

Assessment of compliance with the Code of  
Practice for Statistics

# 2022 Census in Scotland

(produced by National Records of Scotland)

## Office for Statistics Regulation

We provide independent regulation of all official statistics produced in the UK. Statistics are an essential public asset. We aim to enhance public confidence in the trustworthiness, quality and value of statistics produced by government.

We do this by setting the standards they must meet in the [Code of Practice for Statistics](#). We ensure that producers of government statistics uphold these standards by conducting assessments against the Code. Those which meet the standards are given National Statistics status, indicating that they meet the highest standards of trustworthiness, quality and value. We also report publicly on system-wide issues and on the way statistics are being used, celebrating when the standards are upheld and challenging publicly when they are not.

# Executive Summary

- ES.1 The census is one of the most important sources of data and statistics, informing decisions about almost every aspect of life within the UK. It allows users – including government, local authorities, academics, and commercial businesses – access to important information on the people and households of the UK and helps people get a better understanding of the places in which they live and work.
- ES.2 It is essential that the data and statistics from the censuses are reliable and provide valuable insights, meeting the rigorous standards of trustworthiness, quality and value outlined in the [Code of Practice for Statistics](#).

## What we found

- ES.3 The National Records of Scotland (NRS) has undertaken many years of planning and development ahead of delivering census operations for Scotland in 2022. When it became clear that return rates from census collection were not as high as anticipated, NRS worked swiftly to improve returns and is reviewing and revising its statistical methods, on the advice of international census experts, so it can produce the best possible estimates of the population of Scotland. The OSR assessment team recognises the concerted efforts and commitment of NRS at an especially pressured time.
- ES.4 The steps NRS has taken to adapt its statistical methods are examples of good practice when faced with challenging circumstances – it is drawing on expertise and exploring new solutions in a flexible and considered way. Users have highlighted some concerns about the quality of elements of census data such as for certain geographical areas. NRS has published information on the plans it has for census data and statistics.
- ES.5 However, NRS has not yet published information for users on how the level of data quality will be improved through its adapted methods or the likely quality of resultant census estimates.
- ES.6 When NRS publishes its census outputs, from autumn 2023, it will accompany these with information and guidance for users on data quality. It is likely that more-detailed quality information will be produced as NRS's programme of outputs are delivered. Given issues faced by NRS during its census collection phase, concerns raised by users, and known areas of change, it will be particularly important for NRS to ensure accessible and prominent information is available to support users – for example, on data for new or amended census topics and where comparability across UK censuses is a factor.
- ES.7 NRS has amassed a wealth of experience and opportunity from delivering Scotland's Census. For example, it has delivered a large scale predominately online data collection system, it has developed new flexible data access tools for users, and it has worked to face challenges such as lower response rates – which is an issue facing many statistical surveys in recent years. NRS is an active participant in the statistical and census community in Scotland, the UK, and internationally. These communities would benefit enormously from NRS sharing its knowledge and experiences, advancements in technology and statistical methods, and the lessons it has learned from Scotland's Census 2022.

## Requirements

ES.8 We have identified several areas that NRS needs to address to support appropriate use of the data and meet users' needs to comply with the highest standards of the Code.

ES.9 NRS demonstrated its trustworthiness and was transparent in the early stages of census planning by providing users with its expectation of the quality for census outputs through, for example, its KPIs on accuracy. While specific quality measures will only be possible as part of its census outputs, NRS should be open ahead of those outputs about how its developments in data and methods are likely to affect the quality of estimates that will ultimately be produced.

Requirement 1: NRS should publish information and assurance for users so they can understand the expected quality of census data. This should be communicated in an accessible and timely way ahead of outputs. NRS should be open about how its users' needs will be met or how it plans to address any unmet needs.

ES.10 While NRS has been open to discussing data quality concerns with users, its engagement strategy may benefit from review to ensure it reaches a broad range of users.

Requirement 2: NRS should be transparent about its approach to public engagement with regard to its confidence in data quality. NRS should review its communication and engagement plans, prioritising users where concerns over data quality are greatest and where there is most risk from inaccurate census estimates.

ES.11 NRS introduced a new trans history question for Scotland's Census 2022 and there have been concerns raised over the collection of data about sex. The trans history question used in Scotland and the guidance for the sex question differs from the equivalent in the 2021 Census in England and Wales.

Requirement 3: NRS should ensure that, when it publishes statistics on trans history or produces demographic breakdowns by sex, these are accompanied by clear information on the definitions and guidance used to produce those statistics. NRS should explain the coherence and comparability of its statistics from the 2022 census with those from other censuses, especially given the differences in guidance for the census sex question.

ES.12 NRS's plans to provide quality information alongside its census outputs should be delivered to support and assure users of the value and quality of the data and statistics. These plans should take account of key areas of interest or concern raised.

Requirement 4: NRS should ensure that supporting documentation, guidance and information on data quality, including bias and uncertainty, is communicated in its outputs. This information should be refreshed and added to as its programme of outputs is delivered. For known areas of user interest, for example for data on sex, NRS should provide detailed information on quality indicators, such as the outcomes from its quality assurance processes, in assessing census estimates against other data sources.

ES.13 UK census data will be affected by various factors including differences in the timing of census across the countries of the UK. While responsibility for UK estimates lies with ONS, users are likely to reach out to both NRS and ONS for information and support.

Requirement 5: NRS should take further steps to communicate plans and provide more-detailed information to users of UK census data in Scotland. NRS should continue to work together with the other census offices to explain any impacts on UK census data quality and describe where user needs may or may not be met as a result.

## Judgement on National Statistics Status

- ES.14 We have identified five requirements for NRS to address in order to ensure the high standards of public value, quality and trustworthiness associated with National Statistics designation are met.
- ES.15 Once NRS has demonstrated that these requirements have been addressed, or provided sufficient assurance that our expectation for the data and statistics will be met, OSR will recommend to the UK Statistics Authority that National Statistics status for these statistics be confirmed. NRS is aiming to meet the requirements of this report in the coming months so a designation decision can be made ahead of first census outputs in autumn 2023.
- ES.16 OSR expects to publish its findings and judgements on how NRS has responded to these assessment requirements and the outcome of the UK Statistics Authority's decision on National Statistics designation in late summer 2023.

# Findings

## Introduction to the census in Scotland

- 1.1 The census is one of the most important sources of data and statistics, informing decisions about almost every aspect of life within the UK. It is of fundamental importance in allocating billions of pounds to local areas by the UK government and devolved administrations, as well as grants to voluntary sector organisations for example. The census helps every person in the UK get a better understanding of the places in which they live and work.
- 1.2 The real value of the census will be realised on the release of census outputs. The National Records of Scotland (NRS) will have to deliver high quality data and statistics in a variety of forms to support the wide range of different uses required. It is essential that the data and statistics from the 2022 census in Scotland are reliable and provide valuable insights, meeting the rigorous standards of trustworthiness, quality and value outlined in the Code of Practice for Statistics.
- 1.3 COVID-19 restrictions delayed or prevented NRS's logistical planning and testing of census systems and processes. Necessary engagement with key stakeholder organisations was also affected. Consequently, following an options assessment process, and on the advice of NRS, Scottish Ministers made the decision to move the census date for Scotland to 2022.
- 1.4 This meant Scotland's Census was not aligned with equivalent exercises in England, Wales and Northern Ireland. The other censuses in the UK were undertaken in 2021, in the midst of the COVID-19 pandemic. Data from those reflect a unique snapshot in time, with topics such as employment and travel being unusual or changed from what might have been expected. The later-run Scotland's Census was conducted at the time when most of the COVID-19 government restrictions had been lifted and life was returning to normal following the pandemic. As such, the data collected on certain topics would still be changed from what might have been expected in the early stages of census planning, for example travel to work.
- 1.5 This report has been written at a point in time where NRS is still in the process of data processing and quality assurance in the production of estimates of the population of Scotland.

## Introduction to this assessment

- 1.6 The Office for Statistics Regulation (OSR) is carrying out phased assessments of the UK censuses produced by the Office for National Statistics (ONS), the National Records of Scotland (NRS) and the Northern Ireland Statistics and Research Agency (NISRA).
- 1.7 This is the second assessment report for Scotland's Census. Many of our considerations and judgements build on the preliminary findings as reported in our [earlier assessment report](#) published in October 2019. Our preliminary findings, and the last published update of progress – from September 2020 – can be found in Annex 1: Preliminary findings from the first phase of this assessment.
- 1.8 Since then, we have continued to assess and advise NRS as part of the assessment process. We have collected and considered various sources of information to inform our judgements. We have taken account of the views of users

and stakeholders who have shared their views with us on NRS's work to date and its plans for outputs. We have continued to engage with NRS on its plans and progress as it moves from live census collection operations to data processing to deliver its census outputs. We have considered the openness and transparency of NRS through its public reporting and engagement with its stakeholders. We have also reviewed any materials published by NRS such as its [report](#) from January 2022 on how it considers it aligns with the standards of the Code.

- 1.9 During this period, we have written publicly to NRS outwith our standard assessment reporting schedule where we considered a separate intervention was required. These include
- August 2022, Mark Pont to Pete Whitehouse, [Scottish Population Census: Transparency of plans and actions](#) [with [response from Pete Whitehouse](#)]
  - November 2021, Ed Humpherson to Paul Lowe, [OSR Publishes Assessment Reports for 2021 Censuses](#)
  - September 2021, Ed Humpherson to Paul Lowe, [Guidance for the sex question in Scotland's Census](#) [with [response from Paul Lowe](#)]
  - October 2020, Ed Humpherson to Paul Lowe, [Guidance on the sex question in the forthcoming Census for Scotland](#) [with [response from Paul Lowe](#)].
- 1.10 This assessment report focuses on the 2022 census in Scotland, produced by the NRS. OSR has identified areas of strength and good practice in NRS's census planning and development and areas that NRS needs to address or where actions need to be taken. Our assessment will allow us to recommend whether the census outputs should be designated as National Statistics, in accordance with the requirements of the Statistics and Registration Service Act 2007, when they are first released.
- 1.11 We have completed the equivalent phase of the assessment for [2021 Census in England and Wales](#) and [2021 Census in Northern Ireland](#), confirming that these outputs can be designated as National Statistics. We expect to carry out a final review, which will involve an assessment of the census data and statistics in light of users' views once all outputs have been published.

## Securing confidence in the data and processes

### Plans for Scotland's Census data collection and data processing

- 1.12 The census is the biggest statistical data collection exercise in Scotland and NRS has undertaken years of planning and preparation covering all aspects from statistical design to operational readiness. During this planning phase, in the run up to census day itself, NRS was transparent around its statistical methods development and its approach to data quality. It held various workshops for users and stakeholders on [census topics](#), [outputs](#) and [statistical methodology](#). NRS also published materials including its [external methods advisory panel papers](#) and its [statistical quality assurance strategy](#).
- 1.13 This all led up to the significant milestone in NRS's programme, the launch of its live data collection phase in February 2022. This phase saw millions of letters and correspondence sent to the people of Scotland to promote and enable the completion of either paper or electronic census questionnaires. Throughout this period NRS ran large-scale field operations and offered support to respondents in completing their census return, through running its contact centre for example.



- 1.14 By the end of the planned collection period, while over two million household questionnaires had been received, the overall return rate and returns rates for local authorities were lower than had been hoped for. NRS [published](#) its Key Performance Indicators (KPIs) on levels of response and accuracy of its population estimates as at November 2019<sup>1</sup>. These set out a person response rate of at least 94% and person response rate in every local authority of at least 85%. At the end of April 2022, Scotland's Census national return rate was at 79% and some local authority returns were below 70% including Glasgow City whose return rate was 66%.
- 1.15 In response, on NRS's recommendation, Scottish Ministers decided to extend the census collection period to the end of May 2022. During this time NRS posted regular updates on its website on how return rates were improving. NRS also made arrangements to move the timing of the operations for its Census Coverage Survey (CCS) and enhance the coverage of this survey. This was all done under extremely tight time scales and much public scrutiny. The assessment team recognises the extreme pressures faced by NRS staff at this time.
- 1.16 In May 2022, NRS established an [International Steering Group](#) (ISG), chaired by Professor James Brown, the Australian Bureau of Statistics Professor of Official Statistics at the University of Technology, Sydney. The group's membership includes census experts including the UK National Statistician – Professor Sir Ian Diamond and Professor David Martin, deputy director of the UK Data Service. The group was tasked with providing assurance that the census programme was ready to move on from its collect phase, and to provide direction to NRS on its statistical design following collect and supporting and advising NRS on its use of administrative data. We consider the establishment of this group to be extremely good practice to help secure the highest quality census data.
- 1.17 By the end of the extension period, NRS, through its efforts, [reported](#) a national return rate of 87.9%, with 28 of Scotland's 32 local authority areas achieving return rates of 85% or higher. The four local authorities where return rates were below the 85% level were: Dundee City (84.4%); Glasgow City (81.7%); Inverclyde (84.2%); and West Dunbartonshire (82.4%). On 2 June 2022, the ISG issued a [statement](#) of its confidence to proceed to the next stage of the census, referring to NRS's position as having a 'solid foundation' on which to build. NRS moved into the next stage of its plans to undertake its CCS. This was completed in August 2022.
- 1.18 OSR recognises that not all census forms had been receipted by the end of the collection extension period. NRS published a final set of achieved return rates as of [27 September 2022](#), once all forms had been receipted. This found further increases in return rates with 89.2% nationally and 30 of the 32 local authority areas achieving return rates of 85% or higher.

### **Assuring users on methods and NRS's confidence in data quality**

- 1.19 While NRS worked to achieve the best census return rates possible, concerns were raised over the return rates and the impact on data quality. Most notably, the Scottish Parliament launched an inquiry into Scotland's Census.
- 1.20 Hearing from both NRS representatives and members of the International Steering Group, the Scottish Parliament's Constitution, Europe, External Affairs and Culture Committee was presented with evidence and assurance on how data quality will be

---

<sup>1</sup> National estimates will achieve 95% confidence intervals +/-0.4% bias <0.5%, local authority estimates will achieve 95% confidence interval +/- 3%



secured. These hearings reflect the position that the census return rates are not the only determinant of data quality but rather the combination of census, other data and effective estimation methodology. [The Committee's findings](#) were published on the 17 November 2022.

- 1.21 In a [paper](#) published in September 2022, NRS shared its high-level plans to secure high quality census estimates and committed to publish more-detailed information in Spring 2023 once adapted methods are finalised. NRS also plans to update its [Statistical Quality Assurance Strategy](#) which gives an overview of how NRS will measure the quality of the census programme.
- 1.22 The ISG continues to meet regularly with NRS and has [agreed](#) to be involved in key decision points on methods development as work progresses. To further aid transparency, NRS has published the [notes of actions](#) from the ISG meetings so stakeholders and interested parties can see the types of discussion being held.
- 1.23 The steps that NRS has taken to assure its users about the work it is doing to secure data quality are positive and we are confident that NRS will meet its commitments to publish further information for its users.
- 1.24 NRS demonstrated its trustworthiness and was transparent in the early stages of census planning by providing users with its expectation of the quality for census outputs through, for example, its KPIs on accuracy. While specific quality measures will only be possible as part of its census outputs, NRS should be open ahead of those outputs about how its developments in data and methods are likely to affect the quality of estimates that will ultimately be produced. **NRS should publish information and assurance for users so they can understand the expected quality of census data. This should be communicated in an accessible and timely way ahead of outputs. NRS should be open about how its users' needs will be met or how it plans to address any unmet needs.**
- 1.25 Alongside the materials it has published on its work to secure data quality, we are aware that NRS has also spoken with a number of user groups and stakeholders about its plans. This has included engagement with a number of Scottish Government teams and with local authorities – through correspondence from NRS's Chief Executive, updates to NRS's established [Population and Migration Statistics Committee](#), and individual meetings on request. NRS plans to continue its engagement activities over the coming months.
- 1.26 When delivering future information and assurance for users on the expected quality of census data, NRS should consider different audiences with different levels of expertise. It should utilise a range of communication routes – such as website publications, newsletter updates, events or user meetings – as appropriate, to reach a broad range of users.
- 1.27 **NRS should be transparent about its approach to public engagement with regard to its confidence in data quality. NRS should review its communication and engagement plans, prioritising users where concerns over data quality are greatest and where there is most risk from inaccurate census estimates.**

## Explaining the quality of census estimates and supporting use of the data

- 1.28 When NRS publishes its census estimates from autumn 2023, the data and statistics will be accompanied by information to support users in their interpretation of the statistics. This may include quality indicators or guidance and caveats on

topics where there are known quality issues. This section highlights a few examples of where this would be particularly important.

### **Census topics – Sex and trans history**

- 1.29 In a similar way to the census in England and Wales, Scotland's Census included a long-standing question on sex and a new question to collect information on individual's trans status or history<sup>2</sup> for the first time. In the development of these questions, NRS has published its [research and user testing](#) to support the decisions it has made for these questions, which has also been further discussed in the public domain through, for example, Scottish Parliament Committee hearings.
- 1.30 There has been a high level of interest in this topic and both NRS and ONS, which runs the census for England and Wales, have been subject to legal challenge regarding the sex question and the guidance provided to respondents. In England and Wales, ONS made a change during census operations to its sex question guidance in response to an order from the High Court of England and Wales. In Scotland, following a [judicial review](#), it was ruled that the guidance in Scotland's Census did not permit, sanction, positively approve or authorise unlawful conduct. NRS made no subsequent change to the guidance it had put in place.
- 1.31 As a result, while the Scottish census sex question and the response options have not changed and are consistent with those used in England and Wales, the guidance for respondents completing this question differs between countries. Scotland's Census advised those who accessed the guidance 'If you are transgender the answer you give can be different from what is on your birth certificate. You do not need a Gender Recognition Certificate (GRC).' In England and Wales the guidance differed 'If you are considering how to answer, use the sex recorded on your birth certificate or Gender Recognition Certificate'. Full guidance wording for the census sex questions can be found in Annex 2.
- 1.32 The guidance for the sex question in Scotland's Census is in line with what was used for the previous 2011 census. This could therefore be viewed as unchanged between censuses. However, there is wider awareness of what this question is aiming to record, greater accessibility to the guidance material through use of online census questionnaires, and broader knowledge of the guidance material given the media attention on the topic for example. Additionally, the much closer proximity of the trans status question, in comparison to the ONS census equivalent, means that respondents may have a greater awareness of the possible differing approaches to defining sex within the census. All of which may mean respondent behaviours in answering the sex question may differ between 2011 and 2022.
- 1.33 A number of users and stakeholder groups have raised concerns publicly, and directly with NRS, on the guidance for the census sex question. These include the wording of the guidance used in Scotland causing possible conflation between an individual's sex and their gender identity which may affect the data collected from the sex question; a lack of comparability in census data across the UK and between censuses in Scotland; and any broader impact on statistics where other data collections may look to harmonise with the question used in Scotland's Census.
- 1.34 In order to maintain public confidence, NRS should respond to these concerns and the wider user need to understand the effect of the guidance on census responses. The Scottish Government should also reflect on how issues raised through census

---

<sup>2</sup> Note: Census in England and Wales did not ask a 'trans status or history' question rather one on individual's gender identity.

are relevant for its own guidance on [Sex, gender identity, trans status - data collection and publication](#).

- 1.35 Scotland's new trans status or history question, a voluntary question asked of over 16s, has been welcomed by data users and stakeholders. It will be a very important new source of data on the size and makeup of the trans population in Scotland. Scotland asked a different question from that asked in England and Wales as a result of the outcome of separate question development processes. As with all census questions, NRS will explore and assess the data collected as part of its quality assurance procedures. It will be important that users are provided with accessible information and guidance to support users understanding of the strengths and limitations of the data and help them interpret the resultant statistics.
- 1.36 NRS will be better placed to prepare for what information users may require based on the experiences from ONS as it publishes its census outputs on this topic. NRS is continuing to work with ONS on the development of its quality information for these and other census topics.
- 1.37 **NRS should ensure that when it publishes statistics on trans history or produces demographic breakdowns by sex these are accompanied by clear information on the definitions and guidance used to produce those statistics. NRS should explain the coherence and comparability of its statistics from the 2022 census with those from other censuses, especially given the differences in guidance for the census sex question.**

#### **Census topics – Veterans**

- 1.38 The addition of the new veteran question will be significant in allowing the Scottish Government and the charity sector to monitor and support the veteran and armed forces population. In particular, household relationship data will allow users to explore the wider armed forces community (serving personnel, service leavers, veterans, and their families) as encompassed by the [Armed Forces Covenant](#). A limitation of the census data collection, for NRS and indeed ONS, however is this will only be possible within households and veteran's family members in different addresses will not be able to be identified in the same way. NRS should make clear the strengths and limitations of these data.
- 1.39 As with other data, censuses offices will need to consider how to produce a harmonised UK estimate. In this case, for example, taking into account the differing order of response options between NRS and ONS. NRS will also need to support users in using this new data especially in combination with available Ministry of Defence data and the new [veterans survey](#) carried out by ONS. Many of the users may be academics or charitable groups who will have not engaged on previous censuses and so targeted proactive engagement may be necessary.

#### **The impacts of COVID-19**

- 1.40 The 2022 census in Scotland was carried out at a time when life was still returning to normal following the COVID-19 pandemic and data users, such as local service planners, may need guidance on how best to interpret the data collected. Unlike the 2021 censuses in the rest of the UK, topics such as employment, travel, and household status are less likely to be affected, however there may well still be unusual or changed data – in particular relating to travel to work for example.
- 1.41 While NRS plans to explain any data quality issues related to COVID-19 alongside its census outputs, and despite some discussion in the International Steering

Group, it has made little information available to users on this issue to date. We consider this would be helpful for users ahead of first outputs and would suggest NRS share its views on how census data may be affected by COVID-19 and to what likely extent.

### Supporting census data users

- 1.42 NRS has yet to describe how the data quality of finalised census estimates will be assessed, measured and communicated to users, particularly given the changes it is making to its methods.
- 1.43 It will be important for NRS to provide clear and accessible information to users about the quality of census data alongside all of its census outputs. This should cover all dimensions of quality including coherence and comparability. In particular NRS should give attention to supporting users for new census topics for 2022, on key context changes for Scotland's Census and in areas where users' concerns may have been raised – for specific geographical areas, for certain population groups such as migrants, and on data about sex for example.
- 1.44 **NRS should ensure that supporting documentation, guidance and information on data quality, including bias and uncertainty, is communicated in its outputs. This information should be refreshed and added to as its programme of outputs is delivered. For known areas of user interest, for example for data on sex, NRS should provide detailed information on quality indicators, such as the outcomes from its quality assurance processes, in assessing census estimates against other data sources.**

### Census estimates and UK comparability

- 1.45 NRS has worked closely with the ONS and the Northern Ireland Statistics and Research Agency (NISRA) as each office developed and implemented its census plans, and has committed to work collaboratively to understand and address the needs of UK census users. These commitments and the steps taken against these are publicly available through progress updates on the [Conduct of the censuses across the UK](#), last updated in November 2020. This update outlines how the offices already work closely through a variety of networks and, led largely by ONS, have continued to engage with UK census users through a UK Data User Working group, which has included exploring the users' needs through a survey of its members.
- 1.46 Going into Scotland's Census in 2022, there were known challenges with the comparability of census data across the UK. Most apparent of course was the difference in the timing of the censuses. There are also known differences in some census questions including the examples used in the previous section. These often reflect differing user needs identified through census development and research phases.
- 1.47 While all the census offices have made positive steps when considering UK data users, little detailed information has been made public on how they will provide UK population estimates that take account of the 2022 census in Scotland. For example, NRS considers that its revised and adapted methods will not affect the comparability of census data across the UK, but this hasn't been communicated to users.
- 1.48 While responsibility for UK estimates lies with ONS, users are likely to reach out to both NRS and ONS for information and support and both will need to provide

transparent, accessible and timely information on how UK population estimates will be provided. **NRS should take further steps to communicate plans and provide more-detailed information to users of UK census data in Scotland. NRS should continue to work together with the other census offices to explain any impacts on UK census data quality and describe where user needs may or may not be met as a result.**

## Engaging with users

- 1.49 Engagement with users in the development of any census can be the largest, most wide-ranging engagement exercise undertaken by a statistical producer. NRS has facilitated large-scale formal consultation exercises, held external events and workshops and engaged on an individual basis with users and stakeholders. However, NRS has faced some challenges in securing satisfactory outcomes in some users' opinions on contentious topic areas, as we described in our earlier [assessment report](#) [paragraph 1.13].

### Communicating its plans for census outputs

- 1.50 As NRS moves its focus and planning for Scotland's Census to the release of data and statistics, it will be considering the needs of its users, captured primarily through its [outputs consultation](#) which closed on 10 February 2023. The consultation sought to capture users' views on various areas related to the publication of census data including the sequence of topics published, the tools to publish data, and what users need from new census questions. The consultation was well advertised on social media and through communication routes including the Scotland's Census stakeholder newsletter. NRS also ran a number of user events during the consultation period to outline its plans and answer users' questions.
- 1.51 NRS will assess how it responds to users' needs and will publish details of its consultation outcomes. From the assessment team's experience, we consider that whatever the specifics of the output plans, the most important aspect for users is NRS being clear on its release schedule in terms of content and timings, so users can schedule and plan the use of census data for their purposes accordingly.
- 1.52 It will be important for NRS to confirm its arrangements and output release schedule, including the likely content and timing of first census outputs, at the earliest opportunity following the completion of its outputs consultation. Any changes to these plans should be clearly communicated to users.

## Sharing experiences and learning from Scotland's Census

- 1.53 Scotland's Census has delivered various operational and technical successes including the development of new online data collection systems which supported an online-first approach to census – 90% of responses were submitted online in 2022.
- 1.54 For Scotland's Census, NRS has developed a Flexible Table Builder, a new dissemination tool for outputs which will allow users to create their own census data tables. As well as benefits for census data users, the development of the tool and the approach taken to applying statistical disclosure control within the new technology will be of interest to other statistical producers. NRS has also developed a new [Scotland's Census website](#). It has undertaken stakeholder engagement and various stages of user testing to improve the usability and accessibility of the



website ahead of delivering its census outputs. NRS plans to improve its own [website](#) based on these developments.

- 1.55 It is in no doubt, however, that NRS was faced with challenges in its collection phase. However, the steps that it has taken and how it has adapted its processes and methods in response should be commended.
- 1.56 NRS's experiences could have a significant part to play for future censuses, other survey data collections and the production of data and statistics using administrative data for Scotland, the UK and internationally. NRS should exploit all opportunities to share its learning with others.

## Maintaining strong leadership and management

- 1.57 As with all censuses, given the scale of operations and length of time involved in planning and preparation, retaining knowledge and expertise, given staff turnover for example, requires management. In recent months, both NRS's Chief Executive and Director of Statistical Services have left the organisation. While interim arrangements have been put in place, for example NRS has arranged an ONS secondment into its census statistical leadership role, this is a significant change to the leadership and management within NRS. It will be important for NRS to ensure that it provides any necessary reassurances during this period of transition.
- 1.58 In our previous [assessment report](#) [paragraph 4.7], we encouraged the Scottish Government and NRS to review the seniority of the census statistical leadership role in NRS. We do consider this may help provide the required senior leadership and encourage better staff retention and progression for Scotland's Census programme in the future.
- 1.59 NRS should ensure that all reasonable steps are taken across the organisation to maintain business continuity while interim staffing arrangements are in place, so successful production of census data and statistics is not affected.

# Annex 1: Preliminary findings from the first phase of this assessment

## Finding 1

A1.1 Some users have reported difficulties in locating certain documents on the Census offices' websites. The design and navigation through these websites vary notably between Census offices and may provide a barrier to the easy access of information for users. **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.**

A1.2 **Actions taken by NRS to address findings** NRS has made changes and improvements to its [Scotland's Census](#) website. NRS has made the link through to webpages on Scotland Census 2021 more prominent and added hyperlinks to content to make the user journey easier. New content has been added, some in response to other assessment findings such as highlevel information on the use of [administrative data](#). NRS has used social media and other communications routes to highlight website changes and updates.

NRS is undertaking development of its Census outputs website. The phased approach taken by NRS is in line with Government Digital Service (GDS) and Digital First Service Standards models, and subject to assessments by the Scottish Government's Digital Assurance Office at Discovery, Alpha, Beta phases and prior to Live. In July 2020, NRS undertook usability testing as part of the Alpha phase of the project and has been active in seeking involvement from Census data users for example through its [news pages](#) and [twitter](#).

NRS has been working collaboratively with the Office for National Statistics (ONS) and Northern Ireland Statistics and Research Agency (NISRA) on both changes to its current Census webpages as well as on the development of its Census outputs website.

A1.3 **OSR's evaluation of evidence** The evidence shared by NRS on both the current Census webpages and in the development of its output website shows it has taken on board this finding and has user experience embedded in its digital planning and developments.

We would encourage NRS to share its experience of its Census digital developments – particularly in the context of developments being taken forward by the other Census offices. We consider NRS's approach to have strong elements of best practice which would be valuable to share with colleagues across the GSS.

NRS should continue to consider the accessibility of information published on its website as more content is released in future.

## Finding 2

A1.4 There has been much public debate relating to proposals for Census questions and the question development process across Census offices. Census offices must ensure their actions and decisions are visibly taken with the honesty, integrity and independence necessary to deliver data and statistics that are of high quality and serve the public good. **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.**

**A1.5 Actions taken by NRS to address findings** NRS has published a variety of materials on its development, processes and decision on questions for Census in 2021. These are collated and are accessible from a single [webpage](#).

NRS, in its evidence report to OSR, provides a summary of its development of the sex, sexual orientation and trans history questions and related guidance. It describes the wider context of the development, stakeholder engagement activity, and research undertaken. NRS has published the related materials from stakeholder events and research and recommendation reports on its website.

Since the assessment report was published and as part of its planned process for question development, NRS has continued to appear before Scottish Parliament's Culture, Tourism, Europe and External Affairs Committee. NRS addressed and gave evidence in relation to Committee questions, many of which focused on the Census sex question.

NRS has faced much public scrutiny and criticism in its development work on the sex question and guidance. NRS has told the assessment team how it feels it has benefited from this and welcomed the challenges from different stakeholder groups.

NRS has kept users informed of legislative processes through its newsletter and [legislation pages](#) of its website.

**A1.6 OSR's evaluation of evidence** We consider the range of information published on its question development webpage offers users and stakeholders evidence of its decision making on Census questions and guidance. We note that NRS has now provided a link to the sex question recommendation report alongside previous research captured in topic reports.

NRS's approach to transparency is further reflected in its appearances at the Culture, Tourism, Europe and External Affairs Committee to discuss its decision making regarding Census questions. Evidence given at the Committee hearings would further support the published material available on NRS's website. NRS should consider linking to Committee reports and minutes from its question development webpages.

NRS should continue to engage with stakeholders particularly in relation to areas of contention, meet any commitments it has made, and seek to provide answers or explanations on areas of concern, in a transparent and open way.

### **Finding 3i**

**A1.7** Census offices could benefit from working together more closely to better engage with users and stakeholders of UK Census data and statistics who have views and insights that are relevant across Census offices. UK Census users and stakeholders may be unnecessarily overburdened if they are required to submit multiple feedback or consultation responses on similar topic areas across Census offices. **Census offices should consider how best to engage with users and stakeholders of UK Census data and statistics users and coordinate activities as appropriate.**

**A1.8 Actions taken by NRS to address findings** Since the publication of the assessment report, NRS, working with the other Census offices, has:

- established a UK Census Data working group. The working group is specifically looking at the assessment finding on UK Census data users. The group has been considering options such as UK wide events.
- added a [new UK Census data](#) webpage, inviting UK Census data users to contact the Census team. The webpage should serve as a clear route to publish materials of particular interest to UK users.
- attended cross-office user events. While this already happened, steps have been taken to be more visible at these events through ensuring people from other offices are introduced to attendees.

In its evidence report NRS gives an example of balancing Scottish user needs and UK harmonisation in its consideration of developing UK harmonised outputs areas – as Census output areas in Scotland are smaller than those throughout the rest of the UK.

A1.9 **OSR's evaluation of evidence** We consider the UK Census data working group an extremely positive initiative put in place to address this finding. We are encouraged by NRS's engagement with this group and the steps taken so far.

The new UK Census webpage is a positive step and having tailored content for this specific group of users is a valuable addition.

We recognise the barriers that Census offices may face in identifying and engaging with this group of users. The assessment team is hopeful that the continuing efforts of the working group will help with this. The working group should look to increase the visibility of its activities and communications and draw on the expertise across the wider GSS in exploring new and creative ways to reach users groups that are harder to engage with.

### Finding 3ii

A1.10 Published plans, research and topic reports from the individual Census offices are not always sufficiently clear on how country-specific proposals then relate to UK users' needs and about the impact of these decisions on the availability of on harmonised UK data. **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.**

A1.11 **Actions taken by NRS to address findings** NRS, with the other Census offices, has released a [progress update](#) on the [Conduct of the 2021 Censuses in the UK](#) in January 2020, reflecting the position as of November 2019. The statement of agreement on the conduct of the Censuses sets out the principles that the three Census offices will work together on to make sure the 2021 Censuses are successful. We understand there are plans to release a further updated position at the end of 2020.

The UK Census Data working group, which NRS is a part of, is compiling a descriptive list of all the harmonisation working groups and activities contributed to by the UK Census offices to capture the variety of work that goes into UK harmonisation. The UK Census data working group has plans to publish this information and the Census offices are considering whether the most appropriate vehicle to do so is alongside the planned update on the conduct of the Censuses.

Some high-level summary information on UK harmonisation is included on the new NRS [UK Census Data](#) webpage.

A1.12 **OSR's evaluation of evidence** There is an array of groups in place which consider harmonisation as part of Census plans and development. Putting information about these groups in the public domain will offer greater transparency to users and stakeholders.

When collating this information, if feasible, examples of how decision making has taken account of the needs of UK Census users should be included.

NRS should also seek to engage with UK Census users on their response to how it has taken account of their needs.

NRS should be transparent in how it meets the needs of users interested in UK Census outputs in future publications on harmonised questions, outputs and methods.

Due to the decision by Scottish Ministers to delay the Census in Scotland, it is even more important NRS must work with the other Census offices to explain the impacts of this to UK Census data users.

### Finding 3iii

A1.13 Proposals from Census offices on Census questions will be subject to relevant legislative processes in finalising arrangements for Census in 2021. **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.**

A1.14 **Actions taken by NRS to address findings** In response to this finding, NRS has described the collaborative approach to question development between the three Census offices.

In its evidence report, NRS has shared its plans to review and produce information on harmonisation of Census questions when legislative processes are finalised and will likely publish this in 2021.

A1.15 **OSR's evaluation of evidence** The assessment team recognises the commitment of NRS and the other Census offices to publish information on harmonisation for users.

### Finding 4

A1.16 Census offices have a work programme scheduled to establish and evaluate the data sources that will be used to support Census activities. In some cases, we are not fully assured that the necessary conversations with all the various data suppliers are taking place to inform the understanding of the nature, operational context and overall quality of the sources to be used. **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.**

A1.17 **Actions taken by NRS to address findings** Through its evidence report, NRS has more clearly articulated its use of administrative data in the Census and the further opportunities it is exploring to secure other data sources such as prisons data from Scottish Government. NRS describes how it maintains relationships with data

suppliers and how it assures the quality of the data through comparing with other data sources.

The assessment team held a data sources session with the Census team in March 2020 to hear more about the administrative data and how the NRS quality assure this data, for example NRS's arrangements to use NHS Central Register (NHSCR) data. The assessment team also spoke with a member of the Geographies team that supplies data to the census administrative data team. NRS has practices in place to quality assure administrative data for Census use and were applying Quality Assurance of Administrative Data (QAAD) principles in its ways of working.

OSR also ran a QAAD session with the three Census offices in May 2020, to respond to queries raised on our expectations on for quality assurance of administrative data as part of Census. NRS attended and engaged positively in that session.

NRS has created a new [webpage](#) which gives a summary of the use of administrative data in the Census.

- A1.18 **OSR's evaluation of evidence** Through the information published in its evidence report and from the data source workshop held, the assessment team is more assured of NRS's approaches to administrative data and its relationships with data suppliers.

NRS should continue in its work to secure and build its knowledge and awareness of the strengths and limitations of data sources used for Census.

Being transparent and providing users and stakeholders with assurances on its judgements is a key aspect of the Code of Practice for Statistics. We consider that information on data sources used in the Census and NRS's judgement on quality and appropriateness for use should be made available in the public domain. The level of detail should be proportionate to level of assurance required, and NRS should consider publishing provision information and building on this as its research and understanding continues to develop.

## Finding 5

- A1.19 Census offices are developing their quality management approaches and developing various methods to support Census operations, data processing and outputs. This includes addressing potential biases between online and paper collection modes. However, the timing for publication of methodology documentation and quality assurance arrangements is unclear. **Census offices should make information on the methodology and quality assurance arrangements available to users at the earliest opportunity.**

- A1.20 **Actions taken by NRS to address findings** NRS has set out its approach to methods development, detailing factors it considers when developing methods and method review and sign off procedures. It describes how methods papers are peer reviewed through an Internal Peer Review Group before being submitted to its External Methodology Assurance Panels which is made up of subject experts and academics.

NRS held a methodology stakeholder event in February 2020, giving an overview of Census data processing. The [slides](#) from this event were published on the NRS website.

NRS also published a [Statistical Quality Assurance Strategy](#) explaining how it will assess and measure quality throughout the collection, processing, production and dissemination of Census data. This was promoted through social media when released.

A1.21 **OSR's evaluation of evidence** The assessment team considers the approach taken to develop Census methods is robust. We recognise the transparency to methods development achieved through NRS publishing the [External Methodology Assurance Panel methodology papers and summary reports](#) on its website.

These papers, which should provide more detail for expert users, and the stakeholder events for the non-expert, provides good coverage and range of communication across the variety of Census users and stakeholders.

We welcome the publication of the Statistical Quality Assurance Strategy. It is a detailed, well-written document which provides assurance of the processes and strategies in place to assess and measure levels of quality.

The assessment team would like to explore methods being employed by NRS for Census in more detail to cover how methods have been developed, what methods have been selected and why NRS consider these suitable for use. We are planning to hold workshops on areas such as census coverage adjustment and statistical disclosure control in the coming months.

## Finding 6

A1.22 Users told us that they were unclear at what points certain decisions will be made or when certain information will be made available. While planning documents are published, there is no easily accessible highlevel plan of key Census 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.**

A1.23 **Actions taken by NRS to address findings** NRS has added information on [Census milestones](#) to its website. A description and timeframe are given for each milestone, as well links to supporting information.

A1.24 **OSR's evaluation of evidence** The assessment team is pleased to see that this overview information is now available to users and interested parties.

NRS should update this information to reflect changes to the timing of the Census in Scotland and continue to maintain this information providing further detail or updates on timings as appropriate.

## Finding 7

A1.25 Use of internal review, audit and other independent measures to evaluate the effectiveness of processes is important across all three Census offices and provides additional safeguards. **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.**

A1.26 **Actions taken by NRS to address findings** NRS has published information on its [webpage](#) on the assurance mechanisms in place to underpin Census delivery. Information provided describes the “three lines of defence” model – day-to-day management controls, Census Programme Management Office assurance

processes, and external assurance for example through Scottish Government's audit functions.

NRS has also published its [evaluation of the 2019 Census rehearsal](#) which sets out key findings, areas for improvement, and next steps planned for further work.

**A1.27 OSR's evaluation of evidence** NRS has published the information required which allows users to better understand the broader assurance and audit activity in place to evaluate processes.

We note the publication of the Census rehearsal evaluation report; it is positive that this information is in the public domain. The scope of the Census rehearsal undertaken in Scotland in 2019 meant some aspects such as field force and Census Coverage Survey were not tested. The assessment team considers that NRS should supplement the report with information on how it is mitigating any risks associated with the reduced scope of the rehearsal.



# Annex 2: Wording for the guidance for the census sex question

Scotland's Census 2022	Census in England and Wales 2021
<p><b>How do I answer this question?</b></p> <p>If you are transgender the answer you give can be different from what is on your birth certificate. You do not need a Gender Recognition Certificate (GRC).</p> <p>If you are non-binary or you are not sure how to answer, you could use the sex registered on your official documents, such as your passport.</p> <p>A voluntary question about trans status or history will follow if you are aged 16 or over. You can respond as non-binary in that question.</p> <p><b>I am answering for someone else. How do I answer?</b></p> <p>If you are answering for someone else, where possible you should ask them how they want to answer. If they are away, select the answer you think they would choose.</p> <p>You do not need to know or ask whether they have a Gender Recognition Certificate (GRC).</p> <p><b>Why is this question asked?</b></p> <p>The sex question provides vital information for organisations on national and local population statistics, and for long term analysis, as it has been asked since 1801. This question is also used for equality monitoring.</p>	<p><b>Why we ask this question</b></p> <p>Your answer is key to understanding trends in the population. It also helps your local community by allowing charities, organisations, and local and central government to understand what services people might need.</p> <p>This information will be used for equality monitoring between groups of people of different sexes in your local area. Your answer also helps public bodies to identify discrimination or social exclusion based on sex, and work to stop it from happening.</p> <p>The sex question has been asked since 1801.</p> <p>This question is vital for understanding population growth and equality monitoring. Please select either "Female" or "Male".</p> <p>If you are considering how to answer, use the sex recorded on your birth certificate or Gender Recognition Certificate.</p> <p>If you are aged 16 years or over, there is a later voluntary question on gender identity. This asks if the gender you identify with is different from your sex registered at birth. If it is different, you can then record your gender identity.</p> <p><b>Answering on behalf of someone else</b></p> <p>If you are answering for someone else, where possible you should ask them how they would answer. If they are away, select the answer you think they would give.</p>



