

Scotland's Census 2021

# **Response to Actionable Findings from Phase 1 of the National Statistics Accreditation**

## Contents

|  |           |
|--|-----------|
| <b>1. Introduction</b>   | <b>3</b>  |
| 1.1 What is National Statistics Accreditation?                         | 3         |
| 1.2 How will Scotland's Census 2021 be assessed?                       | 3         |
| 1.3 Where are we in the Accreditation process?                         | 4         |
| 1.4 Scope of this document   | 5         |
| <b>2. Summary of actionable findings and NRS response to date</b>      | <b>6</b>  |
| <b>3. Detailed response to Actionable findings</b>                     | <b>12</b> |
| <b>3.1 Finding 1: Accessibility of research and website design</b>     | <b>12</b> |
| 3.1.1 Accessibility of research  | 12        |
| 3.1.2 Designing a new 2021 Outputs website                             | 13        |
| 3.1.3 Aligning website design and content                              | 15        |
| <b>3.2 Finding 2: Questions and guidance – decision-making</b>         | <b>17</b> |
| 3.2.1 Question development and decision making                         | 17        |
| 3.2.2 Legislation and decision making                                  | 20        |
| <b>3.3 Finding(s) 3: Needs of UK Census Data Users</b>                 | <b>22</b> |
| 3.3.1 Engagement with UK Census Data Users                             | 22        |
| 3.3.2 Country-Specific Decision Making and Plans                       | 25        |
| 3.3.3 Harmonisation of Census questions                                | 27        |
| <b>3.4 Finding 4: Strengths and Limitations of Administrative Data</b> | <b>27</b> |
| 3.4.1 Use of Administrative Data in the 2021 census                    | 28        |
| 3.4.2 Administrative Data and Recommendations for Future Censuses      | 29        |
| 3.4.3 Building Relationships with Data Suppliers                       | 30        |
| <b>3.5 Finding 5: Methodology and Quality Assurance</b>                | <b>31</b> |
| 3.5.1 Methodology  | 31        |
| 3.5.1.1 Collect Phase  | 31        |
| 3.5.1.2 Disseminate Phase  | 33        |
| 3.5.2 Statistical Quality Assurance                                    | 36        |
| <b>3.6 Finding 6: Census Key Milestones</b>                            | <b>38</b> |
| <b>3.7 Finding 7: Census Assurance Mechanisms</b>                      | <b>42</b> |
| <b>4. Impact of COVID-19 on actionable findings</b>                    | <b>44</b> |

## **1. Introduction**

### **1.1 What is National Statistics Accreditation?**

At the National Records of Scotland (NRS) we have a responsibility to ensure the results of the 2021 Census in Scotland are correct, accurate and adhere to the [Code of Practice for Statistics](#) as determined by the UK Statistics Authority.

The conduct of the 2021 Census operation will be scrutinised by the Office for Statistics Regulation (OSR), the regulatory arm of the UK Statistics Authority, against the Code of Practice for Statistics.

The Code of Practice for Statistics promotes the production and dissemination of official statistics that inform decision-making. It helps producers and users of statistics by setting out the necessary principles and practices to produce statistics that are trustworthy, high quality and of public value.

Achieving National Statistics Accreditation demonstrates our commitment to being open and transparent about the methods, processes, procedures and practices that will be used to deliver Scotland's Census 2021.

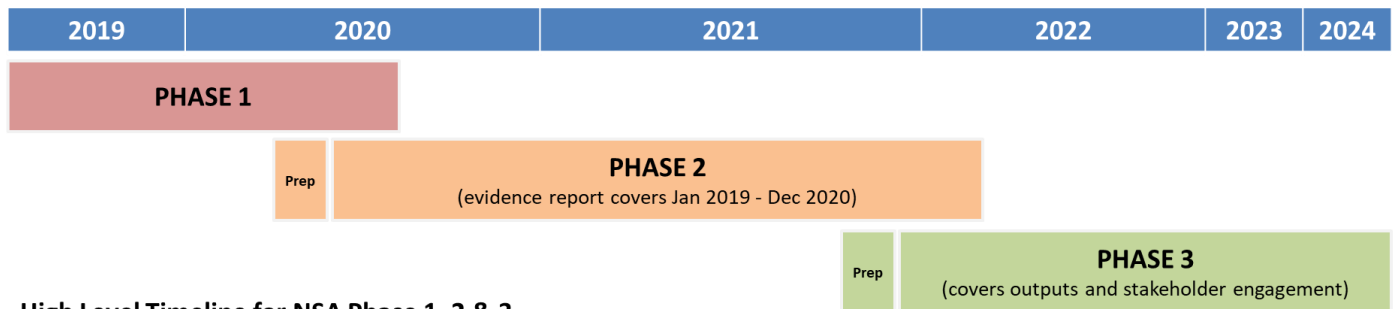
Preparing for the National Statistics Accreditation ensures we review our work across the programme, seek to embed continuous improvement into everything we do and focus on achieving the highest levels of trustworthiness, quality and value.

Achieving National Statistics Accreditation ensures the people of Scotland can have the utmost confidence in Scotland's Census 2021.

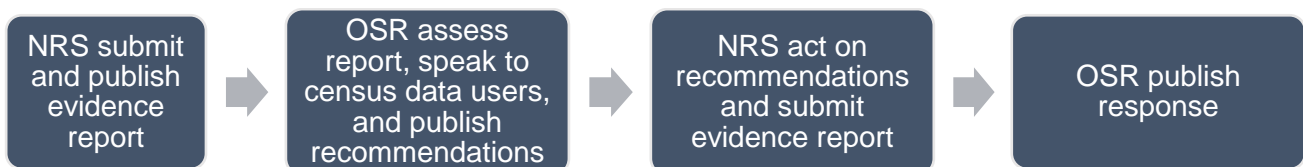
### **1.2 How will Scotland's Census 2021 be assessed?**

Scotland's Census 2021 programme will be assessed as a whole. This includes the initial planning stages that started in 2014, through to the production of the last standard outputs sometime in 2024.

The assessment is split into three phases during which Scotland's Census 2021 must demonstrate how it is being trustworthy, of high quality and of value to users.



Each phase of the assessment occurs as follows:



Compliance checks, which involve exploratory meetings between OSR and the census teams, also take place regularly throughout each phase. This process is repeated for all three phases of the assessment.

At the end of the Phase 2 assessment period, OSR will consider whether Scotland's Census 2021 has done enough to retain National Statistics Accreditation. If we are successful, OSR will confirm that we have retained the accreditation before the first census outputs are released in March 2022.

### 1.3 Where are we in the Accreditation process?

This report is the final evidence we will submit in phase 1 of the accreditation process.

The first step towards measuring our progress against the Code of Practice was the report "[How the National Records of Scotland is ensuring Census 2021 is trustworthy, high quality and of value to users](#)", published 12 June 2019, and formed our evidence-based submission for phase 1 of the OSR assessment.

The [Office for National Statistics \(ONS\)](#), and [Northern Ireland Statistics and Research Agency \(NISRA\)](#) also provided evidence to demonstrate how their respective census undertakings are meeting the Code of Practice for Statistics.

The OSR also considered evidence from a variety of sources including its own research, information we at the NRS gave them and, importantly, feedback from users and

stakeholders connected with the census. Capturing the views of users and potential users forms an important part of OSR's judgement about census statistics, including how they could be improved. We are grateful to census data users who provided information to the OSR as part of the phase 1 review.

The Office for Statistics Regulation (OSR) carried out an independent assessment of how the three UK offices delivering the 2021 censuses are progressing with their plans. Their report "[2021 Censuses in the UK – Preliminary findings](#)" published 4 October 2019, provides recommendations to NRS, ONS and NISRA. Their actionable findings cover areas of work that each census office needs to undertake as part of the important process of maintaining National Statistics Accreditation for their census outputs. We welcome the scrutiny and feedback and would like to thank the OSR for its helpful findings.

#### **1.4 Scope of this document**

This document sets out how NRS have responded to the actionable findings from phase 1 of our National Statistics Accreditation process, including how we are using OSR's findings to inform improvements to the census programme in Scotland. This document also details how and where NRS continue to work closely with ONS and NISRA to harmonise our approaches where it is possible to do so, and how we ensure lessons learned and best practice are shared between offices to improve the censuses across the UK.

## 2. Summary of actionable findings and NRS response to date

A summary of the actionable findings from phase 1 of the National Statistics Accreditation are detailed in the table below. This includes NRS's initial response to the actionable findings in October 2019, an estimated completion date, and a summary of our progress in addressing these actions to date as of January 2020. More details on the work NRS has been doing to respond to these actionable findings is available in [section 3](#) of this document.

| Action from OSR Assessment of the 2021 Censuses   | How we will address the action?<br>October 2019   | Estimated date of completion | Update for OSR Compliance Check January 2020  |
|---|---|------------------------------|---|
| Census offices should consider the accessibility of research and other census information on their websites and consider aligning website design and content where possible to provide a common user experience | We will work with the other UK census offices and our digital service teams to consider accessibility of census information on our existing websites and in the development of content for the 2021 census outputs. Common solutions will be considered as part of our process and implemented if suitable. | March 2022                   | <ul style="list-style-type: none"> <li>Discussions are ongoing with UK census offices to investigate the feasibility of harmonising content where possible.</li> <li>NRS have engaged a digital transformation agency to support the design and delivery of the new Outputs and Disseminate website.</li> <li>The design and delivery of the new Outputs and Disseminate website will be assessed against the Digital First Service Standard – which seeks to ensure services are designed to be usable and accessible. This project will be assessed at Discovery, Alpha, Beta and prior to Live.</li> </ul> |
| Census offices should be open and transparent on their decision-making processes and in their decisions on Census questions and guidance,   | We will continue to <a href="#">publish documentation</a> on the decision-making process for Census questions and   | Spring 2021                  | <ul style="list-style-type: none"> <li>Information on our question development is available on Scotland's Census website: <a href="https://www.scotlandscensus.gov.uk/question-development">https://www.scotlandscensus.gov.uk/question-development</a></li> </ul>  |

---

particularly in relation to any areas of contention

guidance. We will continue to engage with stakeholder groups, other dissemination routes, public events, and provide evidence to Parliamentary Committees as part of our approach to welcoming debate and scrutiny and encouraging engagement.

- Question set from rehearsal available on Scotland's Census Website:  
<https://www.scotlandscensus.gov.uk/2021-question-set>
- Legislation pages are regularly updated on Scotland's Census website:  
<https://www.scotlandscensus.gov.uk/legislation-2021> and include a page on the Census order and supporting impact assessments:  
<https://www.scotlandscensus.gov.uk/census-order-0>
- Sex question recommendation report promoted to stakeholders via our newsletter and on our Scotland's Census website:  
<https://www.scotlandscensus.gov.uk/news/sex-question-recommendation-report>
- NRS officials appeared before the Culture, Tourism, Europe and External Affairs Committee on 9 and 30 January 2020 to discuss matters related to Scotland's Census 2021. This was broadcast via parliamentary TV and promoted through our stakeholder newsletter and on our Scotland's Census website.

---

We consider that there should be more focus on the needs of Census users at a UK level, in three areas:

---



|  |   |  |   |
|--|---|--|---|
| <p>(i) Census offices should consider how best to engage with users and stakeholders of UK Census data and statistics users and coordinate activities as appropriate</p>   | <p>The three UK census offices will seek engagement and feedback from UK Census data users, in a coordinated way, on how they would like to see the three UK census offices work together to better meet their needs. The three census offices will feedback to each other on issues that arise in their discussions which are relevant to another census office.</p> | <p>Summer 2020</p>   | <ul style="list-style-type: none"> <li>• ONS, NISRA and NRS are working together to take forward the UK actions and to engage with UK Census Data users and identify their needs and how to continue to strengthen engagement with them.</li> <li>• UK Census Data tab set up on Scotland's Census website: <a href="https://www.scotlandscensus.gov.uk/uk-census-data">https://www.scotlandscensus.gov.uk/uk-census-data</a> and signposts to the other UK census offices web pages.</li> <li>• "Are you a UK data user?" Section added to webpage for users to get in touch.</li> </ul>   |
| <p>(ii) Census offices should be clear about the impact of country specific decision making for UK Census data and statistics and work together to provide greater transparency around their plans and decision making in meeting the needs of users interested in UK Census outputs</p> | <p>The three UK Census offices will share plans and decisions based on actions 3(i) and 3(iii) on a dedicated UK Census Data section of the respective offices websites, including links to the other offices webpages for ease of access. An update on progress on the "Conduct of the 2021 censuses in the UK" will be coordinated.</p>                             | <p>March 2021 (depending on the actions 3(i) and 3(iii) being completed)</p> | <ul style="list-style-type: none"> <li>• NRS, ONS and NISRA have worked together to deliver an update on the "Conduct of the 2021 censuses in the UK" which was published in January 2020: <a href="https://www.scotlandscensus.gov.uk/uk-census-data">https://www.scotlandscensus.gov.uk/uk-census-data</a></li> <li>• NRS, ONS and NISRA have been working closely with the UK Data Service (UKDS) who have undertaken discovery work on UK Census Data Dissemination. There will be a show and tell on 6 February with the devolved UK administrations where a plan of action for UK data dissemination will be formed.</li> </ul> |



- NRS, ONS and NISRA regularly meet to discuss developments across all aspects of census work, with emphasis on how we align this work at a UK level.

(iii) Census offices should provide users, stakeholders and decision makers with information on harmonisation of Census questions and the impact on outputs at UK level to help inform users and support decision making

Work is ongoing across the three UK Census offices to produce a clear understanding of the harmonisation of questions and impact on outputs. We will specify reasons for instances where there is not a harmonised option across the UK.

March 2021  
(depending on question approval by respective parliaments)

- See above for collaboration work between NRS, ONS, NISRA and UKDS on dissemination.
- Work is ongoing across the three UK census offices on how the questions are harmonised and identifying where this is not possible due to country specific needs and the impact this has on outputs. This will be published when the work is complete.

Census offices should build their awareness of the relative strengths and limitations of any administrative, commercial or other data sources used in the production of Census outputs, by regular engagement with suppliers. This should be undertaken on an ongoing basis and as part of a normal way of working

We will continue to build strong relationships with our data suppliers and produce Quality Assurance of Administrative Data (QAAD) assessments for relevant data sources, which will be made available as part of our statistical quality assurance methodology

Ongoing

- We hold regular meetings with our data suppliers.
- We are working with our NHSCR data supplier to baseline the Mid-Year Estimates – if QAAD is approved this will form template for the census QAAD.
- Initial discussions with colleagues in SG education department about opening up data sharing clause to obtain education data sets at disclosive aggregates.
- We have been working closely with our Scottish Government colleagues to obtain a prisons data set for Quality Assurance purposes.

- Initial discussions ongoing on identifying data sets and access agreements for QA work, in particular validating population estimates and topic-based analysis.
- Information on what we use administrative data for has been made available on Scotland's Census Website:  
<https://www.scotlandscensus.gov.uk/administrative-data>
- Planning taking place now for where we will publish QAADS and when.

Census offices should make information on the methodology and quality assurance arrangements available to users at the earliest opportunity

A Statistical Quality Assurance Strategy will be published and feedback invited from stakeholders on proposed plans.

Strategy published December 2019

- Information on the Statistical Quality Assurance of Scotland's Census published on Scotland's Census Website in December 2019:  
<https://www.scotlandscensus.gov.uk/node/718>
- Statistical Quality Assurance Strategy was presented to the Population and Migration Statistics (Scotland)(PAMS) committee in November 2019 for feedback and also published on Scotland's Census website in Dec 2019 (see above link) with feedback requested from stakeholders.

Census offices should provide users with an indication of future Census milestones – including future user engagement opportunities, publication of further research or

Key milestones will be published, including planned user engagement opportunities, publication of

End of December 2019

- Programme overview and Census Key Milestones were published on the Scotland's Census Website in December 2019:  
<https://www.scotlandscensus.gov.uk/node/717>

|  |   |             |   |
|--|---|-------------|---|
| reporting, and legislative milestones – to provide an added level of transparency and support trustworthiness and public confidence  | further research or reporting, and legislative milestones.  |             | <ul style="list-style-type: none"> <li>Links to supporting information included on webpages and milestones for extra transparency and simplified user journey.</li> <li>NRS publish opportunities to get involved in user research/ user panels/ user testing through a variety of channels. This includes (but is not limited to): NRS twitter, Scotstat newsletters, Census newsletters and via the DataLab network.</li> </ul> |
| Census offices should be clear to users what assurance mechanisms are in place and be open about identified areas for improvement in a way that is a proportionate and accessible to users | Information on areas for improvement, risk mitigation, and assurance mechanisms will be made available in a proportionate and accessible way. | Spring 2020 | <ul style="list-style-type: none"> <li>Information on the assurance activities undertaken by Scotland's Census is now available on our website:<br/><a href="https://www.scotlandscensus.gov.uk/assurance">https://www.scotlandscensus.gov.uk/assurance</a></li> </ul>  |

### 3. Detailed response to Actionable findings

#### 3.1 Finding 1: Accessibility of research and website design

**Census offices should consider the accessibility of research and other Census information on their websites and consider aligning website design and content where possible to provide a common user experience.**

##### 3.1.1 Accessibility of research

The [Scotland's Census website](#) is the main source of information relating to current and past censuses in Scotland. The website contains data and information on the 1991, 2001 and 2011 censuses in Scotland and is the main way NRS share our plans, designs and progress towards the next census in 2021.

Some key features available from the Scotland's Census homepage allow our users to explore the research and data available for each of the previous three censuses, including:

- [Census Data Explorer](#), which allows users to navigate through the data tables available by topic, date and geography;
- [Supporting Information](#), which covers a range of reference information available to support the use of Scotland's Census data;
- [Maps and Charts](#), which aid in bringing the census statistics to life and can be used to highlight patterns and trends and make statistics more accessible to a wide variety of people; and
- [News](#), which highlights important updates on progress, decisions, and upcoming stakeholder events for Scotland's Census 2021.

Following the actionable findings from OSR as a result of the National Statistics Accreditation Phase 1 assessment, NRS updated aspects of the existing Scotland's Census website to improve the accessibility of research and other census information. This included adding the following

- [National Statistics Accreditation Plan](#)
- [New Census Key Milestones section](#)
- [New Statistical Quality Assurance section](#)
- [New UK Census Data section](#)
- [New Census Rehearsal 2019 section](#)
- [added social media Twitter feed to main page](#)
- [New 2021 Census Outputs section](#)
- [New 2021 Question Set section](#)

- [New Assurance section](#)
- [New Administrative Data section](#)

In addition, we also undertook the following activities:

- the Scotland's Census homepage now includes a prominent feature entitled "[shaping our future census 2021...](#)" which directs users to all the available, up to date resources NRS have published on our planning, design and progress for Scotland's Census 2021;
- All the above updates and changes to Scotland's Census Website were sent via [newsletter](#) to our stakeholders and advertised on our front page;
- We also ran a five day [social media campaign](#), highlighting some of the key updates to stakeholders via our designated Twitter and Facebook accounts;
- We thought carefully about navigation, within the constraints of our existing website system, and added hyperlinks to supporting information where possible to enhance the user journey through the 2021 information.
- Most website updates included a "Get involved" prompt asking people to get in touch with comments, questions and feedback by contacting [scotlandscensus@nrscotland.gov.uk](mailto:scotlandscensus@nrscotland.gov.uk).

### 3.1.2 Designing a new 2021 Outputs website

The outputs from Scotland's Census 2021 will be used to inform national policy, spending, support services and government, and private and third sector operations that will benefit the people of Scotland for the next ten years. It is important that the public are able to access the statistical outputs they need easily and in a timely manner. However, research, including a [stakeholder event in June 2019](#) and other user feedback, has indicated that the existing Scotland's Census Website, which was built for Scotland's last census in 2011, is not meeting user needs.

It is therefore vital that NRS undertake a programme of work to build a new Scotland's Census outputs website which is designed with users, to best meet their needs. NRS has limited digital transformation expertise and resources to undertake the necessary work, and is therefore working with a digital transformation agency to deliver the new Scotland's Census outputs website.

A phased delivery approach, in line with the [Government Digital Service \(GDS\)](#) and [Digital First Service Standards](#) models, will be adopted to deliver Scotland's Census new 2021 outputs website.



Source: GOV.UK service manual

A phased delivery approach such as this places particular emphasis on ensuring that digital services delivered in Scotland are continually improving and that users are always the primary focus.

In Discovery, we focussed on uncovering the service landscape from multiple perspectives. The goal was to understand the user needs that need to be met, the target business objectives and any problems that needed to be solved.

For example, we established primary user needs for the service by understanding the context in which it is currently used. We explored the tasks people are trying to complete and how they find this information.

In February and March 2020, user interviews were conducted with members of the public from a variety of socio-economic backgrounds. Focus groups were held with professional participants from a range of public sector organisations. Participants took part in research in person or remotely, maximising the geographical spread of participants and accommodating anyone who was unable to attend in person.

Stakeholders were advised of ways they could get involved in user research through Scotland's Census [events pages](#). For example, in April 2020, we sought to explore the needs and requirements of those who use or would like to use census data through [a professional user survey](#) that was promoted through our events pages.

We also reviewed the analytics relating to the current Census Outputs' website in order to understand how it is currently being used. Furthermore, we reviewed the architecture of the existing Census Outputs website, with a view to identifying any technical constraints for future phases. Then, we built a low fidelity prototype based on:

- key user journeys;
- prioritised user needs;
- mygov.scot design standards.



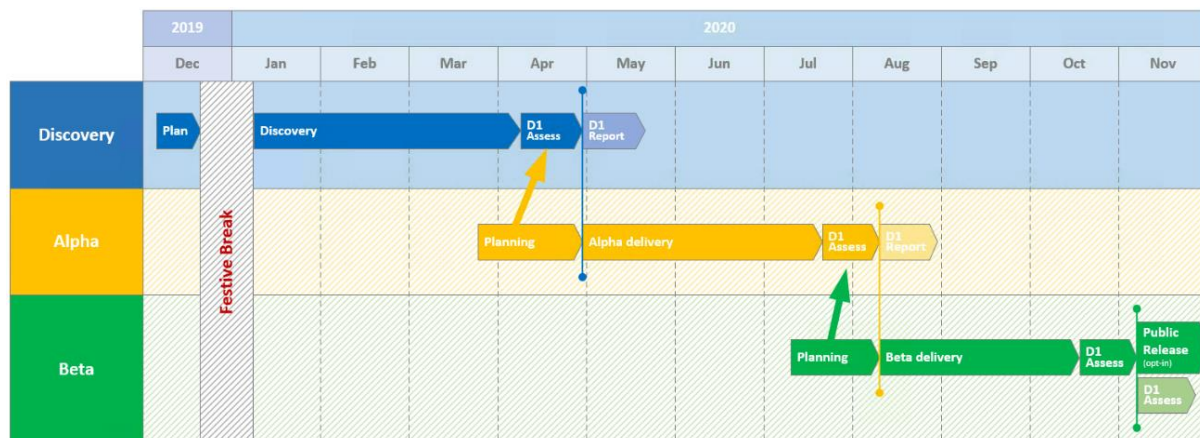
The prototype was tested with primary audiences and we used findings from usability testing to inform the next iteration of the prototype.

On 6 May 2020, the Discovery Phase was completed. A formal Digital First Assessment was conducted, and Scotland's Census 2021 are awaiting the formal assessment report and recommendations to take forward into Alpha.

In the Alpha phase we will begin development of the more challenging elements of the service, while continually validating the primary and secondary user journeys as they evolve through usability and accessibility testing.

The project will then move into the beta phase, where the team will prepare the service to be publicly accessed by users. The beta site will be soft launched to sit alongside the current service, as this will allow the team to gather useful insight and feedback, without compromising access to the existing Scotland's Census outputs service. The feedback gathered will be used to inform future iterations of the product.

The following high-level plan illustrates the primary phases of the project:



### 3.1.3 Aligning website design and content

The new Scotland's Census 2021 Outputs website will operate within the existing NRS Web estate and wider [Scottish Government](#) digital landscape. NRS will also work to align the Scotland's Census outputs website with the standards of the collect website to help create a smooth user journey for people using both websites. This will mainly be achieved through content and use of GDS design standards. There will be a requirement for the NRS Outputs website to consider how it can align and (as far as possible) create seamless user journeys across the wider UK digital landscape as well.

For example, the Office for National Statistics (ONS), who are responsible for delivering the [2021 census for England and Wales](#), and the Northern Ireland Statistics and Research Agency (NISRA) who are responsible for delivering the [2021 census for](#)



[Northern Ireland](#), have their own census websites that are currently being used to disseminate their census statistics and supporting information.

ONS and NISRA each have their own development principles for their websites. ONS are undergoing the development of a new Census 2021 dissemination system which will be integrated into the wider ONS digital landscape by using a common set of channels, products and tools rather than for the new system to exist as a standalone service. Similarly, NISRA's census outputs dissemination platform will be integrated in to its existing online platform.

Whilst all three census offices recognise the need to deliver a service that is as streamlined as possible, it may be impractical to fully align the website design and content as all three offices will identify a range of different user needs that will inform the design and development of these websites. There is currently no single approach to digital dissemination, and no single platform has been proposed.

The ONS Census 2021 outputs website will follow the Government Digital Standards (GDS), which the Digital Scotland Service Standards are based on, and it is anticipated that similar high standards and good-practice will be applied during the design and delivery of the respective websites.

A meeting between NRS, our digital transformation partners, and ONS and NISRA's website design teams will be scheduled to discuss plans and approaches and to identify specific areas where alignment in design and content may be possible.

Harmonising website content is simpler to achieve and will continue to be a considerable focus of efforts across the three UK census offices. For example, NRS are working closely with our colleagues in ONS and NISRA to maximise the harmonisation of content across the three UK census websites through using similar page titles, sub-titles, headings, language, and descriptions where practical to minimise the learning curve for users moving between other government webpages to census or between the three census offices webpages.

The three census offices are also collaborating on the harmonisation of UK content for any new updates to the existing website, and the content that will be moved over on to the new census websites when they go into their Live phase. For example, work is ongoing to produce a harmonised UK Census data webpage that has the same content on the [NRS census webpage](#), the [ONS census webpage](#), and the [NISRA census webpage](#).

It is important that when providing key harmonisation information to users that the different UK census websites, products and tools make use of appropriate cross-site linking and sign-posting to provide a more consistent user journey. Included in the ongoing work on harmonisation of content is the [increased signposting to the other UK census offices websites](#) to maximise ease of use for users and pinpoint equivalent

information across the three UK offices. Work will continue to develop further harmonised content across the UK census office websites and to implement signposting where appropriate to maximise the accessibility of information and improve the user journey.

ONS, in its lead role in coordinating and disseminating UK-level outputs from the 2021 Census, has conducted research on UK census data users requirements. Firstly, a sample of users who responded to the UK census data questions in their [outputs consultation](#) in February 2018 were interviewed, using questions developed by the three offices, to gain an insight on how UK data is used and preferences with regard to accessing these data and supporting information. Secondly, as part of its census roadshows during March 2019, ONS included an interactive study for attendees to capture their user journey from accessing data through to downloading UK-level census data. Through sharing the research findings with NRS, and NISRA, there is a greater collective understanding of the needs of census users at a UK level.

The outcomes from the above work will be captured and evidenced during the Digital First assessments, administered by the Scottish Governments' Digital Assurance Office (DAO), that NRS will undergo during the development of the new Scotland's Census 2021 outputs website. This body of evidence and the DAO assessment outcomes will be included as part of NRS's compliance checks with OSR throughout 2020 and our evidence submission for phase 2 of the National Statistics Accreditation in January 2021.

## **3.2 Finding 2. Questions and guidance – decision-making**

**Census offices should be open and transparent on their decision-making processes and in their decisions on Census questions and guidance, particularly in relation to any areas of contention**

### **3.2.1 Question development and decision making**

The success of the next census will rely on a comprehensive understanding of user needs and concerns, as well as the support and participation of the general public.

Questions must be thoroughly tested before they can be deemed suitable for a census. In deciding what subjects to cover and what questions to ask, we have consulted many people and organisations to take full account of Scottish circumstances. We have also considered:

- how acceptable the questions are to the public
- how to ask questions in a way that produces reliable answers, and

- whether other ways of collecting the information already exist.

The Scottish Parliament make the final decision on which questions to include in Scotland's Census 2021. Following the agreement of the draft Census Order by the Scottish Parliament, the [Census \(Scotland\) Order 2020](#) came into force on 12 March 2020. The Order describes the particulars to be asked in Scotland's Census 2021.

We work closely with the UK's other census offices to ensure that consistent UK-wide census results are available where there is user demand (subject to approval, where appropriate, of the relevant legislatures). We are working alongside the Office for National Statistics (ONS) and the Northern Ireland Statistics and Research Agency (NISRA) to gather as much evidence as possible to ensure the 2021 Census questions are clear and robust.

Our own complimentary programme of question development in Scotland used qualitative and quantitative testing and involved a wide range of community stakeholders to inform question development.

To ensure we are fully open and transparent with users on how we make decisions relating to question development, documentation detailing our processes and decision making journeys are available on the "[Question development](#)" page of Scotland's Census 2021 website. This includes information detailing:

- A [Topic Consultation](#) run between 8 October 2015 and 15 January 2016 which sought views on the topics users felt should be included in the next census;
- a number of [Topic Events](#), meetings and focus groups run throughout Scotland to publicise our plans for question development, capture more detailed information about user need, and determine the quality and acceptability of new questions;
- The publication of our [question evaluation criteria for existing, alternative and new questions](#) and [question evaluation criteria for tick box response options](#);
- The publication of a number of [Topic Reports and supporting documentation](#);
- The publication of the [question set used in the 2019 Census Rehearsal](#);
- The publication of NRS's '[Plans for Scotland's Census 2021](#)' ([0.80MB pdf](#)), published on Thursday 27 September 2018, which lays out proposals for how the census will be conducted and the questions it will ask.

NRS has received much public scrutiny over how we have handled the development of some of the proposed questions for Scotland's Census 2021. In particular there has been significant stakeholder and media interest over the past year in NRS's proposals for the inclusion of a voluntary sexual orientation question, a voluntary trans status or history question, and our proposals for whether or not the mandatory sex question should remain binary and be answered on a self-identified basis.

It is important to recognise that the development of Scotland's Census sits within a wider Scottish Government context. NRS has worked closely with colleagues in the Scottish Government undertaking the [Gender Recognition Act consultation](#) and in consultation with colleagues in Equality workstreams to ensure a cohesive approach to the census questions. Both of these work areas have generated interest in sex, sexual orientation and trans status questions. Some of the stakeholder groups who have been critical of NRS's approach had not been involved in previous consultation. NRS therefore began engagement with these stakeholders in 2019 to understand their views and needs for the next census.

In addition, whilst NRS did not meet with organisations representing intersex people prior to 05 December 2018, NRS worked closely with Scottish Government colleagues to understand engagement that other teams were having, especially in relation to the Gender Recognition Act consultation.

As a direct result of listening to the needs of users during the aforementioned stakeholder engagement(s) and testing of public acceptability and cognitive testing, NRS proposed two new questions relating to a person's sexual orientation and trans status. Because of the sensitivity of asking questions in the census on sexual orientation and trans status, it was proposed that these questions be included on a voluntary basis. Please see [section 3.2.2 of this document](#) for information on the legislative process for including voluntary questions in Scotland's Census 2021.

In August 2019, [NRS ran multiple stakeholder events](#) where we updated users on the census legislative process, plans for the sex question testing and sought feedback on proposed guidance for the sex, trans status and sexual orientation questions that were to be included in further testing. We published the [presentation](#) and the [updated guidance](#) based on participants feedback on Scotland's Census Website.

Following additional engagement with stakeholder groups and work with our Scottish Government colleagues, NRS committed to carrying out further testing around the sex question and guidance. We asked [ScotCen Social Research](#) to conduct a survey to test questions that may be included in Scotland's Census 2021. The aim of the survey was

to see whether these questions were acceptable, easy to complete and produced reliable data. From 18 September 2019, around 6,500 randomly selected addresses in Scotland received an invitation letter from ScotCen to take part in this study. Trans and non-binary people were also recruited separately to take part in this testing.

National Records of Scotland considered all of the evidence relating to the sex question and accompanying guidance. NRS continued to recommend a binary sex question with self-identification guidance for the 2021 Census. The [NRS Sex Question Recommendation Report](#) provides the background information and evidence from the question development process that supports the sex question and guidance for Scotland's Census 2021. The publication of the full [ScotCen report](#), and the NRS Sex Question Recommendation report, was advertised to stakeholders via the [NRS news pages](#) in December 2019. The Sex Question Recommendation Report remains available for users and is signposted alongside the topic reports on the [question development pages](#) of Scotland's Census 2021 webpages.

### 3.2.2 Legislation and decision making

Information on the legislation that underpins the census in Scotland has been published on the [Legislation pages](#) of Scotland's Census 2021 website. Specifically, the law provides for a census to be taken not less than five years after the previous census. However, every census requires further legislation which details how a particular census is to be run. A census is taken in Scotland by the Registrar General for Scotland under the [Census Act 1920](#). The Act requires us to prepare a number of legislative instruments which provide the basis for census. These are the [Census Order](#) and [Census Regulations](#).

As announced by the First Minister as part of the 2018-19 Programme for Government, the Census (Amendment) (Scotland) Bill was presented to the Scottish Parliament to amend the Census Act 1920 to allow National Records of Scotland (NRS) to ask voluntary questions on sexual orientation and transgender status/history in the 2021 census and future censuses.

The Census (Amendment) (Scotland) Act 2019 received Royal Assent on 18 July 2019 and its substantive provisions (section 1) came into force (became law) on 18 September 2019. This confirms that NRS can ask voluntary questions on sexual orientation and transgender status and history.



Inclusion of such questions in the census is anticipated to have a positive effect on inclusivity, by affording all individuals the opportunity to identify and express themselves in a way which accurately represents how they feel.

In response to the Bill, the Culture, Tourism, Europe and External Affairs Committee published the [Stage 1 Report on the Census \(Amendment\)\(Scotland\) Bill](#). The Stage 1 report contained a recommendation on the process of consultation which underpins policy development on questions regarding sex, sexual orientation and trans status. As question development for Scotland's Census 2021 was ongoing, further consultation continued, including with women's groups.

Over recent months (Winter/Spring 2020), National Records of Scotland officials have provided evidence to the Culture, Tourism, Europe and External Affairs Committee of the Scottish Parliament to support their consideration of the draft Census Order. For example, following the publication of the [NRS Recommendation Report](#) on the sex question, NRS officials appeared before the Culture, Tourism, Europe and External Affairs Committee on 9 January 2020 to discuss matters related to Scotland's Census 2021, including the NRS Recommendation Report and our engagement with stakeholders on the topic. NRS welcomed the opportunity to engage with the Committee. This was broadcast via [Scottish Parliament TV](#) and promoted through our [news pages](#) on our Scotland's Census 2021 website.

On 23 January 2020 [the draft Census \(Scotland\) Order](#) for Scotland's Census 2021 was formally laid for approval by the Scottish Parliament. Following formal laying of the draft Census (Scotland) Order in the Scottish Parliament, Fiona Hyslop, the Cabinet Secretary for Culture, Tourism and External Affairs, along with NRS Officials, appeared before the Culture, Tourism, Europe and External Affairs Committee on 30 January to discuss matters related to Scotland's Census 2021. The committee appearance was broadcast on [Scottish Parliament TV](#) and updates were added to the Scotland's Census 2021 [Legislation pages](#) and the information sent to stakeholders in a [newsletter](#) article to share with users the outcomes of this session. These updates remain on the Scotland's Census 2021 website for stakeholders to view at their leisure.

The draft Census (Scotland) Order was approved by the Parliament on Wednesday 4 March 2020. NRS welcome the agreement by Parliament and are committed to delivering a set of questions and associated guidance which enables all of Scotland to access, understand and complete the census. Updates were added to the [Legislation pages](#) of Scotland's Census 2021 website, a [news article](#) published on the Scotland's Census homepage, and a [newsletter](#) article sent to stakeholders to share the outcome. These updates remain on the Scotland's Census 2021 website for stakeholders to view at their leisure.

Following the agreement of the draft Census Order by the Scottish Parliament, the [Census Order](#) came into force on 12 March 2020. NRS welcome the agreement by Parliament and are committed to delivering a set of questions and associated guidance which enables all of Scotland to access, understand and complete the census.

The following Impact Assessments accompanied the Census Order. NRS conducted a period of stakeholder engagement to gather views and feedback and where appropriate, Impact Assessments were updated to reflect that feedback. The [Impact Assessments Stakeholder Survey Report](#) provides more information.

- [Human Rights Impact Assessment \(PDF\)](#)
- [Equality Impact Assessment Results \(PDF\)](#)
- [Data Protection Impact Assessment \(PDF\)](#)
- [Children's Rights and Wellbeing Impact Assessment \(PDF\)](#)
- [Business Regulatory Impact Assessment \(PDF\)](#)
- [Fairer Scotland Duty Impact Assessment \(PDF\)](#)
- [Island Communities Impact Assessment \(PDF\)](#)
- [Strategic Environmental Assessment \(PDF\)](#)

The assessment of impacts is an ongoing process and will continue up to Census day and beyond.

On 7 May 2020 the [Census \(Scotland\) Regulations 2020](#) were laid at the Scottish Parliament. The Regulations set out the arrangements for how Scotland's Census 2021 will be conducted, including the detail of the questions to be asked.

### 3.3 Finding(s) 3: Needs of UK Census Data Users

**We consider that there should be more focus on the needs of Census users at a UK level, in three areas:**

#### 3.3.1 Engagement with UK Census Data Users

**Census offices should consider how best to engage with users and stakeholders of UK Census data and statistics users and coordinate activities as appropriate.**

The three UK Census offices have built a strong evidence base on the requirements around UK census data via specific consultation and engagement with users and stakeholders on this subject. [ONS](#) and [NISRA](#) included sections on UK harmonisation and statistics in their 2021 Census outputs consultations, while NRS did likewise in its [Outputs Stakeholder events](#).



To supplement the aforementioned engagement, ONS, in its lead role in coordinating and disseminating UK-level outputs from the 2021 Census, conducted further research on UK census data requirements. Firstly, a sample of users who responded to the UK census data questions in the [outputs consultation](#) that took place from February to May 2018 were interviewed, using questions developed by the three offices, to gain an insight on how UK data are used and preferences with regard to accessing these data and supporting information. Secondly, as part of its census roadshows during 2019, ONS included an interactive study for attendees to capture their user journey from accessing to downloading UK-level census data. Through sharing the research findings with NRS and NISRA, there is a greater collective understanding of the needs of census users at a UK level.

In addition, the ongoing assessment of the 2021 Censuses in the UK by OSR has provided the three offices with valuable intelligence on the requirements of users interested in UK-level data. As part of the Phase 1 assessment, OSR received feedback from a range of UK data users, which has been shared with the relevant census office, where authorised to do so.

In response to considering how best to engage with users of UK census data and coordinate activities as appropriate, the three census offices have introduced a number of initiatives:

- **Establishment of the UK Census data working group** – This group has the specific aim of collaborating and aligning activities to address actionable findings 3i and 3iii. The group meet on a monthly basis to identify ways in which the findings can be addressed, ensure consistency in approach and discuss progress.
- **Addition of UK Census webpage** – Each of the census offices have added or are in the process of adding a UK Census section to their respective websites. This includes background information on the 2021 Census in the constituent countries and provides an overview of the wide range of harmonisation activities; plans for UK-level outputs will also be outlined as they are developed and finalised. In addition, the webpage promotes engagement with UK census users by encouraging feedback on their specific requirements for 2021 Census outputs.
- **Cross-office attendance at user events** - The three offices have committed to attending each other's stakeholder and user events where relevant and practical. This will involve introducing census colleagues from other parts of the UK to

attendees and encouraging engagement to discuss their respective countries census or the census from a UK perspective. For example, colleagues from ONS and NISRA attended the [NRS Statistical Methodology Stakeholder event](#) in Edinburgh in February 2020 and were introduced to the attendees.

- **Potential UK-wide stakeholder event** – The UK Census data working group have held discussions about organising a UK level stakeholder event in each of the respective UK countries. Group members have reviewed the UK user research undertaken by ONS to date, as well as findings from discussions with UK data users after OSR shared user feedback from the Phase 1 assessment, and the group determined that additional UK level events at this time would not add value to understanding user needs.
- **“Are you a UK data user?”** – NRS have been actively trying to engage with UK Data users in Scotland by encouraging those users to get in touch and tell us about their UK data needs and journeys. As such, we have added a section to the [UK Census Data webpage](#) asking UK level users to contact us. In addition, we regularly include UK Census slides in our stakeholder presentations asking for UK data users to get in touch. For example, the [NRS Statistical Methodology Stakeholder event in February 2020](#) included slides appealing for engagement opportunities with UK data users.
  - Whilst we have a growing body of evidence demonstrating the needs of UK data users in England, it is worth noting that at the time of publication, no UK data users in Scotland have made themselves known to NRS, or to ONS or NISRA.
  - While there is a collective recognition of the importance of harmonising census outputs, where possible and practical, to produce consistent and comparable UK-level statistics, each census office strives to meet the specific user and respondent needs in the relevant part(s) of the UK.
  - In Scotland, we also have evidence from stakeholder engagement that indicates UK harmonisation is not always a priority need for Scottish stakeholders. For example, at the [Outputs Stakeholder event in June 2019](#), a discussion was held on census geographies and stakeholders were asked to provide feedback on whether or not they would make use of UK harmonised output areas ([Section 4.3 of Summary Report](#)).

Census output areas in Scotland are smaller than those throughout the rest of the UK. This could potentially cause issues for making UK comparisons when output area is the geography of interest. As such, stakeholders were asked if it would be useful for their work to have a

second group of harmonised output areas. It is important to note that NRS is not proposing to replace Scottish output areas, which will still be produced and retain their smaller size. Rather these harmonised output areas would act as a geography that is the same size as output areas throughout the rest of the UK.

Most stakeholders had limited interest in UK harmonised output areas as many expressed a preference for the smaller, more detailed output areas available for Scottish data. Given that the creation of these harmonised output areas is likely to be time and resource intensive, NRS does not plan to make this geography available for standard outputs or for inclusion in the flexible table builder at this stage.

- Efforts are still ongoing to identify Scottish-based UK data users to add to the collective understanding of the needs for UK census data. If you are a UK data user based in Scotland and would like your voice heard, please contact us at [scotlandscensus@nrsotland.gov.uk](mailto:scotlandscensus@nrsotland.gov.uk) to help us understand your needs for Census 2021.

### 3.3.2 Country-Specific Decision Making and Plans

**Census offices should be clear about the impact of country-specific decision making for UK Census data and statistics and work together to provide greater transparency around their plans and decision making in meeting the needs of users interested in UK Census outputs.**

While NRS, NISRA and ONS are responsible for and focusing on delivering the 2021 Census in Scotland, Northern Ireland, and England-Wales, respectively, the three organisations are working in unison to ensure that the censuses are successful in providing high quality population and housing statistics for the UK, meeting the needs of data users and satisfying international obligations. This is demonstrated by the statement of agreement between the National Statistician and the Registrars General for Scotland and Northern Ireland about the conduct of the 2021 Censuses. It sets out the elements of the census that the three offices are aiming to harmonise, where it is practical and in the interest of users and the public good more generally.

The [initial statement of agreement](#) was published in October 2015, and this has been followed by progress updates released in November of [2016](#) and [2019](#). The documents are structured around three broad aspects of the 2021 Census that are a strong focus of harmonisation, namely outputs, census procedures and governance. Within each section, clear information is provided on key elements such as common topics and

questions, statistical methods, use of administrative data and publicity campaigns; this highlights to users the considerable progress made to date on harmonisation.

Ongoing effective collaboration provides a platform for understanding the impact of country-specific decision making on UK outputs from the 2021 Census, while also ensuring that opportunities for harmonisation are identified and implemented.

Harmonisation working groups (HWG's) are a significant part of the daily workings of all three census offices. HWG's occur at all levels of the census programmes, from executive management teams through to individual workstreams. HWG's cover the majority of census topics, design and delivery to maximise harmonisation through sharing ideas, best practice and methodologies. Importantly, HWG's help to understand any impacts on UK level data where harmonisation is not possible.

Some of the work covered by HWG's was discussed in [NRS's National Statistics Accreditation phase 1 assessment report](#), published in March 2019. However the ongoing harmonisation work between the UK offices is extensive. Thus, the UK Census Data working group are compiling a data base of all the harmonisation working groups and activities contributed to by the UK offices to capture the magnitude of work that goes in to UK harmonisation. Once compiled, it is intended that this information will be shared on our respective websites to aid transparency in the work being done on UK harmonisation. Similarly, a series of workshops will be held to review the harmonisation of definitions, classifications and outputs. Upon finalisation of harmonisation approaches in these key elements of the 2021 Census, the three offices will be better placed to communicate firm plans and impacts to users and stakeholders, especially those interested in UK outputs.

The UK Census Committee (UKCC), which NRS, NISRA and ONS are members of, has an important role with regard to harmonisation of Census 2021 activities across the UK. Among its main purposes is to agree the Census delivery approaches and plans in a way that takes full advantage of harmonisation of working practices and sharing of research and resources. The UKCC also agrees the scope of cross-UK working and co-ordination and provides strategic input to this work, taking into account a number of factors including the need to meet users' requirements and international obligations through the harmonisation of UK outputs.

As referred to in [section 3.3.1](#), the three census offices worked together to design and develop content for a UK Census section on the [NRS](#), [ONS](#) and NISRA websites. New content will be added and existing content updated as we move towards and beyond March 2021. Regarding UK harmonisation, there is information on:

- why we harmonise

- what we are doing to harmonise
- further relevant information
- how to contact us

In relation to UK Census data, the webpage provides information on:

- plans for UK outputs from the 2021 Census
- how UK data are used
- 2011 Census UK data and supporting information

### 3.3.3 Harmonisation of Census questions

**Census offices should provide users, stakeholders and decision makers with information on harmonisation of Census questions and the impact on outputs at UK level to help inform users and support decision making.**

There has been effective collaboration in developing questions for inclusion in the 2021 Census between Scotland, Northern Ireland, and England-Wales. While each census office strives to meet the specific user and respondent needs in the relevant part(s) of the UK, there is a collective recognition of the importance of harmonising census questions and topics, where possible and practical, to produce consistent and comparable UK-level statistics. A prime example is the area of census content and questionnaire design, which has seen the three offices build a strong working relationship via the Question Product Working Group, established early in the 2021 Census programme. This work will be taken towards completion via UK-level workshops planned for spring 2020.

Work is ongoing to produce a clear understanding of the harmonisation of 2021 Census questions across the UK; this includes highlighting where differences exist, the underlying reasons, and the resultant effect on UK-level outputs. This work cannot be completed until the Census Order and Census Regulations have been approved by the respective legislatures, upon which the 2021 Census questions will be finalised. Therefore, the expectation is for this information to be published in 2021 so data users are fully informed at the earliest opportunity and well in advance of the publication of first census outputs in March 2022. In the meantime, ONS plans to publish a series of question development reports, which will include details of the differences in the 2021 Census questionnaires between Northern Ireland, Scotland and England-Wales.

## 3.4 Finding 4: Strengths and Limitations of Administrative Data



**Census offices should build their awareness of the relative strengths and limitations of any administrative, commercial or other data sources used in the production of Census outputs, by regular engagement with suppliers. This should be undertaken on an ongoing basis and as part of a normal way of working.**

### **3.4.1 Use of Administrative Data in the 2021 census**

According to the UK Statistics Authority, “Administrative data refers to information collected primarily for administrative reasons (not research). This type of data is collected by government departments and other organisations for registration, transactions and record-keeping, usually when delivering a service. Administrative data are often used for operational purposes and their statistical use is secondary.”

As part of Scotland's Census 2021, NRS are planning on making best use of administrative data in its design. The primary use of admin data will be for quality assurance purposes and enhancing data processing.

NRS is investigating the use of administrative data to support quality assurance of the census using limited personal information from NHS Central Register (NHSCR). This dataset is supplied as part of a concurrent project to investigate population and households estimates from administrative data as well as to enable quality assurance and to improve the accuracy of the 2021 Census estimates. As a health dataset is being considered for linking purposes, this project sought and obtained approval from the Public Benefit and Privacy Panel for Health (eDRIS 1617-01954) .

Discussions are ongoing with eDRIS (eData Research and Innovation Service) on how NRS can use administrative data to improve quality assurance of the census. Current focus is on using the NHS Central Register, although there may be further datasets identified in the future and the Data Protection Impact Assessment (DPIA) would be updated to reflect this. The approach to linking any administrative datasets to census would depend on the quality and availability of suitable data.

Possible improvements that can be gained through data linkage to the NHS Central Register include:

- Item-level quality assurance to check if administrative data can identify dates of birth that have been entered incorrectly or are missing. This would be used to inform the imputation of this missing/incorrect data through census 'donor' records.
- Using administrative data to see if partially completed records are valid

- Creation of a synthetic Census Coverage Survey to support testing data linkage methodology to the census rehearsal data. This linkage methodology would be applied to 2021 Census.
- To aid in the resolving of duplicate records within the census.

The main benefit of using administrative data is that it is a source which is independent from the census. It can identify areas of the census data that may benefit from more in-depth clerical checking, provide assurance that the age characteristics are as expected and help create more accurate population estimates calculated from census returns.

Before taking this forward in NRS, outcomes would require further assessment to understand the impact, implications and quality gains in such an approach against the requirements of the Code of Practice for Statistics. NRS will fully consider legal and ethical issues before data is used in linkage projects. Details of how we will use Admin data in Scotland's Census 2021 is covered in [the Data Protection Impact Assessment \(DPIA\)](#) which will be refreshed and updated as plans develop.

NRS will work with the Office for National Statistics (ONS) and the Northern Ireland Statistics and Research Agency (NISRA) to ensure harmonised outputs across the UK from the 2021 Censuses and in the development of statistical methodology.

### **3.4.2 Administrative Data and Recommendations for Future Censuses**

One of the objectives of the Scotland's Census 2021 Programme is to make recommendations for future censuses. In order to feed in to this recommendation, a project to create Administrative Data Population and Household Estimates was commissioned. The aim of this project is to look at the future use of administrative data collected by public bodies and services to augment or replace NRS' data collected by a traditional census. The project has its own [Administrative Data Population and Household Estimates Data Protection Impact Assessment](#) that is reviewed when changes occur within the project. The results of this project will not be completed until after the Census 2021.

Stakeholders have been consulted and involved from the outset of the project. Extensive consultation work was undertaken in the [Beyond 2011 programme](#). In 2015, the Scotland's Census 2021 Admin Data team started to progress this work further and a range of stakeholders were consulted in 2017 about the [Administrative Data Mid-Year Population and Household Estimates project](#). The Admin Data team plans to undertake



further stakeholder engagement to talk about potential updates to the project and its direction in 2020/21.

### **3.4.3 Building Relationships with Data Suppliers**

Maintaining good relationships with our data suppliers is of paramount importance to the success of using Administrative data to quality assure the census. A good working relationship allows for clear and open channels of communication, an understanding of the business needs on both sides of the relationship, and a productive long-term working environment.

To foster these successful relationships, the admin data team in Scotland's census host regular meetings with our key data suppliers. For example, we regularly catch up with the Geography department in NRS who are our data suppliers for the Census Address Register (CAR). We also regularly meet with our NHS Central Register (NHSCR) data suppliers to establish data sharing agreements and the legal aspects of using such data to quality assure census.

Part of these conversations revolve around quality of data . It is vital that NRS have a clear understanding of the quality of data that is to be used to quality assure the census. To aid in fully understanding the quality of an administrative data source, we will create a Quality Assurance of Administrative Data (QAAD) document for each data source, which summarises the quality of the administrative data set and allows us to decide if that quality meets the standards required for use in quality assuring census data. To this end, we are working closely with our NHSCR data supplier to baseline the Mid-Year Estimates workstream, which will include producing a QAAD for this source. When this QAAD is approved it will form a template for census QAADs in due course. Similarly we are working closely with the Geography team in NRS to understand their quality measures and produce a QAAD for that data source too.

Another way we use administrative data to quality assure the census is by using comparator data sources to validate our population estimates. As the data from Scotland's Census will underpin decisions in Scotland for the next decade, it is crucial that the data we produce is an accurate account of the people of Scotland. Prior to first outputs, we check all of our population estimates against comparator data sources, where available, at a National and Local Authority level to ensure the census population estimates are what we would expect them to be. We will also check our population estimates by topics, such as health, employment, and language, and at lower geographies, where other data sources make these checks possible.

Work is underway to match potential external data sources to the population estimates we will want to check. Part of this work is building good working relationships with the data suppliers to be able to access the data and supporting information we need. For example, we need to consider when the data is published, when was the data collected, how was the data collected, what quality assurance was done on the data, and what level of data can we get access to. For all of the comparator data sources we will use in the validation of population estimates, we will also produce a data protection impact assessment for each and a data sharing agreement where data is not already open source. We will also produce a summary QAAD for each comparator data source.

For example, we are currently building relationships with colleagues in the Scottish Government education department about opening up our data sharing clause to obtain education data sets at disclosive aggregates, which will be used to help quality assure population estimates. We are also in initial discussions with our colleagues in the Prison sector and Scottish Government to identify data sets and data access agreements for quality assurance work, in particular, validating population estimates and topic-based analysis. We are working now to establish long-term relationships with all of our potential data suppliers to maximise the use of administrative data in validating population estimates, which assures us of the quality of census outputs.

Information on [what we use administrative data](#) for has been made available on Scotland's Census Website. Planning is also taking place now for where we will publish QAADs and when.

### **3.5 Finding 5: Methodology and Quality Assurance**

**Census offices should make information on the methodology and quality assurance arrangements available to users at the earliest opportunity**

#### **3.5.1 Methodology**

The success of Scotland's Census 2021 will be judged primarily on its ability to deliver high quality population and housing statistics in accordance with agreed timescales. The required quality of these statistics will be highly dependent on the programme's ability to produce quality systems, business processes, products and services that in turn support the collection and processing of Census data and the production and dissemination of statistical outputs.

##### **3.5.1.1 Collect Phase**

The census is the only official count of every person and household in Scotland and the only questionnaire of its kind to ask everyone the same questions at the same time. Given we are now firmly into the digital century, as part of the digital first approach across the public sector, next year's census will be the first one to be conducted primarily online. However, those that wish to complete a paper questionnaire will still be able to do so. It is vital that all households are enabled to complete a census return.

Delivering a successful census for all is not a straightforward exercise. That is why, as part of our work to achieve this, National Records of Scotland carried out a major public rehearsal exercise that tested some of the systems and services that will be used in next year's census.

The rehearsal took place between 7 October and 7 November 2019, using a reference day of 13 October, and was conducted in three local authority areas; namely parts of Glasgow City, Dumfries and Galloway and Na h-Eileanan Siar. These areas were selected to allow National Records of Scotland to test approaches in rural, urban and diverse communities.

Participation in the rehearsal was on a voluntary basis. Over 72,000 households were contacted with nearly 18,500 responding. The rehearsal was an important milestone for Scotland's Census 2021, and its success has allowed us to gain vital insights on the operation of the systems and processes used to gather census information, helping us to discover what works and where improvements are required. National Records of Scotland recognises this could not have been achieved without the goodwill of those that participated in the rehearsal, particularly members of the public and our external partners and stakeholders and we would like to thank them for their help with this important work.

The overall scope of the rehearsal was split into 11 Key Learning Areas, which included testing:

- the usability of online and paper census questionnaires;
- the public-facing telephone helpline;
- some elements of census communications and help for the public; and
- census ICT systems and operational processes.

Although many of the proposed questions for Scotland's Census 2021 were used for the rehearsal, **it did not set out to primarily or explicitly test the language used in the questions.** The rehearsal did not run a test of the Census Coverage Survey (which is a survey that takes place six weeks after the main Census has been completed and is

used to help estimate the total population), nor the count and listing of communal establishments (e.g. student halls of residence, care homes, hospitals etc). Testing of the field force (the workforce that are hired to help us conduct the census across Scotland) was also not within the scope of the rehearsal.

The rehearsal highlighted that the majority of the approaches National Records of Scotland are proposing to use to contact citizens and collect data were feasible and worked as expected. It also provided further evidence that there are a relatively small number of aspects of our approach that require additional improvements, the majority of which were already known to us and are tied into our post-rehearsal work schedule.

The rehearsal also provided further reassurance that our chosen approaches in many respects worked well. For example, initial contact materials and reminder letters worked well to increase returns, elements of our local engagement and marketing strategy tested strongly, and the overall design and functionality of the online and paper questionnaires allowed the public to complete returns and deliver usable data for our systems.

The rehearsal did importantly identify some new areas of improvement for National Records to take forward. These included the need to:

- make improvements to how we collect address information;
- make improvements to some online question routing;
- review the timing and tailoring of reminder letters; and
- improve the provision of management information.

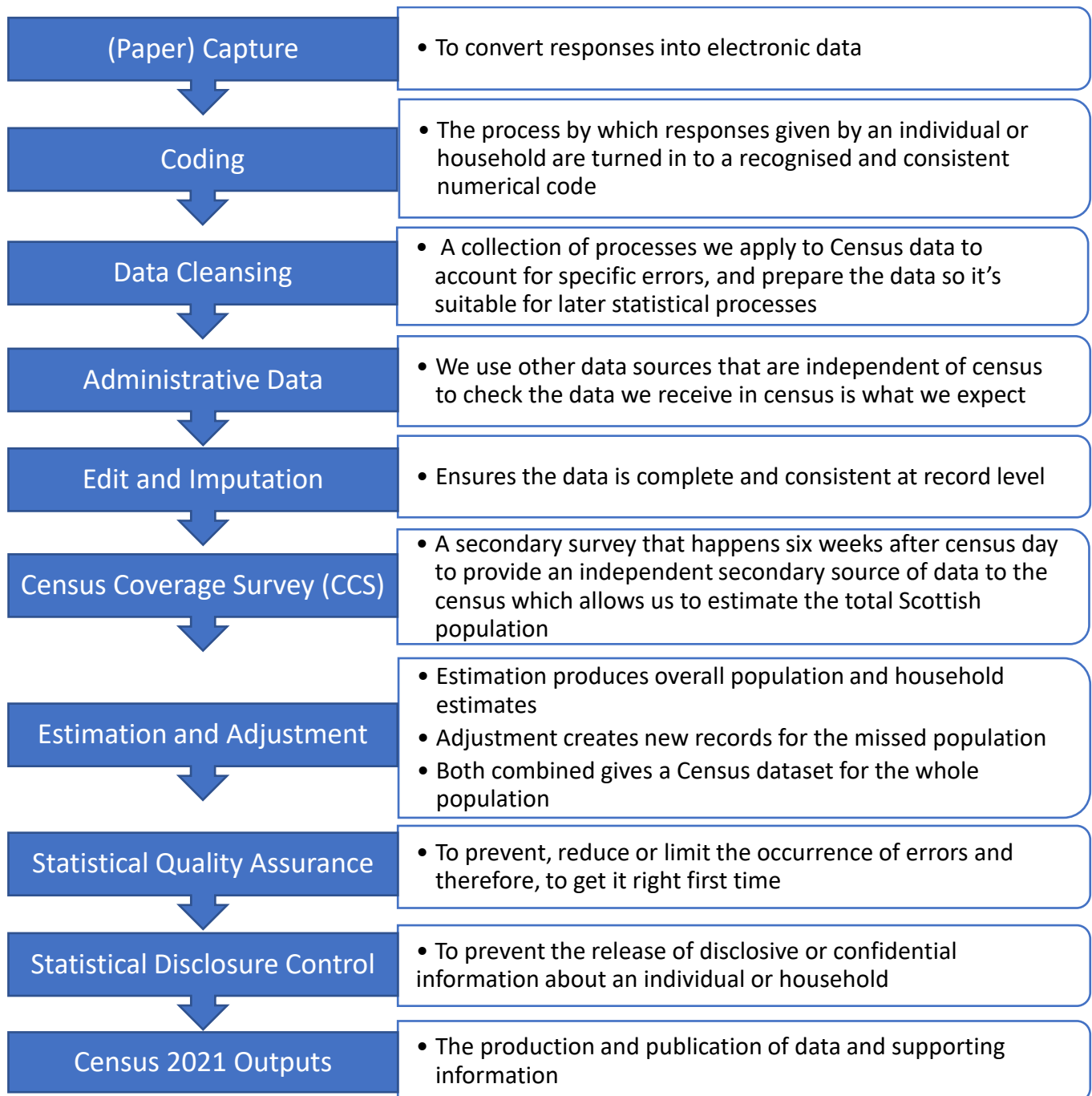
Scotland's Census Rehearsal 2019 was a significant undertaking that tested some of the systems and services that will be used in Scotland's Census 2021. NRS has evaluated the information gathered through the rehearsal and has now published an [evaluation report](#) on the new [Census 2019 Rehearsal](#) page of Scotland's Census website. The evaluation report provides a summary of the key findings of the rehearsal, and outlines the next steps for us to undertake to ensure the successful delivery of next year's census.

### **3.5.1.2 Disseminate Phase**

When the people of Scotland return their digital or paper census forms to National Records of Scotland, there is a massive body of work that takes place to transform an individual's response to each census question into high quality census outputs. Understanding the flow of census data through its end-to-end journey is vital for

ensuring appropriate methodology, including the development of meaningful quality indicators, are in place and being followed. The development of the statistical methodology that underpins this work for Scotland's Census 2021 is well underway.

The journey that census data takes once it arrives at National Records of Scotland can be summarised as follows:



It is vital that the statistical methods that NRS develop for each step in the data processing journey are trustworthy and aid in producing high quality data that are of value to the people of Scotland. In addition, National Records of Scotland are aiming to produce first outputs within one year of Census day, meaning all of the processes listed above are time critical. To ensure our methodology at each stage in the data journey is fit for purpose, our statistical methodology undergoes rigorous peer review and follows a strict governance and testing schedule prior to live census.

When developing statistical methodology for the 2021 census, there are several factors that are generally considered by our statisticians:

- What is the purpose of the process or test?
- What was done in the previous census?
- What lessons have been learned?
- How have things changed?
- Are the methods harmonised with the other UK censuses?
- What are the lessons learned from international Censuses?
- Is it cost effective?
- Does it improve the quality of the data?
- Is it achievable in IT/Operational timescales?

For all proposed statistical steps, methodology papers are created that outline the fine detail of how each statistical step will occur and what the expected outcome will be, with any testing and modelling included. Papers are reviewed and agreed within the teams responsible for delivery and these papers are submitted to the Internal Peer Review Group (IPRG). The IPRG is made up of 15 statisticians from across the census programme and NRS population and demography statisticians. The group meets once a month (twice monthly as needed) to critique proposed statistical methodology and provide feedback on statistical options. The IPRG are regularly asked to assure the methodologies proposed are fit for purpose.

Following revisions to methodologies after internal peer review, key methodologies that are fundamental to the census programme will be submitted to External Methodology Assurance Panels (EMAPs) for review. The EMAPs comprise seven Subject Matter Experts and Academics that will meet once a month between May and September 2020, to review the proposed statistical methodology for Scotland's Census. The group will be chaired by one of the panel members ensuring an independent peer review process. Panel members will review and discuss each proposed methodology and be asked to reach a conclusion on whether the proposed methodology is fit for purpose. A summary report, along with the methodology papers presented for review at EMAPs will be published on the Scotland's Census website after each panel.



Statistical methodologies will then be presented to Census governance boards for final sign off. Methodologies will also be rigorously tested using rehearsal data and during end to end testing of the integrated census systems that will occur prior to live census.

In February 2020, NRS ran [Statistical Methodology Stakeholder events](#) aimed at the general public and data users. These events gave attendees a high level overview of what happens to census data from when we receive census responses through to producing the Census 2021 outputs. During these events, we sought feedback to help to further develop our plans to ensure the highest quality of outputs for our users. [Slides from the event](#) were published on the event page of Scotland's Census 2021 website.

### 3.5.2 Statistical Quality Assurance

We have published a [Statistical Quality Assurance Strategy](#) that seeks to provide an overview of how we will assess and measure the level of quality being achieved throughout the collection and processing of Census data and the production and dissemination of statistical outputs.

The key quality assurance activities we are developing include:

| Activity                           | Description   |
|------------------------------------|---|
| Assurance of processes             | Quality assurance activities at data touchpoints throughout the Census data journey |
| Validation of Population Estimates | Comparing our National and Local Authority population estimates to other data       |
| Topic-based Analysis               | Comparing our topic-based population estimates to other data                        |



|   |  |
|---|--|
| Internal and External Assurance Panels            | Methodology and population estimates reviewed by internal and external experts                           |
| <a href="#">National Statistics Accreditation</a> | All activities and outputs assessed against Code of Practice pillars: trustworthiness, quality and value |

We will continue to work closely with our statistical colleagues in ONS and NISRA to harmonise our approach to statistical quality assurance where possible. As such, a UK statistical quality working group has been established that meets once a quarter to share methodologies, best practice and lessons learned. Regular communications also take place between meetings to keep up to date on work in the respective UK offices, and to identify areas for alignment and joint working.

The three UK census offices will also continue to work closely with our colleagues from international census organisations in Canada, the Republic of Ireland, the United States of America, Australia and New Zealand to share statistical quality assurance best practice and lessons learned across census operations.

We expect that the quality assurance activities proposed in the strategy will evolve based on stakeholder feedback, evaluation of the census rehearsal in 2019/2020, peer review of tools and methodologies, and our continued work with colleagues from other census offices.

To encourage stakeholder feedback, the statistical quality assurance strategy was presented at the [Population and Migration Statistics Committee \(Scotland\) - \(PAMS\) on 19 November 2019](#). PAMS is one of a number of committees covering the whole range of official statistics and is responsible to the ScotStat board. ScotStat is the Scottish Statistics User/Provider Consultation Network and covers all Scottish official statistics. PAMS discusses the characteristics, structure and dynamics of the population and assesses how this information can be extended and improved. It also acts as the Census Advisory Group for Scotland. Feedback was received from the committee and incorporated in to subsequent revisions of the document.

In addition, the publication of the statistical quality assurance strategy was advertised as part of a five day social media campaign (as detailed in [section 3.1.2](#)), where

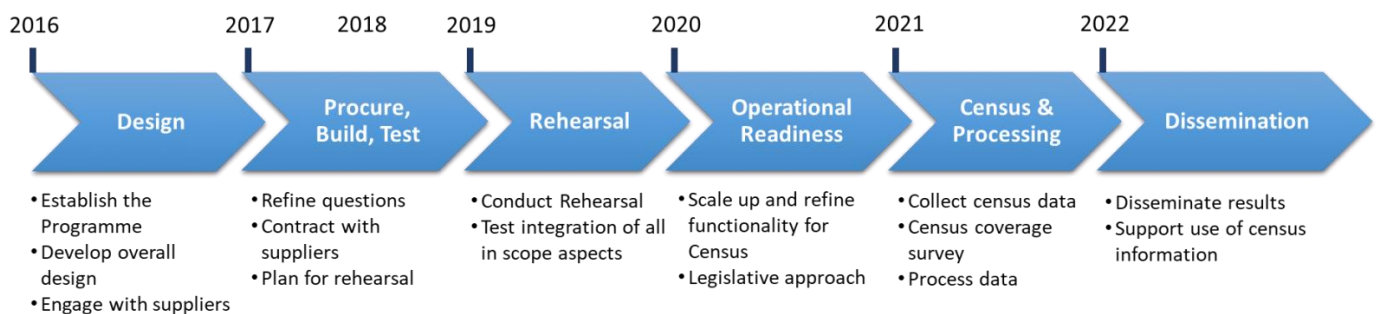
stakeholders were encouraged to provide feedback on our proposed strategy. The strategy was also promoted at the Statistical Methodology stakeholder event (detailed in [section 3.5.1](#)) and feedback on proposed methodology requested.

We are still seeking views from our stakeholders on the proposed plans we've laid out in the Statistical Quality Assurance Strategy to ensure we get it right and undertake the types of quality assurance checks our census data users would expect. To share your views on our strategy, please contact [Scotlandsensus@nrscotland.gov.uk](mailto:Scotlandsensus@nrscotland.gov.uk).

### 3.6 Finding 6: Census Key Milestones

**Census offices should provide users with an indication of future Census milestones – including future user engagement opportunities, publication of further research or reporting, and legislative milestones – to provide an added level of transparency and support trustworthiness and public confidence**

The planning, development and delivery of Scotland's Census 2021 takes place over a number of years and can be split in to the [following tranches](#), which were published on Scotland's Census Website in December 2019:



Throughout the planning, development and delivery of the 2021 Census are key programme milestones that identify important steps in the successful delivery of Scotland's next Census in 2021.

The [key milestones we will be working to achieve for Scotland's Census 2021](#) were published on our website in December 2019. All dates are based on current plans and projections. These are subject to change and may be updated as we progress in our planning and testing for Census 2021.

| Milestone | Date | Description | Status | Supporting Information |
|-----------|------|-------------|--------|------------------------|
|-----------|------|-------------|--------|------------------------|

|  |  |   |  |   |
|--|--|---|--|---|
| <b>Census (Amendment) (Scotland) Act in force</b>                      | September 2019   | This confirms that we can ask voluntary questions on sexual orientation and transgender status and history, if the Scottish Parliament agrees to have these questions, in the 2021 Census.  | Bill successfully passed – voluntary questions on sexual orientation and transgender status and history can now be asked in the 2021 Census. | <a href="#">Scotland's Census Legislation 2021</a>  |
| <b>Operational Readiness for Rehearsal</b>                             | September 2019   | Following Operational Readiness Testing during September.   | Testing successfully completed – Operational Readiness for Rehearsal confirmed.  |   |
| <b>Census Rehearsal (Release 1) goes live</b>                          | 07 October – 07 November 2019<br><i>Census Rehearsal Day – 13 October 2019</i> | Helpline goes live.<br><br>A public-facing test of the online and paper channels at scale.<br><br><i>Collection phase.</i>  | Census Rehearsal (Release 1) went live on 07 October 2019 as planned.  | <a href="#">Census Rehearsal</a>                    |
| <b>Rehearsal collection period complete</b>                            | 07 November 2019   | Online Collection Instrument to close.<br><br>Helpline closes.  | Rehearsal collection period closed on 07 November 2019   | <a href="#">Census Rehearsal</a>                    |
| <b>Population and Migration Statistics Committee (Scotland) (PAMS)</b> | 19 November 2019   | A meeting of Local Authorities and population and migration topic experts who will provide stakeholder feedback on aspects of Statistical quality assurance plans, National Statistics action plans and census rehearsal updates. | The PAMS November meeting took place and stakeholder feedback is being collated to be fed back to the programme.                             | <a href="#">PAMS</a><br>(opens an external website) |
| <b>National Statistics Accreditation - Action Plan</b>                 | December 2019  | A high level action plan showing how we intend to address actions from  | High level action plan was published   | <a href="#">National Statistics Accreditation</a>   |

|   |  |  |   |   |
|---|--|--|---|---|
| <b>Published for Comment</b>  |  | the Office for Statistical Regulation's Assessment of the 2021 Censuses - for stakeholder feedback.  | in December 2019 for comment  |   |
| <b>Statistical Quality Assurance Strategy - Published for comment</b> | December 2019  | We will request stakeholder feedback on our plans for assuring the quality of 2021 Census data.  | Statistical Quality Assurance Strategy was published in December 2019 for comment | <a href="#">Statistical Quality Assurance</a>                   |
| <b>Sex Question Testing – Report</b>                                  | December 2019  | Research report on the Sex Question is available to committee.   | Report published December 2019  | <a href="#">Sex Question Recommendation Report</a>              |
| <b>Formal Census Order laid</b>                                       | 23 January 2020                                      | Following the period of informal scrutiny of the draft order by the Committee, the formal Census Order is laid before Parliament for their approval. <i>Subject to affirmative procedure.</i>    | Order Successfully laid on 23 January 2020 and in force on 12 March 2020          | <a href="#">Scotland's Census Legislation 2021</a>              |
| <b>Census Outputs website: Discovery Phase complete</b>               | Spring 2020  | This discovery phase is the start of the Digital First Service Standards assessment which will involve User Research with stakeholders to identify what they need from a Census outputs website. | April 2020: Discovery phase complete, Alpha phase beginning                       | <a href="#">Digital First Service Standards</a> (external link) |
| <b>Data Processing Rehearsal</b>                                      | May 2020   | An internal rehearsal to test statistical processes  | Work commenced in May 2020  |   |
| <b>Draft Census Order in force and Regulations laid</b>               | April 2020 (dependent on Census Order approval date) | The Census Regulations detail the arrangements necessary for the conduct of the Census. <i>Subject to negative procedure.</i>  | Census order came in to force on 12 March 2020.                                   | <a href="#">Scotland's Census Legislation 2021</a>              |

|  |                        |  |  |  |
|--|------------------------|--|--|--|
| <b>Census Rehearsal Evaluation Complete</b>                        | April 2020             | All evaluation activity and final reporting on collection rehearsal complete.  | Evaluation report published April 2020   | <a href="#">Census Rehearsal</a>                                   |
| <b>National Statistics Accreditation – NRS Response to Actions</b> | May 2020               | We will publish a report demonstrating how we have responded to the actions given to us by the Office for Statistical Regulation (OSR) in their Assessment of the 2021 Censuses.   | Scheduled Publication date: 15 June 2020 | <a href="#">National Statistics Accreditation</a>                  |
| <b>Census Regulations in force</b>                                 | June 2020              | The legislative process is complete.   |  | <a href="#">Scotland's Census Legislation 2021</a>                 |
| <b>Census Outputs Website: Alpha phase complete</b>                | Summer 2020            | This is the second phase of the Digital First Service Standards assessment and will continue the work started in the discovery phase.  |  | <a href="#">Digital First Service Standards</a><br>(external link) |
| <b>Census – End-to End Testing</b>                                 | August - December 2020 | The final, major testing period for all census collection systems.   |  |  |
| <b>Census Operationally ready</b>                                  | December 2020          | Everything in place ready to start census collection.  |  |  |
| <b>Census Outputs Website: Beta phase complete</b>                 | Winter 2020            | This phase of the Digital First Service Standards assessment includes the production of the public facing Beta website with the new structure, features and functionality. The old style website will still be available and the Beta website will continue to |  | <a href="#">Digital First Service Standards</a><br>(external link) |

|  |   |   |   |
|--|---|---|---|
|  |   | be updated once it is live.   |   |
| <b>Field Force Ready for Deployment</b>  | March 2021  | All field force staff trained and ready to be deployed.   |   |
| <b>Census letters issued to all households and communal establishments (CEs)</b> | February 2021 - CEs<br>March 2021 – Households              | Start dates for mailing out paper contact letters (to households) and packs (to CEs).   |   |
| <b>Census goes live</b>  | 1 March – 2 May 2021<br>Census day:<br><b>21 March 2021</b> |   |   |
| <b>Announce Outputs publishing timescales</b>                                    | March 2021  | Timetable of the various outputs of data from the Census is published.  | <a href="#">SDC and 2021 Outputs</a>              |
| <b>National Statistics Accreditation – Phase 2 Report Published</b>              | Spring 2021   | Our submission to Office for Statistics Regulation (OSR) for assessment of how we are complying with the Code of Practice for Statistics through assuring the quality of our statistics and providing value to users. | <a href="#">National Statistics Accreditation</a> |

### 3.7 Finding 7: Census Assurance Mechanisms

**Census offices should be clear to users what assurance mechanisms are in place and be open about identified areas for improvement in a way that is a proportionate and accessible to users**



The Scotland's Census Programme practices an integrated approach to assuring our work based on the "three lines of defence" model. In this model, the Programme employs different sets of activities at each of the three levels in a way that is designed to be proportionate and collaborative, to assure our outputs against the quality criteria we have agreed.

- First line: comprised of day-to-day management controls and working practices (e.g. weekly highlight reports for all parts of the Census Programme, reporting progress, issues, and risks);
- Second line: internal assurance provided by the Census Programme Management Office (PMO) and equivalent roles in each of our key Suppliers' organisations. These take the form of 'stage gates' to control the progress of projects from one phase to another, and periodic reviews of project management disciplines; and
- Third line: external assurance, which in the case of the Census Programme is provided by the Scottish Government (incl. Internal Audit and OGC Gateway™) and the Office for Statistics Regulation. In addition, ad-hoc assurance may be sought (e.g. Audit Scotland, or Independent Information Assurance). Our third lines of assurance are fully independent of the Census Programme and comply with the Scottish Public Finance Manual's guidance for Major Investment Projects.

Assurance activity is informed at all levels by risk management, to focus efforts on areas of highest-risk, and to support key decisions and approvals. In order to maximise the investment of specialist assurance resource, and to minimise the impact on the teams delivering the census, we seek to integrate assurance activities where appropriate to do so. This is accomplished through the development of an Integration Assurance and Approvals Plan (IAAP) which is used to schedule all assurance activity across the three levels.

Lastly, the Census Programme is taking a structured approach to improving the quality of our work prior to the census in 2021. A [formal evaluation of the 2019 rehearsal](#) is being undertaken to identify areas for improvement. In addition to this, our teams record 'lessons learned' as they go, looking for opportunities for improvements which will ultimately help us achieve our Census Programme objectives.

Information on the [assurance activities undertaken by Scotland's Census](#) has been published on the Scotland's Census 2021 website.

#### **4. Impact of COVID-19 on actionable findings**

The three UK Census offices continue to work closely together to achieve the outcomes and timescales laid out in this document, however, we are mindful of the current situation across the UK that has resulted from the COVID-19 global pandemic. All three census offices are working together to identify any risk to delivery of the above actions and we are investigating how we can achieve the outcomes outlined above in a different way, and at a time that is appropriate. During this time, we may also be required to re-prioritise some of this work to make efficient use of resources and focus efforts on responding to COVID-19 and business critical work.

National Records of Scotland are committed to being open and transparent with our stakeholders about the impact COVID-19 may have on our services. National Records of Scotland have now published [NRS Updates: Coronavirus \(COVID-19\) Information](#) to keep users up to date with how our services are operating.