructural aspects of the digital connectivity landscape in Scotland, particularly in some of our remotest communities where availability and reliability may present significant challenges. Households with higher income are more likely to have internet access. Households with lower incomes and households in Scotland's most deprived areas were less likely to have home internet access than higher income households and those in less deprived areas, but the gap has narrowed in recent years. Internet access varies by tenure. Ninety per cent of households who owned their home and 91 per cent of those in private rented housing had home internet access compared to 75 per cent of those in social rented housing. The vast majority of households with internet access at home had a broadband connection in 2018 (99 per cent), and 46 per cent had access via a superfast broadband subscription, an increase from 30 per cent in 2017.³

The option of submitting census questionnaires online was introduced for the first time in 2011 to those living in households; those living in communal establishments were only able to complete on paper.. Around 20 per cent of all returns were submitted online. The 2021 Census is being designed under the principle of '[Digital First](#)' with a target online completion ratio of 80%. Development of the online collection instrument has incorporated a programme of user research to understand accessibility issues and therefore to inform an online delivery that is accessible. The move to a primarily online census, including a change in enumeration strategy (e.g. post out of contact materials instead of enumerator hand delivery), will reduce the direct contact between householders and field staff. Public assistance channels and services together with publicity and marketing, will have a critical role in compensating for this and encouraging and enabling maximum response. Public assistance services will be designed to encourage and enable those who can use digital self-service to do so, whilst helping those who cannot use self-service. NRS will also provide a range of non-digital access channels but will encourage the public to use our digital channels. NRS will support this channel shift by ensuring quality, ease and efficiency of our digital services and by providing assisted digital support. Online services will be promoted through a number of different routes, such as

³ [Scottish Household Survey 2018: Annual Report](#)

community engagement activity, publicity initiatives, websites, contact materials and information leaflets. To reflect the steep rise in the use of social media in recent years, there will be a much greater emphasis on the use of social media as part of the programme's marketing and publicity activity, to satisfy increased customer demand and expectation. We are monitoring broadband roll-out initiatives overseen by the Scottish Government and Highlands and Islands Enterprise which have set ambitious targets for broadband coverage across Scotland. We will continue to track progress against such initiatives to develop and maintain knowledge of those localities where digital access presents the biggest challenge, so we can best channel our support and assistance efforts.

Field Operations and Recruitment

The field force which supported Scotland's Census 2011 was in the region of around 7,500 staff who were responsible for hand-delivery of paper census questionnaires to the vast majority of Scotland's households. In 2021 initial contact with households will be by letter and field force responsibilities will focus on following up non-response. Field force is expected to be around half the size of that in 2011.

Recruitment and employment practices will be strictly in accordance with relevant employment legislation.

Census Rehearsal

As part of our preparations for Scotland's Census 2021, NRS undertook a public rehearsal in parts of Scotland.

NRS is aiming to make the 2021 Census more digital and accessible, available for completion online, as well as on paper. The rehearsal helped us to test our systems and processes as we get ready for the Census.

The rehearsal took place during October and November 2019. People living in households in Na h-Eileanan Siar, as well as parts of Glasgow City and Dumfries and Galloway were asked to help by taking part.

Unlike the Census itself, participation in the rehearsal is not a legal requirement. Householders in these areas were asked to take part on a purely voluntary basis to help ensure things go smoothly for the main Census in 2021.

3. The need for an Island Communities Impact Assessment

Under the provisions of the Islands (Scotland) Act 2018 an island communities impact assessment is required in respect of a policy, strategy or service which is likely to have an effect on an island community which is significantly different from its effect on other communities, including other island communities.

It is important to note that the impacts identified below are generally not exclusive to island communities, and accordingly do not fall directly within the scope and spirit of

the Islands (Scotland) Act requirement for impact assessment. However, as Scotland's Census impacts all parts of Scotland including its numerous inhabited islands in many different ways there is merit in having a particular focus on how the programme affects and considers island communities.

4. Summary of impacts identified

Statistical Outputs

One of the most important aspects of the census for the islands is that the census is unique in that it is the only survey that is compulsory and covers the entire population. Stakeholders who were consulted⁴ during the Beyond 2011 programme felt that this is important in terms of response rates and ensuring extremely high coverage to provide accurate population estimates. Despite the ten-year interval between censuses, many users of islands data use the population estimates from the census as a benchmark for analysis and assurance of other statistics, which are either not available or not accurate because the numbers are very small.

Stakeholders also emphasised the importance of census data available at low geographical levels for effective service planning when working with low population density and variability between islands.

Stakeholders also felt that it is important to be able to analyse data at the lowest possible geography level, so that the unique characteristics and needs of local areas including islands could be identified. However, to prevent the disclosure of information about individuals, some islands with small populations will need to be amalgamated with neighbouring areas.

In 2021, as in 2001 and 2011, NRS plans to develop an analytical report presenting key statistics on Scotland's island population providing a comparison with Scotland as a whole and, where possible, with previous censuses.

NRS also plans to develop an analytical report with data pertaining to the questions about Scottish Gaelic providing a comparison with Scotland as a whole and, where possible, with previous censuses. The Gaelic report will be made available in both English and Gaelic to ensure wide accessibility. Data from Scotland's Census 2011 indicated that a high proportion of people with Gaelic language skills were residents in island council areas and as such, these reports may be of particular interest to data users from island communities. The census questionnaire will be available in Gaelic as well as English.

As in previous censuses, outputs will be made available for each of Scotland's inhabited islands that meet the confidentiality thresholds for census statistics. This allows data users to access detailed information on island communities and facilitates easy comparison with other islands and areas throughout Scotland.

Census data from 2011 indicated that there are small minority populations in some of Scotland's islands, for example small religious and ethnic minority populations. Small

⁴ <https://www.nrscotland.gov.uk/files//census/2021-census/Stakeholder-Engagement/combined-report.pdf>

populations increase the risk that an individual from a minority group may be identifiable in census outputs.

As such, confidentiality constraints could mean that census outputs for island communities may have to be less detailed in comparison to other areas in Scotland of the same geographical size but with larger populations.

NRS is developing a wide ranging Statistical Disclosure Control (SDC) methodology to protect against personal information about an individual or group being discoverable from census outputs.

The NRS SDC methodology will be applied to Scotland's island communities in the same way that it is applied to all other areas in Scotland. There will be no SDC treatment that is specific to Scotland's islands.

NRS is planning further stakeholder engagement with data users from Scotland's islands to determine the need for data which will inform service planning and provision for island services.

The Scotland's Census 2021 website and associated Census outputs will comply with Part 3 of the Islands (Scotland) Act 2018 requiring Scottish public bodies to present the Shetland Islands in a manner that accurately and proportionately represents their geographical location in relation to the rest of Scotland. Similarly fieldwork maps and products to inform and support field operations will also comply with this requirement.

Digital Exclusion

The census is for, and about, everyone in Scotland. The Census Act 1920 places a legal obligation on the Registrar-General for Scotland (the NRS Chief Executive) to conduct the census, and on every household and communal establishment in Scotland to participate in it.

In conducting the census, an objective is to collect data about everyone in Scotland, so our designs therefore have to take account of the diverse needs of all people, firstly to enable that legal obligation to participate and secondly to enable their access to the anonymised statistical outputs derived from the data we collect, which in turn enable them to reap the benefits realised.

There are a number of barriers and challenges which can potentially limit or hinder participation in the census, particularly given the Digital First approach for Scotland's Census 2021. These include lack of awareness, lack of understanding, privacy concerns, language, mistrust in/lack of engagement with officialdom, impairments such as physical or learning disabilities, and known limitations around the 'reachability' of communities and groups. Some issues relate specifically to digital participation, such as digital access or connectivity issues, lack of digital skills or confidence, data security concerns and mistrust of digital systems. It is recognised that socio-economic factors can significantly influence many of these barriers and challenges. In support of its objectives the programme is taking steps to address and overcome all of these challenges.

In the specific context of Scotland's island communities and an online census, the most significant barrier is likely to be digital connectivity. [Digital infrastructure](#) strategy in Scotland aims to:

- deliver 100% superfast broadband access across Scotland
- improve the availability of mobile connectivity across the region, by using linkages to broadband availability;
- ensure the underlying infrastructure is in place to support the future growth of high-bandwidth connectivity

There is a difference⁵ in coverage between rural and urban areas. Rural areas tend to have poorer coverage and slower speeds as a combination of higher installation costs and a smaller market of potential customers means there is less of an incentive for providers to invest. Scotland has some of the most challenging locations anywhere in Europe for providing telecoms infrastructure, particularly in the rural areas and the islands.

The smartphone is an important route to internet access – for many it is the most important device for going online. For some this will be because this is the only way they have of doing so privately and therefore completion of the census questionnaire via smartphone and communication of this possibility are critical, although noting that mobile data coverage may not support this aspect in rural and island areas.

Whilst the 2021 census will be predominantly online, paper questionnaires and materials will also be available. This represents a significant mitigation against the risk of negative impact through digital exclusion. Paper questionnaires will be available via the Contact Centre which can be contacted free of charge, as well as from field staff following up non-responding households. Initial contact materials will clearly highlight the paper option and direct respondents accordingly, as will the census website and publicity content. Paper questionnaires requested via these channels will be sent by post and returnable by post, free of charge. All of these measures carry a cost to the public purse but the benefits of enabling free access to facilitate participation for all considerably outweigh that cost.

The programme has undertaken extensive analytical work to identify and analyse those communities and localities in Scotland most at risk of non-participation in census due to digital exclusion factors. This work will provide valuable background on a range of operational aspects and will influence plans for Public Assistance offerings at community level.

For example, strategic decisions will be made in due course around the provision of paper questionnaires for remote, rural and island locations, and other regions or communities particularly affected by digital exclusion. This decision will be informed by the feedback received through surveys such as the impact assessment survey, as well as any learnings from the census rehearsal in October 2019.

More detail around those plans will be available in future iterations of this assessment.

⁵ https://www.ofcom.org.uk/data/assets/pdf_file/0022/108814/scotland-connected-nations-2017.pdf

Field Operations and Data Collection

The digital exclusion analysis referred to above will provide a valuable evidence-base to inform field force operations in 2021, including resourcing, follow-up policies and logistics. Whilst there are travel-related factors affecting field force activities in island communities, (e.g. lack of public transport, remote locations) these are not exclusive to islands and will not result in any differences in overall approaches to enumeration or fieldwork for those communities and localities.

Communications and Stakeholder Engagement

As facilities used by NRS and the Scottish Government are primarily located in Edinburgh and Glasgow, it is more difficult to engage directly with stakeholders from island communities. NRS has sought to engage with stakeholders from island communities by hosting events outside of the central belt. Materials from events and surveys on plans for census questions and outputs are made available in hard copy and online via the Scotland's Census website to ensure that those unable to attend events are still able to engage and offer feedback.

Engagement is ongoing in the lead up to 2021 with Scotland's six local authorities which encompass island communities (Comhairle Na h-Eileanan Siar, Orkney Islands Council, Shetland Islands Council, Argyll and Bute Council, North Ayrshire Council, Highland Council) to understand the barriers affecting different groups across different localities and how best to communicate and engage with these groups. As mentioned earlier in this report, Na h-Eileanan Siar is one of the in-scope census rehearsal areas and close collaboration with the local council and a wide range of community stakeholder organisations is already underway as we plan towards the rehearsal.

It will also be necessary to offer communal places where people can complete free of charge and in private and again, this will need to be communicated. Identification of suitable premises and locations will be challenging in the most remote areas, in terms of providing widest accessibility. NRS will work closely with our partners in local authorities, local communities and the third sector to fully explore the options available.

NRS has established active working relationships with a range of key stakeholders from the Gaelic speaking community and plans to offer a range of support products, including translated questionnaire guidance.

NRS undertook a period of consultation throughout September 2019 for each of the Impact Assessments accompanying the Census Order. Impact Assessments have been updated to reflect feedback where appropriate. A report on the consultation has been published on the [Scotland's Census website](#).

Online Collection Instrument: User Research

User research to support the development of the online data collection instrument specifically targeted Gaelic speakers, among a range of audiences, to enable


insights and feedback around expectations and aspirations for Scotland's Census 2021.

A summary of this work and its outcomes can be found at [Annex A](#).

Evaluation

The census rehearsal will enable the testing of a number of aspects of the programme prior to the live operation in 2021. The experiences, learnings and findings from the rehearsal will be of the utmost importance as we refine our plans and prepare for the main event. This assessment will be refreshed and updated to take account of this knowledge. In addition further research, evaluation and engagement will help towards making the 2021 Census as inclusive and as accessible as possible.

5. Authorisation

Signature: 

Name: Paul Lowe

Role: Registrar General

Date: 17 December 2019

Annex A - Online Collection Instrument: Research

Accessibility Testing Research Summary

The Online Collection Instrument (OCI) delivers the core question set for the census. There was a need to conduct some initial accessibility testing on the early version of the site to identify any early issues. The User Centred Design UCD team conducted a round of accessibility testing with 10 participants with a variety of disabilities.

Around half of the participants were visited in their home in order to allow for the use of any specific assistive technology such as screen readers and magnifiers and to help make them more comfortable.

From the OCI, we tested:

- On-boarding – entering Internet Access Code (IAC), setting up a password and password recovery.
- Questions H1-5 – details of who is in the household

Participants ranged from 20 to 61 years of age and had a range of disabilities and assistive technology needs, including dyslexia, dyspraxia, autism, blindness, arthritis, detached retina, macular degeneration, Friedreich's ataxia.

Key findings

The majority of participants found it relatively straightforward to get through the on-boarding and H1-5 sections of the prototype. They were very positive about the idea of completing the census online as it meant they would be able to complete it in a format best suited to them, save progress and complete it in their own time.

However, there were a number of overarching issues that affected all types of users. These were predominantly usability issues, but some assistive technology specific issues were encountered as well. Usability issues will cause problems for all users, but they are heightened for people with disabilities and users of assistive technology. Causing confusion, frustration and being slowed down can have a significant impact on these users. In some situations it can cause stress/anxiety and lead them to seek support with completion or make them feel like they don't wish to continue. Many of the participants had to stop to ask the moderator what was meant or required and some needed to be told how to progress to the next step.

Additionally, while the questions in this version of the prototype were not the final 2021 question set, a number of usability issues were uncovered that will be important to consider independent of the question content and can be worked on and resolved for subsequent rounds of usability testing.

The key issues identified included:

- Unclear error messaging when creating a password
- 'Set up password recovery' usability and error messaging
- Users having difficulty understanding what's being asked for in the 'temporarily away' question

- Users having difficulty understanding what is being asked for in the 'visitors' question
- Confusion caused by the 'dashboard' when users land on it for the first time
- Unclear or missing instructions or supporting text – e.g. needing to use capitals and hyphens in the IAC code
- The IAC code was challenging for many

Findings specific to assistive technology were identified:

- Zoomtext issues: participants who used screen magnifiers appreciated the amount of space on each page and having single questions per page. However, a number of issues specific to using ZoomTextScreen reader issues: participants who used screen readers had very different experiences. This could be for a number of reasons such as version of software, device used or level of users' experience with assistive technology.

Additional findings:

- Some users may not be able to read the letter, the service needs to consider how blind people living on their own can be supported.
- Some users will require a large print letter to be able to read the IAC number, consider how they can be easily identified and provided with the right information. Is there any way of knowing about this need before sending the letters out.
- When the initial letter will be sent out to give citizens enough time to get right version of information that they need, and also how any reminder services may come through to them (i.e. reminder letters are inappropriate for a person that is blind).
- Some users will misplace or lose the letter and so how they can still access online without the IAC code will need to be considered and made clear to users.

Information Needs User Research Summary

This research, to understand whether the digital version of the 2021 Census meets the needs of citizens, comprised of multiple rounds of usability and accessibility testing from December 2018 – March 2019, conducted by the Scottish Government Digital Transformation Division's User Centred Design team. While these sessions predominantly focussed on the use of the digital components (i.e. the website portal and the 'online collection instrument' (OCI)), we also discussed what information participants expected or felt they would need in order to take part in the census at various points, including showing a version of the letter to set context.

The main findings from these sessions are regarding usability and accessibility, which have been reported via the 'OCI User Testing' strand of work, but broader insight around information needs have also been uncovered. In order to further understand information needs for citizens we utilised a number of sessions to explore the following objectives:

- Understand what information is required by a user to support them in their census experience.

- Understand what channels users expect to be able to access information to support them in their census experience
- Review of the current language and terminology to determine whether it supports the user's understanding of the information they need in order to complete the census
- Understand how the user's need for information changes over their census collect experience.

Key findings:

- Standard patterns for question pages: reduces cognitive load which may quicken response.
- Explanation and narrative to set expectations and orientation users within the form would benefit some users.
- In a small number of cases there was misunderstanding of the questions
- Type ahead functionality for industry and occupation questions caused particular problems in choosing an answer.
- Hard validation meant users got stuck in a loop where they could not answer a question and so could not submit their census response.
- Problems accessing Help and Support while in the questionnaire
- Age related question routing meant some questions are asked of children within the household that are not relevant for a child.
- Misunderstanding of questions or uncertainty about how to answer.

Findings are informing further development of OCI and the question engine to maximise respondent ease and minimise respondent burden.

Audience Discovery Research - Qualitative research among 'seldom heard' audiences

- To investigate their needs and inform the design of the process and website for Scotland's Census 2021.
- Research to provide a deep and robust understanding of user needs – with a specific focus on those users who have specific situations for Census collection or who require Assisted Digital support.
- The purpose is to ensure that these users' needs are accurately represented in the design of the OCI: -
 - Flat / House Sharers
 - Communal Establishments
 - Halls of Residence
 - Care Homes
 - Communities with Reduced Links
 - Ethnic Communities (sample included Somali, Roma, African, Romanian, Kurdish)
 - Religious Communities (sample included Sikh, Muslim)
 - Other Communities (Camphill)
 - Skill Limitations
 - Digital Disengagement

- Low Literacy Skills
- Reading Impairment
- Supported Applications
- English Language Limitations
- Gaelic Speakers

With a focus on exploration and discovery, the detailed research objectives were: -

- Develop a deep knowledge of who the service users are in terms of their circumstances, situations, attitudes, skills, abilities (as appropriate)
- In relation to officialdom generally; in relation to the Census specifically
- To what extent information and support are/are not accessed
- Understand motivators and barriers to completing the Census
- Comprehension of the Census; its (perceived) importance
- Personal obligations
- Identify the support and interventions that would facilitate participation in the online Census
- Information needed, support needed, enumeration needs
- Explore perceptions of and reactions to the OCI design
- Aspects that help and hinder completion
- Identify how the above should be reflected in the OCI, and in general, to ensure a successful Census

Situations and skills

- Broad spectrum of situations: some people have thrived in Scotland, some have struggled.
 - Positive experiences can inspire appreciation of Scotland / its government, and willingness to comply with officialdom.
 - But some feel let down by the system and less willing to comply.
 - Others fear the authorities and sharing personal information.
- Broad spectrum of skills and skill levels across Digital, English Language, Reading Impairment, Literacy.
 - Low skills don't seem to necessarily correlate with a less positive life experience.
 - Key factor seems to be whether the family or household unit perceives it's 'doing well'.
 - Possible exception: low Literacy Skills might have a stronger correlation with feeling let down by the system, that life has been impoverished (unnecessarily).

Support

- People with lower skills tend to have an established support network
 - Family, friends, Community Leaders and Organisations etc they trust and turn to for help / advice.
 - Many need 'hands-on' support with officialdom in general, English translation, reading and writing, or digital activity.
- Hands-on support is likely one of the most important success factors for the Census
 - Providing the skills that are missing...and also overcoming low motivation / mistrust / scepticism.
- Reaching out to Community Leaders and Organisations is vital

- They are close to their communities, strong advocates of the Census, and very keen to help.
- Like the general population, some people have stronger skills and will do well with 'self-serve' support available from their network or on the website.

Attitudes to the Census

- A spectrum of engagement with the Census.
 - A few 'evangelists', e.g. Community Leaders and Managers of Community Establishments.
 - Some people are mistrustful or resistant, likely due to personal experience.
 - Most seem to be around the mid-point: willing to carry out their legal obligation, but might not perceive the value of the Census.
- Opportunity to improve engagement for the greater success of the Census – quality of experience for the public as well as quality and accuracy of information.
 - Many simply don't know much about it – what it's for, what it stands for, the difference it can make.
 - Improving understanding tends to improve engagement.

The letter

- The letter presents significant difficulties for people with lower skills
 - What's it about? What does it mean? What do I need to do? Do I have to?
- Indeed, for many, the letter is 'daunting' to read – many won't see it through to the second page and will seek help.
- It conditions expectations that participating in the Census will be difficult – too difficult to attempt.

The website

- By contrast, when people see the design for the website, confidence builds.
- Some now feel they will 'have a go' under their own steam, seeking help if needed, and look forward to a sense of achievement.
 - So, it's important to make the process (seem) easy in order to optimise autonomous participation.
- The website design creates a pleasing and reassuring atmosphere.
 - Excellent use of colour, space, imagery (people), and nuggets of text to increase engagement and reduce cognitive effort – and suggest it's easy.
 - Wears its official credentials lightly.
 - Surprisingly and positively different from the letter and much official communication; should play a central role in shaping engagement.

Overall, there is enough evidence to suggest that, with sufficient and appropriate support and communication, these 'seldom heard' audiences are very likely to engage with Scotland's Census 2021.