



How NISRA is ensuring that Census 2021 will serve the public

National Statistics Accreditation Report

June 2019

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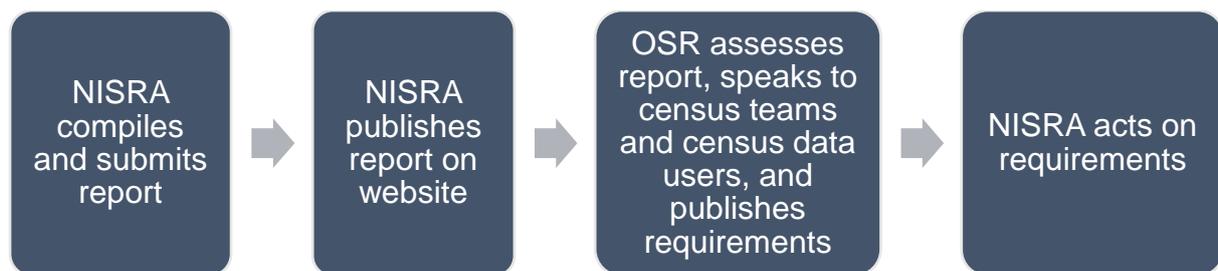
Executive Summary

The Northern Ireland Statistics and Research Agency (NISRA) is responsible for the census in Northern Ireland (NI). The next census is planned for 21 March 2021.

The previous 2011 Census outputs by NISRA were designated as National Statistics by the UK Statistics Authority (UKSA). This confirmed compliance with the Code of Practice for Statistics. The 2021 Census process will now be assessed by the Office for Statistics Regulation (OSR), the regulatory arm of the UKSA, to determine whether the outputs can be designated as National Statistics.

This document, which will be assessed by the OSR, outlines how the NI 2021 Census outputs meet the requirements of the Code of Practice for Statistics. The code provides confidence to users of statistics and citizens that the published outputs are of public value, are high quality and are produced by people and organisations that are worthy of trust.

The full 2021 Census programme will be assessed from the initial planning stages right through until the production of the outputs. The assessment will be split into three phases, with each phase as follows:



At the end of the phase 2 assessment period, OSR will consider whether NISRA has supplied sufficient information in accordance with the Code of Practice for Statistics for the 2021 Census to retain the badge of National Statistics. If we are successful, our accreditation will be confirmed before the first census outputs are released in 2022.

Undertaking the National Statistics Accreditation and laying out our processes, procedures and practices for assessment by OSR allows us to continually improve and ensures we are held to the highest levels of trustworthiness, quality and value. It also ensures that users of our statistics and citizens can have complete confidence in our 2021 Census.

The remainder of this report details the completed and ongoing work by NISRA to demonstrate that the 2021 Census follows the framework of the Code of Practice for Statistics in respect of the three pillars:

- **Trustworthiness** is about having confidence in the people and organisations that produce statistics and data
- **Quality** is about using data and methods that produce assured statistics
- **Value** is about producing statistics that support society's needs for information

1. Introduction

- 1.1 The population census is the largest and most complex statistical exercise undertaken in Northern Ireland (NI). Conducted every ten years in line with the other countries of the United Kingdom (UK), the census provides an official estimate of the size of the population and number of households across a range of geographic areas, with detailed attribute data providing a valuable insight on the characteristics of the population.
- 1.2 Census data are used across a wide range of sectors and provide a valuable insight into the well-being and needs of communities across NI. At national and local government level, census data on population size and attributes inform policy development and resource allocation, and they feed into decision-making around the planning of key services in areas such as health, education, housing and transport to best meet the needs of people in NI.
- 1.3 The census provides a benchmark for many key social and economic indicators such as population estimates, birth rates and unemployment rates, which are important in understanding the composition and socio-economic characteristics of the NI population. In addition, the business community use census information to inform investment decisions and better understand demand for their services, while it is a rich source of data for academic research.

National Statistics Accreditation

- 1.4 As the principal source of official statistics in NI, the NI Statistics and Research Agency (NISRA) is responsible for planning, conducting and disseminating outputs from the 2021 Census. Outputs from the previous census in 2011 were designated National Statistics status following a monitoring and assessment process by the UK Statistics Authority (UKSA)¹. This confirmed compliance with the Code of Practice for Statistics² (hereafter referred to as the Code of Practice) in that 2011 Census outputs met the highest standards of trustworthiness, quality and public value.
- 1.5 NISRA aims to maintain National Statistics status for outputs from the 2021 Census in NI. This entails an ongoing assessment of the entire census operation by the Office for Statistics Regulation (OSR), the regulatory arm of the UKSA, to ensure that published statistics from the 2021 Census are of public value, are high quality and are produced by people and an organisation that are worthy of trust. Retention of the National Statistics badge is a key requirement in terms of NISRA achieving strategic objectives for the 2021 Census, namely:

¹ https://www.statisticsauthority.gov.uk/wp-content/uploads/2015/12/images-assessmentreport115censusphasei_tcm97-40694.pdf

² <https://www.statisticsauthority.gov.uk/code-of-practice/>

- to provide high quality, value-for-money, fit-for-purpose statistics that meet user needs; and
- to secure public and user confidence in the final results.

1.6 OSR is undertaking the assessment of the 2021 Census, produced by the Office for National Statistics (ONS), the National Records of Scotland (NRS) and NISRA. It will be assessing the extent to which the censuses meet the professional standards set out in the statutory Code of Practice². The assessment process considers evidence from a variety of sources including from OSR’s research, information given by the producers and importantly feedback from users and stakeholders connected with the census. The Code of Practice covers a wide range of principles around meeting the ‘public good’ such as the quality of the statistics and their need to add value and insight to users. Capturing the views of users and potential users forms an important part of OSR’s judgment about the statistics, including how they could be improved. If you would like to feedback or speak to OSR please see detail of the assessment on its website³.

1.7 The assessment being conducted by the OSR follows a phased approach (Table 1):

Table 1: Provisional timetable for the National Statistics Accreditation process being conducted by the Office for Statistics Regulation for the 2021 Censuses in the UK.

| | |
|---------------------------------------|---|
| Phase 1 Commence Spring 2019 | Evidence showing the research, development and decision-making regarding the various aspects of the 2021 Census to date |
| Phase 2 Commence Winter 2020/21 | Similar to Phase 1 but reflective of the current stage of the 2021 Census operation, therefore including more emphasis on outputs |
| Winter 2022 | OSR/UKSA will make the final decision and notify users/NISRA whether 2021 Census outputs have achieved National Statistics status |
| Phase 3 2023/24 | Final report with a lesson learned perspective, capturing user experiences |

1.8 Following the designation of outputs from the 2011 Censuses in the UK as National Statistics, the final phase of the UKSA’s assessment focused on continuing compliance with the Code of Practice². The resultant report (UK Statistics Authority’s Special Assessment of the 2011 Censuses in the UK: Phase 3⁴) made a number of recommendations for the UK statistical organisations to consider in preparation for the next UK census; section 2 outlines how NISRA has addressed these recommendations in planning for

³ <https://www.statisticsauthority.gov.uk/osr/what-we-do/assessment/current-future-assessments/assessment-2021-censuses-uk-phase-1/>

⁴ https://www.statisticsauthority.gov.uk/wp-content/uploads/2015/12/images-assessmentreport3182011censusphase_tcm97-45033.pdf

the 2021 Census in NI. The subsequent sections provide details and supporting evidence to demonstrate how NISRA is complying with the Code of Practice² in planning and development of the 2021 Census, specifically in relation to the pillars of trustworthiness (section 3), quality (section 4) and value (section 5).

1.9 NRS and ONS are responsible for delivering the 2021 Census in Scotland and England-Wales, respectively. Both statistical organisations are subject to the same assessment process for National Statistics accreditation for the next census. The three UK statistical organisations will be following the timetable outlined in Table 1.

2. Response to recommendations from the UK Statistics Authority's Special Assessment of the 2011 Censuses in the UK: Phase 3 report

2.1 The main themes that emerged from Phase 3 of the UKSA's Special Assessment of the 2011 Censuses in the UK³, based on feedback about the experiences of both users and the statistical producers as well as from the published documentation and census outputs, concerned:

- the effectiveness of engagement with users;
- collaboration and partnership;
- accessibility and dissemination; and
- coherence across the UK.

2.2 Table 2 outlines the specific recommendations made by UKSA and describes how NISRA is addressing them in planning for the 2021 Census in NI.

Table 2: Recommendations made by the UK Statistics Authority based on the Special Assessment of the 2011 Censuses in the UK Phase 3 report, with evidence of how the recommendations are being addressed by NISRA in planning for the 2021 Census in Northern Ireland.

| UK Statistics Authority recommendations | NISRA response to recommendations |
|---|--|
| <p>R1. Share their experiences of effective engagement gained on the 2011 Census with other statistical teams</p> | <p>The 2011 Census in NI had a large number of stakeholders with varying degrees of influence and interest in the different elements of the operation. NISRA managed these stakeholder interactions successfully, thereby delivering the main strategic aims of the 2011 Census. Stakeholder management was evaluated in the <i>Northern Ireland Census 2011 General Report</i>⁵; the experiences and lessons learned provide a sound basis for developing and implementing an effective stakeholder engagement programme for the 2021 Census.</p> <p>The <i>Northern Ireland Census 2011 Benefits Realisation Report</i>⁶ communicates details of effective user engagement for the last census. Furthermore, the participation of NISRA Census Office in the Demographic Statistics Advisory Group, Statistics Advisory Committee and Statistics Coordinating Group provides a platform for sharing experiences of effective user engagement with statistical teams from other government departments in NI.</p> |
| <p>R2. Further develop partnerships with key users and census data distributors to:</p> <ul style="list-style-type: none"> • facilitate the wider use of the data and statistics by other users, such as through collaboration | <p>NISRA has developed strong partnerships with census users, which will be built upon for the 2021 Census. The <i>Northern Ireland Census 2011 Benefits Realisation Report</i>⁶ provides evidence of successful collaboration with users resulting in wider and effective use of 2011 Census data:</p> <ul style="list-style-type: none"> • Following the change in local government structures in 2015, the new councils in NI required 2011 Census data for their re-structured geographic areas to assist with |

⁵ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/2011-census-general-report.pdf>

⁶ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/2011-census-benefits-realisation-report.pdf>

| UK Statistics Authority recommendations | NISRA response to recommendations |
|--|---|
| <p>with, and support provided to, voluntary sector groups, local government, census data resellers and data application developers</p> <ul style="list-style-type: none"> consider secondments to develop knowledge and a common understanding between the statistical producer, data suppliers and user organisations identify opportunities for data suppliers and users to contribute to the quality assurance of official statistics and the development of outputs. | <p>additional responsibilities such as community planning. NISRA responded to this requirement by publishing key 2011 Census statistics for the new Local Government Districts (LGDs) and District Electoral Areas.</p> <ul style="list-style-type: none"> Pre-2011, the NI Housing Executive (NIHE) used the NI House Condition Survey (NIHCS) to estimate key housing indicators at LGD level including fuel poverty. Budgetary restrictions led to a reduced sample size for the NIHCS, thereby impacting the robustness of the indicators at the required level of geography. This issue was overcome by collaboration between NIHE and NISRA to develop a model using 2011 Census data that enabled the required indicators to be generated; the resulting cost savings for NIHE were estimated at £250,000. <p>NISRA continues to support and promote the wider use of census data through its key role in two major data linkage studies, namely the NI Longitudinal Study (NILS) and NI Mortality Study (NIMS)⁷, and the Administrative Data Research Partnership (ADRP)⁸. The NILS and NIMS were developed and are maintained by NISRA; census data are a core element of both studies and have facilitated high quality, valuable research by academics, government departments and voluntary sector organisations in diverse areas including population health, housing and migration. NISRA also provided census data for the Administrative Data Research Network (ADRN)⁹, which operated from 2013 to 2018; this greatly enhanced the research value of the administrative data sources made available to accredited researchers. The ADRN had been superseded by the ADRP, which NISRA will continue to supply census data to for approved research projects that are impactful and beneficial to society.</p> |

⁷ <https://www.qub.ac.uk/research-centres/NILSResearchSupportUnit/>

⁸ <https://esrc.ukri.org/research/our-research/administrative-data-research-partnership/>

⁹ <https://adrn.ac.uk/>

| UK Statistics Authority recommendations | NISRA response to recommendations |
|---|---|
| | <p>Bespoke commissioned outputs are another facility for the wider use of 2011 Census data. As of March 2019, 432 commissioned tables were produced by NISRA, covering a variety of topics including marital and civil partnership status by age and sex, knowledge of Irish by ethnic group and long-term health problems by economic activity¹⁰. An example of the value of this service relates to the Department of Health in NI, which used 2011 Census commissioned outputs to produce the report <i>Kinship Care – Children Living in Households without a Parent Present Northern Ireland 2011</i>¹¹.</p> <p>NISRA has provided opportunities for data suppliers and users to contribute to the quality assurance of census statistics and the development of outputs. Population estimates from the 2011 Census were subjected to three levels of review and sign-off prior to release. In addition to Census Office staff, the review panels comprised members from NISRA’s demographic statistics branch and topic experts from across NISRA and the Census Advisory Group. Owing to the effectiveness of this approach, the quality assurance process for the 2021 Census population estimates will draw upon the wider user base where possible.</p> <p>Regarding the development of outputs, NISRA ran a public consultation between October 2018 and January 2019 to gather user feedback on the proposed strategy for producing and disseminating 2021 Census statistics, including specialist products and census microdata¹². The 2011 Census in NI was successful in ensuring that the information needs of users were met, and NISRA aims to build on this for the 2021 Census by improving the quality of outputs, providing comparability where users say it is important and delivering information that is relevant in 2021 and beyond. NISRA will actively engage with users on all aspects of census</p> |

¹⁰ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/2011-census-commissioned-table-lookup.XLSX>

¹¹ <https://www.health-ni.gov.uk/sites/default/files/publications/dhssps/kinship-care-ni-2011.pdf>

¹² <https://www.nisra.gov.uk/statistics/consultation/outputs-strategy-consultation>

| UK Statistics Authority recommendations | NISRA response to recommendations |
|--|--|
| | output content and dissemination mechanisms throughout the design phases until the publication of outputs following the 2021 Census; users will also be asked to reflect on the utility of 2021 Census data after its release. |
| <p>R3. Discuss with users the potential for:</p> <ul style="list-style-type: none"> • enabling the quicker release of data, including for small areas such as the travel to work data • widening access to anonymised samples such as by users in the commercial and local government sectors • greater flexibility in creating univariate and multivariate tables for bespoke geographies and population groups. | <p>As part of the 2021 Census Outputs Strategy Consultation held by NISRA in 2018/19¹², respondents were able to provide feedback on the proposed more timely release of outputs, specifically the publication of population and household estimates in the first release by summer 2022, with all other standard outputs being published by summer 2023. One of the mechanisms being considered to support more timely publication of outputs is the release of 2021 Census data at higher levels of geography without the use of cell key perturbation; instead, this statistical disclosure control method, based on making small changes to some cells in a table with low counts, would be applied at lower geographic levels only. NISRA will publish a report on the findings of the consultation and their recommendations later in 2019.</p> <p>NISRA consulted with users on their requirement for specialist products as part of the 2021 Census Outputs Strategy Consultation¹². For the 2011 Census, a range of anonymised microdata products were made available to enable researchers perform different types of analyses not possible from the standard outputs, thereby widening the use of census data. The microdata teaching file contains anonymised records on a limited set of variables for a random sample of one per cent of people in the 2011 Census and was made available for download from the NI Neighbourhood Information Service (NINIS) website in 2014¹³. The safeguarded microdata files consist of random samples of up to five per cent of individuals in the 2011 Census and were made available in 2015 via download through the UK Data Service¹⁴. Finally, the secure microdata files contain random samples of 10 per cent of people</p> |

¹³ <https://www.nisra.gov.uk/statistics/2011-census/results/specialist-products/microdata-teaching-file>

¹⁴ <https://www.nisra.gov.uk/statistics/2011-census/results/specialist-products/safeguarded-microdata>

| UK Statistics Authority recommendations | NISRA response to recommendations |
|---|--|
| | <p>or households in the 2011 Census; as these data have the highest level of detail and largest sample size, they are only available to approved researchers via the NISRA secure environment¹⁵. While microdata products from the 2021 Census are expected to largely reflect those produced from the previous census, NISRA will assess user demand for other specialist products to ensure that the use of census data is maximised.</p> <p>NISRA also participates in the 2021 Census Microdata Working Group, which advises the UK statistical organisations on the design, creation, storage and dissemination of microdata products following the 2021 Census. In addition to members from NISRA, NRS and ONS, the working group includes representatives from the user community, which will ensure that microdata products best meet the needs of users.</p> <p>The 2021 Census Outputs Strategy Consultation¹² provided NISRA with user feedback on their proposed approach for greater flexibility in creating univariate and multivariate tables for bespoke geographies and population groups. This is based on the development of a flexible dissemination system, which will allow users to access data to build tables that meet their specific needs, facilitate a quicker turnaround of standard outputs than was seen in 2011 and enable users to have access to data as soon as they become available. The consultation was publicised via four information events held throughout NI, which were attended by over 60 people, while additional engagement was held with local council statisticians, and representatives from local and national government.</p> |
| R4. We suggest that each statistical producer implement ways of | NISRA implements a revisions and correction policy for 2011 Census outputs ¹⁶ , which ensures adherence to the requirements of the Code of Practice ² . The policy clearly outlines to users |

¹⁵ <https://www.nisra.gov.uk/statistics/2011-census/results/specialist-products/secure-microdata>

¹⁶ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/2011-census-revisions-and-corrections-policy.pdf>

| UK Statistics Authority recommendations | NISRA response to recommendations |
|---|---|
| <p>informing users of substantive revisions alongside the statistics in the context of the developments in online dissemination.</p> | <p>the distinction between a correction and revision and also the process involved in their application and communication. The 2011 Census section of the NISRA website also includes a revisions and issues log¹⁷, which provides information on the affected output tables and the nature and reason for the revision. The metadata of the tables in question is updated to reflect the revision; therefore, when downloaded via NINIS, users are made aware of the revision as soon as it occurs. Furthermore, users are informed of corrections or revisions via email alerts. NISRA will apply a similar revisions and correction policy for 2021 Census outputs, which will be adapted to reflect the expected developments in the dissemination of outputs, e.g. the proposed flexible table builder.</p> |
| <p>R5. Identify (together with WG):</p> <ul style="list-style-type: none"> • the areas of success and how to build on them • the areas of practice where alternative approaches would strengthen the delivery of the census in each country, as well as in delivering comparable and consistent UK census data and statistics | <p>For the <i>Northern Ireland Census 2011 General Report</i>⁶, NISRA reviewed the entire census operation from the consultation and planning stages through to the production and dissemination of outputs, and evaluation. In addition to identifying aspects of the 2011 Census that worked well, the report also identifies challenges and issues that had to be resolved; the lessons learnt are being taken forward in planning and development for the 2021 Census in NI.</p> <p>Following the 2011 Census, NISRA considered the future provision of population data, publishing its proposals in <i>The Future Provision of Census of Population Information for Northern Ireland</i>¹⁸. Likewise, ONS and NRS reviewed options for modernising the census while considering the issues of cost, benefit, statistical quality and public acceptability. NISRA assessed the evidence base and concluded that the 2021 Census should take the following format:</p> |

¹⁷ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/2011-census-revisions-and-issues-log.pdf>

¹⁸ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/the-future-provision-of-census-of-population-information-for-northern-ireland.pdf>

| UK Statistics Authority recommendations | NISRA response to recommendations |
|--|---|
| <ul style="list-style-type: none"> the needs of users in relation to cross-UK census data and how well these were met by the 2011 Census. | <ul style="list-style-type: none"> a predominantly online census of population and housing in 2021 as a natural development to the traditional, paper-based census; where an online response is not received, households will be followed up fully by telephone, paper and eventually doorstep contact; and further use of administrative and survey data to supplement the information from an online census and improve intercensal population statistics. <p>The move to primarily online response is a natural progression of the census methodology and is in line with the approach adopted in other census-taking countries. There are a number of associated benefits, including reduced management of paper questionnaires, simplified processing of returns, cost savings and higher data quality¹⁹. Alongside other developments such as an enhanced address register supplemented by record-level intelligence from administrative data and more targeted non-response follow up, the expectation is that the delivery of the census in NI will be strengthened.</p> <p>In recognition of the user need for comparable and consistent UK census data and statistics, there is a signed agreement between the National Statistician and the Registrars General for Scotland and NI about the conduct of the 2021 Censuses²⁰; this outlines a number of principles where the three census offices work together to ensure the 2021 Censuses successfully deliver high-quality population and housing statistics for the UK. Elements identified for harmonisation include classifications, topics, and statistical procedures such as edit and imputation, and disclosure control.</p> |

¹⁹ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/online-data-collection-in-the-census.pdf>

²⁰ <http://www.ons.gov.uk/file?uri=/census/censustransformationprogramme/legislationandpolicy/theconductofthe2021censusintheukupdatenov16.pdf>

| UK Statistics Authority recommendations | NISRA response to recommendations |
|---|---|
| | <p>There is a strong user demand for cross-UK census data. In response to this, a range of UK data and supporting information were compiled for the 2011 Census and are available via the ONS website²¹. NISRA has a section on its 2011 Census website that directs users to the UK outputs, and provides a wealth of UK-level information including a comparability report, maps, migration statistics, origin and destination data, and a UK-Europe census comparison²². The <i>Northern Ireland Census 2011 Benefits Realisation Report</i>⁶ produced by NISRA provides an example of the value of UK-based outputs to users; Sainsbury's cited the extent of coverage, the wide range of variables and the availability of data for small geographic areas as being beneficial in targeting investment for new stores.</p> <p>In terms of assessing user requirements for UK-level outputs from the next census, the Outputs Strategy Consultation conducted by NISRA for the 2021 Census¹² included a section dedicated to UK harmonisation and statistics. User feedback on the expectation for accessing UK data through a single dedicated website or via the individual NISRA, NRS and ONS websites is especially important in identifying the preferred dissemination channel for UK data from the 2021 Census. Under consideration is the provision of an application programming interface that would make data available to users from one source; testing is ongoing to assess the feasibility of this approach from a technical and security perspective.</p> |

²¹ <https://www.ons.gov.uk/census/2011census/2011ukcensuses/ukcensusesdata>

²² <https://www.nisra.gov.uk/statistics/2011-census/results/uk-census-outputs>

3. Trustworthiness

Confidence in the people and organisations that produce statistics and data

3.1. Honesty and integrity

People in organisations that release statistics should be truthful, impartial and independent, and meet consistent standards of behaviour that reflect the wider public good²³.

3.1.1 The planning and delivery of the 2021 Census in NI is the responsibility of NISRA²⁴, an executive agency within the Department of Finance that also incorporates the General Register Office for NI.

3.1.2 NISRA's mission statement is to:

- produce and disseminate high quality, trusted and meaningful statistics and research to inform decisions and improve understanding; and
- provide a high quality and cost effective civil registration service to meet user needs.

A main objective is to instil public confidence in the integrity and independence of statistics produced by NISRA, which is a fundamental requirement for the 2021 Census.

3.1.3 The vision and mission of NISRA are underpinned by its principles of purpose, which describe the ethos of the organisation and outline how the agency conducts its business. Further details are available in the NISRA 2018-19 Business Plan²⁵, which is published on the agency website. 'Integrity' is one of the nine principles and refers to statistics and research gaining public trust through the use of objective and transparent methods.

3.1.4 All NISRA staff are expected to undertake their duties with dedication and a commitment to the core values of the NI Civil Service Code of Ethics²⁶, namely:

- Integrity - putting the obligations of public service above your own personal interests
- Honesty - being truthful and open
- Objectivity - basing your advice and decisions on rigorous analysis of the evidence
- Impartiality - acting solely according to the merits of the case and serving equally well Ministers of different political persuasions

²³ <https://www.statisticsauthority.gov.uk/code-of-practice/the-code/trustworthiness/t1-honesty-and-integrity/>

²⁴ <https://www.nisra.gov.uk/statistics/about-nisra>

²⁵ <https://www.nisra.gov.uk/publications/nisra-business-plan-201819>

²⁶ https://www.nicscommissioners.org/wp-content/uploads/2015/10/nics_code_of_ethics.pdf

3.1.5 All statistical outputs produced by NISRA are designated as official statistics; the Code of Practice², implemented by the UKSA as required by the Statistics and Registration Service Act 2007²⁷, supports the continuous improvement of these statistics. NISRA is committed to complying with the principles of the Code of Practice², which gives users confidence that published statistics are of public value, are high quality and are produced by an organisation that is worthy of trust. The UKSA designated National Statistics status to the 2011 Census in NI following a formal assessment of compliance with the Code of Practice by the Office for Statistics Regulation⁴. This means that 2011 Census statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods; and,
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.

3.2. Independent decision making and leadership

Organisations should assign a Chief Statistician/Head of Profession for Statistics who upholds and advocates the standards of the Code, strives to improve statistics and data for the public good, and challenges their inappropriate use²⁸.

3.2.1 Siobhan Carey is the NISRA Chief Executive and Registrar General for NI²⁹. Siobhan was previously Chief Statistician and Head of Profession at the Department for Business, Energy and Industrial Strategy (BEIS) formerly known as the Department Business, Innovation and Skills (BIS) in London. She has worked in the Office for National Statistics and in the Central Statistics Office in Cork on social demographic, business and economic data. She was also previously the Chief Statistician in the Department for International Development. In 2017, Siobhan was awarded an Honorary CBE for services to government statistics. Siobhan has been Head of Profession for both the Government Statistical Service and the Government Social Research community.

3.2.2 The main responsibilities of the NISRA Chief Executive include:

- Strategic oversight of NISRA;
- Overseeing the system of civil registration in NI;

²⁷ <http://www.legislation.gov.uk/ukpga/2007/18/contents>

²⁸ <https://www.statisticsauthority.gov.uk/code-of-practice/the-code/trustworthiness/t2-independent-decision-making-and-leadership/>

²⁹ <https://www.nisra.gov.uk/profiles/siobhan-carey-cbe>

- Supporting NISRA statisticians and other officials in complying with the Code of Practice;
- Advising on the production, dissemination and use of statistics across government;
- Maintaining strong relationships with the statistical organisations in England-Wales and Scotland to facilitate harmonisation and coherence in UK-wide statistics; and
- Promoting and developing the professional competence and skills of NISRA statisticians.

3.2.3 The NISRA Chief Executive is a member of the UK Census Committee (UKCC), which aims to:

- Ensure that censuses are run in England & Wales, Scotland and Northern Ireland with a consistency of approach so as to meet requirements from users and as required by International and European obligations; and
- 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, especially in relation to commercial and procurement activities.

Membership of the UKCC enables NISRA to influence UK-level decision-making structures with regard to the census.

3.3. Orderly release

Organisations should commit to releasing their statistics in an open and transparent manner that promotes confidence³⁰.

3.3.1 NISRA plans for the release of statistical outputs from the 2021 Census have been outlined in detail to the public as part of the 2021 Census Outputs Strategy Consultation, which ran from October 2018 to January 2019¹²; a report on the findings together with recommendations will be published later in 2019. Dissemination of outputs will follow a pre-arranged timetable, with the aim of releasing population and household estimates by summer 2022 as part of the first phase of outputs, followed by all remaining pre-planned outputs by summer 2023. The intention is for the outputs to be published within a shorter timescale compared to the 2011 Census.

3.3.2 As part of the extensive quality assurance process, pre-release access to certain 2021 Census statistics may be granted to internal NISRA statisticians with expertise in topics such as demography, housing and the labour market. The aim of this measure would be to provide assurance that the outputs are of high quality and fit for purpose prior to public release.

³⁰ <https://www.statisticsauthority.gov.uk/code-of-practice/the-code/trustworthiness/t3-orderly-release/>

3.3.3 There is a planned single point of access to 2021 Census outputs through a dedicated website that meets the needs of users. Furthermore, NISRA is proposing the development of a flexible dissemination system, allowing users to create their own tables that have been appropriately protected from a statistical disclosure control perspective.

3.3.4 The published statistics from the 2021 Census will include detailed metadata along with quality and methodology documentation; contact information will also be provided that enables users to direct queries or seek further guidance from a relevant NISRA statistician.

3.4. Transparent processes and management

Organisations should have effective business processes and appropriate resources to support their statistical functions and be open about their plans, priorities and progress³¹.

3.4.1 NISRA has a dedicated Census Office that is equipped with the necessary personnel and financial and technological resources for the successful planning and delivery of the 2021 Census in NI. There are 12 teams within Census Office working collaboratively on the development and implementation of all elements of the census operation from data collection through to outputs production, namely:

- Project Management
- Business Support
- Stakeholder Engagement and Communications
- Census Security
- Data Collection Services
- Field Operations
- Census Design
- Census Content
- Census Data Processing
- Census Administrative Data
- Census Address Register
- Census Outputs

3.4.2 The key strategic objectives for the 2021 Census in NI are:

- to provide high quality, value-for-money, fit-for-purpose statistics that meet user needs, and which are consistent, comparable and accessible across the UK;
- to protect, and be seen to protect, confidential personal census information;

³¹ <https://www.statisticsauthority.gov.uk/code-of-practice/the-code/trustworthiness/t4-transparent-processes-and-management/>

- to deliver a high quality 2021 online census data collection operation;
- to maximise overall response rates and minimise differences in response rates in specific areas and among particular population groups;
- to secure public and user confidence in the final results and deliver them in a timely manner; and,
- to encourage wider use and exploration of census results to facilitate greater benefits from census outputs.

3.4.3 To ensure transparency and keep census users and the wider public informed, the *2021 Census Northern Ireland Proposals Document*, published by NISRA in April 2019³², sets out the proposals for the conduct of the 2021 Census and also describes plans leading to a full-scale census rehearsal in October 2019. The document outlines the:

- consultation, research and testing that has shaped the census design and content;
- population and topics to be covered;
- data collection methods;
- statistical data processing and outputs production;
- confidentiality, security and privacy measures; and
- the legislative process.

3.4.4 The 2021 Census in NI will be underpinned by a strategically planned data collection operation with the aim of maximising response and mitigating the impact of a scenario such as a lower than expected online response rate. Non-responding households will be encouraged to participate in the census through visits by field enumerators and reminder letters. Furthermore, all remaining non-responding households near the end of the data collection period will receive a paper questionnaire as a final measure to elicit a response.

3.4.5 In terms of being open about the census programme and process, the *Northern Ireland Census 2011 General Report*⁶ provided a detailed review of the previous census; it documents how the operation was planned and conducted successfully, identifies challenges encountered and how they were resolved, and sets out how lessons learned will feed into plans for the 2021 Census.

3.4.6 NISRA maintains strong working relationships and regularly meets with ONS, NRS and the Central Statistics Office (CSO), which facilitates knowledge sharing and collaboration to achieve common goals and produce coherent statistics for the UK and the island of Ireland. This includes participation in

³² <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/2021-census-northern-ireland-proposals-document.pdf>

working groups in areas such as field operations, outputs and dissemination, and UK harmonisation.

- 3.4.7 Regarding high-level oversight, NISRA is a member of the UKCC alongside NRS, ONS and the Welsh Government, which meets quarterly. An important purpose of the UKCC is to ensure that the censuses in the UK constituent countries are conducted with a consistency of approach that meets user requirements and satisfies international obligations.
- 3.4.8 Public engagement has provided useful feedback and intelligence that NISRA has incorporated in planning and development for the 2021 Census. During the period September to December 2015, NISRA carried out a consultation to assess demand for the inclusion of particular topics in the census³³. Three public information events were also held and the consultation was promoted via the NISRA website and social media channels. A total of 46 responses were received³⁴, which have helped to inform the selection of questions for inclusion on the questionnaire to be submitted for government approval. From October 2018 to January 2019, NISRA conducted a consultation on the Outputs Strategy for the 2021 Census, to gather the views of users on the proposed strategy for producing and disseminating census results¹²; this will ensure that the information needs of users are satisfied.
- 3.4.9 As part of their commitment to regular engagement with census users and the wider public, NISRA uses its social media channels of Twitter³⁵ and Facebook³⁶ along with the 'News' area of the 2021 Census section on the NISRA website³⁷ to regularly provide information on census-related developments and events. The NISRA YouTube channel³⁸ will also be used to publicise the 2021 Census.

3.5. Professional capability

People producing statistics should be appropriately skilled, trained and supported in their roles and professional development³⁹.

- 3.5.1 The NI Civil Service (NICS) seeks to ensure that its employees have the necessary skills and experience to help deliver quality services to the people of NI. Among the principles of the Recruitment Code of the Civil Service⁴⁰, are

³³ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/2021-census-topic-consultation-for-northern-ireland-document.pdf>

³⁴ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/2021-census-topic-consultation-assessment-of-the-responses-received.pdf>

³⁵ <https://twitter.com/NISRA>

³⁶ <https://www.facebook.com/nisra.gov.uk>

³⁷ <https://www.nisra.gov.uk/statistics/2021-census/news-and-events>

³⁸ <https://www.youtube.com/user/nisrastats>

³⁹ <https://www.statisticsauthority.gov.uk/code-of-practice/the-code/trustworthiness/t5-professional-capability/>

⁴⁰ https://irecruit-ext.hrconnect.nigov.net/resources/documents/n/i/c/nics-policy-and-procedures-manual-version-16---for-upload_140137.pdf

for appointments to be made on merit and in an open, accountable and transparent manner. The NICS Competency Framework (CSCF)⁴¹ is a key element of the NISRA recruitment process, setting out how employees should work and promoting the core values of honesty, integrity, objectivity and impartiality. The requirement for adherence to the competencies in the CSCF encourages NISRA personnel to act professionally, work collaboratively and behave responsibly.

- 3.5.2 The CSCF facilitates NISRA staff development by specifying the skills, knowledge and behaviours that lead to successful performance. As part of the annual performance management process, NISRA employees identify their development needs and are provided with the time and resources to attend training courses and develop their knowledge and skills base.
- 3.5.3 NISRA has a dedicated Staff Development Team, which assesses training requirements and organises relevant training courses to ensure staff are equipped to undertake their duties to a high standard. In addition, the NICS has a Centre for Applied Learning (CAL) that provides staff training in a wide range of topics, using a blended approach to meet learning needs in the most appropriate way, combining classroom training and online content. A recent CAL initiative is the introduction of the Learning Management System, which provide the functionality to deliver more innovative learning and development methods such as mobile, collaborative, social and self-directed learning.
- 3.5.4 Acknowledging the importance of secure data handling, all NISRA staff are required to complete associated online learning courses, namely 'Responsible for information', 'Managing information effectively' and 'Government security classifications'. Staff in NISRA working with census microdata have to abide by a suite of operating procedures in relation to data security.

3.6. Data governance

Organisations should look after people's information securely and manage data in ways that are consistent with relevant legislation and serve the public good⁴².

- 3.6.1 One of the strategic objectives of NISRA for the 2021 Census is to protect, and be seen to protect, confidential personal census information. This is essential to upholding the well-established reputation of maintaining confidentiality in the census. Public participation is central to the success of the census and it is therefore vital that the public are confident that their personal information is held securely and that it is solely used for statistical and research purposes. Usage of census information will comply fully with the

⁴¹ <https://irecruit-ext.hrconnect.nigov.net/resources/documents/n/i/c/nics-competency-framework-2014---framework-updated-april-2018.pdf>

⁴² <https://www.statisticsauthority.gov.uk/code-of-practice/the-code/trustworthiness/t6-data-governance/>

Census Act (Northern Ireland) 1969⁴³, which makes it a criminal offence to unlawfully disclose confidential census data, as well as the standards set out in the Code of Practice.

3.6.2 For the 2021 Census, NISRA will apply best practice in the management of data and data services, adhering to the following principles:

- Only certain staff will be granted access to personal census data on a 'need-to-see' basis;
- All persons working on the census will be security checked and required to sign undertakings binding in law, to ensure awareness of their statutory confidentiality obligations. They will also be given strict instructions and be liable to prosecution for any breaches of the law;
- The online data collection, storage and processing systems will be tested in accordance with the strictest of government standards;
- The computer systems handling census data will have strict technical and process safeguards to prevent unauthorised access;
- The security of personal census information will be strictly managed. All sites processing census data will have appropriate security arrangements in place, including perimeter and access controls;
- The preparation and dissemination of census statistical outputs will be subject to statistical modification to preserve confidentiality; and,
- All services and systems will comply with the government Security Policy Framework, including relevant technical and data transfer standards.

3.6.3 Staff employed by or providing census-related services to NISRA are bound by the confidentiality provisions of the Census (Confidentiality) (Northern Ireland) Order 1991⁴⁴, given the requirement to sign a Census Confidentiality Undertaking. Those staff responsible for processing of census microdata are subject to rigorous security checks by UK Security Vetting⁴⁵, from the standard Security Check as a minimum to the more thorough Developed Vetting in many instances. This requirement has been extended to all employees of suppliers and sub-contractors handling any personal census data. Temporary field staff will receive training on dealing with the public and secure handling of personal information they collect.

3.6.4 Census data will be managed in compliance with all data protection requirements specified by the Data Protection Act (2018)⁴⁶ and the EU General Data Protection Regulation⁴⁷, which regulate the collection, storage and use of personal information.

⁴³ <http://www.legislation.gov.uk/apni/1969/8>

⁴⁴ <http://www.legislation.gov.uk/nisi/1991/760/made>

⁴⁵ <https://www.gov.uk/guidance/security-vetting-and-clearance>

⁴⁶ <http://www.legislation.gov.uk/ukpga/2018/12/contents/enacted>

⁴⁷ <https://gdpr-info.eu/>

- 3.6.5 Each of the questions proposed for inclusion in the 2021 Census is fully compliant with the Human Rights Act 1998⁴⁸ and the rights it provides, including those in Article 8 relating to respect for private and family life. In addition, NISRA will publish a Privacy Notice and Data Protection Impact Assessment in advance of the 2021 Census.
- 3.6.6 Data from the 2021 Census in NI will be held under a set of official standards and safeguards put in place to ensure that the data remain secure. This includes control of physical access to any site or room where the data are kept and secure control of access to IT hardware and IT systems. NISRA will engage with key stakeholders such as the Information Commissioner's Office, ONS and Government Communications Headquarters regarding census security. All of the electronic communications links over which personal census information will be routed will be encrypted (scrambled) to recommended levels. An independent review of systems and procedures covering both internal systems and those of all contractors will also be commissioned.
- 3.6.7 The publication of statistical outputs from a census carries the risk that individuals or entities could be identified and personal information about them could be released. To protect the confidentiality of respondents in the 2021 Census, thereby maintaining the trust of the public and complying with legal and policy obligations, NISRA will apply statistical disclosure control (SDC) to ensure that statistical outputs provide as much value to users while protecting the confidentiality of information concerning individuals or entities. It is proposed that targeted record swapping will be the primary method employed by NISRA for SDC of 2021 Census outputs; this technique involves assessing individuals or households with rare or unique characteristics and swapping those at risk of identification with a similar individual or household from another area. NISRA propose to apply a further, post-tabular SDC method known as cell key perturbation to the planned flexible dissemination system. Other SDC measures will include minimum thresholds for population units in outputs; for example, key statistics from the 2011 Census had thresholds of 40 households and 100 persons. NISRA is working closely with ONS and NRS to harmonise the SDC approach for the 2021 Census across the three organisations.
- 3.6.8 NISRA provides census data for academic and government research purposes, primarily via the NI Longitudinal Study (NILS)⁷ and the Administrative Data Research Partnership (ADRP)⁸; the intention is to also provide 2021 Census data for these research initiatives. Researchers wishing to undertake projects using the NILS or ADRP are subject to a thorough approvals process, which entails scrutiny and consideration of proposals, an

⁴⁸ <http://www.legislation.gov.uk/ukpga/1998/42/contents>

application for approved researcher status, Baseline Personnel Security Standard clearance, and completion of safe researcher training. Further measures to reduce disclosure risk include the removal of identifying information such as name and date of birth from census microdata provided to researchers, the provision of data at high levels of geography only and the thorough examination of research outputs prior to approval for release.

4. Quality

Data and methods that produce assured statistics

4.1. Suitable data sources

Statistics should be based on the most appropriate data to meet intended uses. The impact of any data limitations for use should be assessed, minimised and explained⁴⁹.

- 4.1.1 A population census has been run periodically in Ireland/NI for two hundred years, with the first all-Ireland census in 1813⁵⁰; the last census in NI was held on 27 March 2011. The primary aim of any census is to provide an estimate of the size of the population⁵¹. Furthermore, the census provides unique information for monitoring small populations and supports service planning and delivery across NI. The scope and extent of the NI census has widened greatly over the last two centuries; now, the census provides detailed socio-economic statistics, is a major research tool and is used extensively by the Government, private sector and the public.
- 4.1.2 Today, NISRA makes much greater use of administrative data in the census and annual small area population estimates than ever before. NISRA has considered the evidence produced by the UK national statistics organisations along with its own research, which points to the conclusion that the 2021 Census in NI should be undertaken predominantly online, building on the approach that was successful in 2011¹⁸. NISRA recognises that special care will need to be taken to support those who are unable or unwilling to complete the census online. In addition, there will be increased use of administrative data and surveys to quality assure the statistics from the 2021 Census and improve annual statistics between censuses.
- 4.1.3 The methodology underlying the 2021 Census in NI is designed to produce statistics that are appropriate for intended uses. Chief among these uses are:
- provision of population statistics to determine the allocation of public funds, with examples including the Department of Health using these statistics to allocate around five billion pounds each year to ensure that health services cater for local demand;

⁴⁹ <https://www.statisticsauthority.gov.uk/code-of-practice/the-code/quality/q1-suitable-data-sources/>

⁵⁰ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/RG2011%5B1%5D.pdf>

⁵¹ http://unstats.un.org/unsd/demographic/sources/census/docs/P&R_%20Rev2.pdf

- provision of demographic statistics to inform the development of government policy; for example, census statistics underpin the official area-based measures of deprivation, thus identifying where policy needs to be targeted at to reduce the extent and severity of this social issue; and
- provision of data for social research and genealogy.

The commitment of NISRA to producing statistics from the 2021 Census in NI that meet user demand is reflected in one of the key strategic objectives, namely ‘to provide high quality, value-for-money, fit-for-purpose statistics that meet user needs, and which are consistent, comparable and accessible across the UK’.

- 4.1.4 The questions to be included in the 2021 Census questionnaire are based on definitions and concepts that will facilitate the production of fit-for-purpose statistics. Fundamental definitions for the census are usual resident, household and communal establishment. The former refers to anyone who, on census day, has stayed or intended to stay in the UK for a period of three months or more. The population base for the 2021 Census will be all persons at their place of usual residence, irrespective of whether they are present there on census day. A household is defined as one person living alone or a group of people (not necessarily related) living at the same address, who share a living room, sitting room or dining area. Finally, a communal establishment provides managed residential accommodation, using a threshold relating to the number of bed spaces; for the 2011 Census, a communal establishment was defined as having ten or more bed spaces.
- 4.1.5 The topics proposed for the 2021 Census have a strong and clearly defined user need, with the associated questions designed to produce reliable and accurate data without placing unnecessary burden on the public. NISRA’s first step in ensuring that the census collects the appropriate data was to conduct a public consultation from September to December 2015 to determine users views on topics proposed for inclusion and gather evidence to support the inclusion of particular topics³³. To maximise engagement with the consultation, it was issued to a wide range of key census users such as officials of government departments, relevant public bodies and local councils. The general public were made aware of the consultation and encouraged to respond via promotion on the NISRA website and through official social media channels; in addition, a number of public information events were held. The outcome of the consultation was detailed in a subsequent publication on NISRA’s assessment of the response received.
- 4.1.6 Further user engagement was undertaken during 2017 to supplement the information gathered from the topic consultation, including public acceptability and cognitive testing. The former provided a valuable insight on the acceptability of asking particular questions in the census, while the latter

identified the best local terminology to use for various census topics. In addition, NISRA established a number of topic expert groups comprising census users from government departments, public bodies and academia, which facilitated valuable dialogue on key topics such as housing, demography, migration, ethnicity, religion, health and education.

- 4.1.7 The potential impact of the inclusion of new questions in the 2021 Census has been and will continue to be tested by NISRA. For the proposed sexual orientation (SO) question, NISRA gathered valuable intelligence via a large-scale voluntary test in 2017⁵²; of specific interest was possible distortive effects on responses to the established religion questions, which provide data that are widely used and subject to much public scrutiny in NI. The findings from the test have helped to inform the appropriate location of the SO question in the 2021 Census questionnaire. Further detail is available in the SO topic report⁵³.
- 4.1.8 NISRA commissioned public acceptability testing of including a UK armed forces veterans question in the 2021 Census questionnaire. The question will be tested further in the 2019 Census Rehearsal, while research will continue on the feasibility of using administrative data to meet the user need. Further information on the research and testing conducted by NISRA on the potential to include a question on UK armed forces veterans in the 2021 Census is available in a topic report⁵⁴.
- 4.1.9 Various topics were proposed for inclusion in the 2021 Census via the associated consultation³³, but have not been included in the subsequent *2021 Census in Northern Ireland Proposals Document*³². The main contributory factors include insufficient user need and concerns around the quality of the collected information. Among the topics not included are income, well-being, technology use, and gender identity (GI). In terms of the latter, NISRA cited concerns about individual privacy in the context of a statutory census as well as potential issues around the public acceptability of a compulsory GI question⁵⁵. It also noted concerns about how well any GI question would work and the quality of the resulting data collected in a self-completion questionnaire. Therefore, in line with the Central Statistics Office in Ireland, NISRA will research and test a GI question through inclusion in regular voluntary annual household surveys.
- 4.1.10 The proposed questions for the 2021 Census in NI are detailed in the *2021 Census in Northern Ireland Proposals Document*³². Further testing and

⁵² <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/2017-census-test-report.pdf>

⁵³ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/sexual-orientation-topic-report.pdf>

⁵⁴ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/uk-armed-forces-veterans-topic-report.pdf>

⁵⁵ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/2021-census-topic-consultation-assessment-of-the-responses-received.pdf>

research is still planned for certain questions, while the 2019 Census Rehearsal may highlight the need for alteration to some of the questions; therefore, the 2021 Census question set will not be finalised until 2020.

- 4.1.11 The ability to conduct multivariate analysis is an essential requirement for census users, hence the commitment of NISRA to populating the 2021 Census questionnaire with the necessary range of topics to enable a wide variety of insightful analyses on NI society.
- 4.1.12 A key consideration in the design of the 2021 Census is comparison with previous censuses to enable investigation of trends and patterns in the data over time. A fundamental objective of the census is to obtain objective information about the demographic and socio-economic changes that have taken place in a country since the previous census, hence the requirement for consistent questions on topics such as age, sex, economic activity, health and household composition. Therefore, the 2021 Census questionnaire for NI will contain many of the questions from the 2011 Census, with some changes proposed in response to user demand and to reflect societal and technological changes since 2011.
- 4.1.13 The design of the online questionnaire has considered all of the ways that a respondent may wish to make their return. It takes account of good practice standards and guidance, is compatible with the most common web browsers and operating systems and is designed independently of the paper questionnaire to maximise online take up and data quality.
- 4.1.14 For the 2011 Census, NISRA published a set of guidance documents making users aware of potential differences when comparing statistics with those from the 2001 Census^{56,57}. A similar approach will be undertaken for the 2021 Census, which will help inform more meaningful comparisons with statistics from the 2011 Census.
- 4.1.15 The majority of census outputs are presented as statistical aggregates for particular areas, which are based on local government boundaries in NI. However, these boundaries have changed over time, thereby leading to difficulties when comparing statistics for geographical areas on a temporal basis. NISRA has addressed this issue by providing census statistics at consistent spatial units termed grid squares (100m and 1km grids) for every census since 1971; the associated disclosure risk is minimised by restricting the range of outputs available at grid square level. For the 2021 Census in NI, NISRA plans to release grid square statistics, which will facilitate comparability between consistent geographical areas over six censuses.

⁵⁶ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/comparability-census-questionnaires-between-2001-and-2011.pdf>

⁵⁷ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/comparability-census-outputs-between-2001-and-2011.pdf>

4.1.16 Harmonisation with the 2021 Census in Scotland and England-Wales is a further requirement to ensure that statistical outputs are largely comparable across the UK; where differences exist in aspects such as question format or population base, these will be identified and highlighted. NISRA continues to work closely with NRS and ONS in this regard. Standards in census-taking, implemented by the United Nations, will also be adhered to in the design of the 2021 Census in NI to satisfy the requirement of statistics for international comparisons.

4.1.17 In the *Future Provision of Census of Population Information for Northern Ireland* report⁵⁸, NISRA committed to make best use of administrative data in the design of the 2021 Census. This is reflected in the planned greater use of these secondary data sources to supplement data collection, processing and outputs in the 2021 Census, for example:

- enhancement of the Address Register by using activity indicators to assign occupied status to domestic addresses;
- provision of up-to-date data for the development of the Hard to Count index, a key tool for the coverage assessment process;
- supporting data processing elements such as data cleansing and edit and imputation;
- informing the creation of new small area output geographies; and
- provision of comparator sources for quality assurance of the census population estimates.

4.1.18 NISRA recognises the importance of quality assuring the administrative sources being used to support the 2021 Census. Among a suite of standard measures, this involves:

- conducting a range of quality checks on the administrative sources received from data suppliers;
- cleansing of the administrative data prior to processing, e.g. standardising variable formats;
- application of the Quality Assurance of Administrative Data (QAAD) approach developed by OSR; and
- providing feedback to data suppliers on the quality of the administrative sources they provide.

⁵⁸ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/the-future-provision-of-census-of-population-information-for-northern-ireland.pdf>

4.2. Sound methods

*Producers of statistics and data should use the best available methods and recognised standards, and be open about their decisions*⁵⁹.

- 4.2.1 As with previous censuses, the methods and processes underlying the 2021 Census in NI will be based on national and international good practice. NISRA has agreements with NRS and ONS⁶⁰, and also with the CSO⁶¹ to formalise collaboration; this mechanism will facilitate sharing of best practice, help produce consistent and comparable census outputs to meet domestic users' requirements, satisfy the UK's international obligations, and support the production of a joint 2021 Census statistics report for the island of Ireland.
- 4.2.2 NISRA is a member of the International Census Forum (ICF), a collaborative group of the main English-speaking, traditional census-taking countries internationally. This group has an annual meeting to exchange information on the latest census research, share best practices and explore opportunities for collaboration. The ICF also has a sequence of working groups that meet regularly, covering a wide range of areas including communications, field operations, testing, coverage and the use of administrative data.
- 4.2.3 NISRA is confident in the effectiveness of the methods being developed for the 2021 Census in NI. This involves the retention of methods that worked well in the successful 2011 Census, improvements in processes as recommended in the *Northern Ireland Census 2011 General Report*⁵, learning from international best practice, and the implementation of approaches that reflect the rapid developments in information technology and changes in the demographic and socio-economic structure of the NI population over the past decade.
- 4.2.4 Regarding data collection, NISRA is moving to primarily online response mode in line with the other main traditional census-taking countries. It is estimated that at least 60% of those who respond to the 2021 Census will use the online questionnaire. Accordingly, the public will be encouraged to complete the census online, while paper questionnaires will be delivered to a small proportion of households with certain characteristics considered to impact their ability to complete an online questionnaire, e.g. in areas with limited broadband connection. The scanning, capture and coding of data from the paper questionnaires in NI will be undertaken alongside those from England-Wales, using an outsourced supplier procured by ONS.

⁵⁹ <https://www.statisticsauthority.gov.uk/code-of-practice/the-code/quality/q2-sound-methods/>

⁶⁰

<http://www.ons.gov.uk/file?uri=/census/censustransformationprogramme/legislationandpolicy/thecond uctofthe2021censusintheukupdatenov16.pdf>

⁶¹ <https://www.nisra.gov.uk/publications/2021-census-consultative-arrangements>

- 4.2.5 The data loading stage will see the online responses merged with the captured and coded information from the paper questionnaires. Subsequent statistical processing of the raw data will be undertaken independently by NISRA for the first time; previously, ONS has processed NI census data. While NISRA will seek to maintain a harmonised approach with ONS and NRS in terms of data processing, they will have flexibility in the development of methods and will retain the knowledge gained by staff in carrying out the process.
- 4.2.6 Inevitably, some of the captured and coded information from the 2021 Census questionnaires will be affected by quality issues such as errors, inconsistencies, missing data and duplicate records. NISRA is developing its IT systems to securely handle large volumes of complex data as they pass through the processing stages of data cleaning, edit and imputation, and coverage assessment and adjustment. These are fundamental elements in the transformation of census data from raw format to a consistent and complete dataset for analysis and statistical output production. NISRA will employ established methods for processing of 2021 Census data, enhanced by innovative techniques where appropriate and validated.
- 4.2.7 Data cleaning will identify and resolve false and duplicate census records and ensure that no systematic errors have been introduced during data capture and coding. NISRA is proposing the use of administrative data to supplement data cleaning, e.g. in reconciling multiple responses and informing the selection of a valid response.
- 4.2.8 After cleaning, the census data will pass to the edit and imputation stage. While the move to primarily online response mode will improve the quality of the collected data via validation and error checking functions underlying the online questionnaire, the paper questionnaires in particular will be affected by issues such as missing, invalid and inconsistent responses. Pre-defined filter and edit rules will resolve certain errors and inconsistencies or identify records for subsequent statistical imputation. For this stage, NISRA will employ a specialist application called CANCEIS (Canadian Census Edit and Imputation System), a system developed by Statistics Canada for editing and imputation of census data based on nearest-neighbour donor imputation methodology. This technique involves the replacement of a missing or inconsistent value in a record with a value extracted from a donor record that is similar to the recipient with respect to certain characteristics. CANCEIS has been used successfully for edit and imputation of censuses in the UK⁶² and internationally⁶³. ONS and NRS also plan to use this application for edit and

⁶² <https://www.ons.gov.uk/ons/guide-method/census/2011/how-our-census-works/how-did-we-do-in-2011-/evaluation---item-edit-and-imputation.pdf>

⁶³

https://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.44/2014/mtg1/Topic_4_Canada_Guertin.pdf

imputation in 2021 and all three organisations are working closely on the methodology and approach.

- 4.2.9 Although every effort will be made to enumerate the entire population in NI's 2021 Census, it is inevitable that some households and persons will be missed. As with previous censuses and in line with best practice internationally, the 2021 Census will include a coverage assessment process to estimate and adjust for undercount. This process will be underpinned by a large-scale, post-enumeration survey called the Census Coverage Survey (CCS). Estimates of the total population will involve accurate record matching between the census and CCS to provide the necessary data for dual system estimation, a recognised technique for census coverage estimation. Finally, the persons and households estimated to have been missed will be added to the census database, with edit and imputation applied to fully populate these records with appropriate characteristics. For the 2011 Census, NISRA designed and implemented the Census Under Enumeration (CUE) project to enhance coverage assessment; this involved the use of an administrative data source to provide information on a subset of households that did not respond to the census. For the 2021 Census, NISRA is proposing to use administrative data to a greater extent in informing coverage assessment.
- 4.2.10 NISRA participates in and contributes to topic working groups to keep informed of best practice and methodological developments relating to statistical processing of 2021 Census data. The areas in question are edit and imputation, and coverage estimation and adjustment. Both working groups have an international perspective, including participants from national statistical organisations in the UK, Ireland, Australia, New Zealand, United States and Canada.
- 4.2.11 The statistical outputs from the 2021 Census will be disseminated to a pre-arranged timetable and will be safe, and be seen to be safe, in terms of maintaining confidentiality of information held about individuals and households. NISRA is considering the development of a flexible dissemination system that allows users to customise output tables according to their specific requirements, with statistical disclosure control methodology incorporated to protect against disclosure. Outputs will be made available for a range of geographies, to be informed in part by user feedback from a public consultation¹². The options are to largely retain the administrative and statistical geographies used in both the 2001 and 2011 Censuses or, alternatively, to produce outputs for a new small area statistical geography consistent with the revision of local government boundaries in 2015. The continued provision of grid square data from the 2021 Census will facilitate comparability with previous censuses. NISRA will continue to work with the user community and research options for meeting user need without increasing disclosure risk.

4.2.12 Outputs from the 2021 Census will be accompanied by detailed metadata, outlining the disclosure control approach and methods applied to address the issues of under-enumeration and missing/inconsistent data. The population and household estimates at NI- and LGD-level will be accompanied by 95 per cent confidence intervals to provide users with a measure of the uncertainty around the data. As with the 2011 Census, NISRA will produce a quality assurance report to demonstrate the work undertaken to ensure the 2021 Census population estimates are high quality, fit-for-purpose and meet the needs of users; this will include item imputation rates for individual and household questions and response rates at different geographies.

4.3. Assured quality

Producers of statistics and data should explain clearly how they assure themselves that statistics and data are accurate, reliable, coherent and timely⁶⁴.

4.3.1 A main deliverable for NISRA from the 2021 Census is high quality, fit-for-purpose outputs that meet the needs of users. A fundamental tool for the achievement of this deliverable will be a rigorous quality assurance process.

4.3.2 Quality assurance will underpin various elements of the 2021 Census process, mainly to assure the data processing system, the population estimates and the wider outputs. The approach will build upon that employed for the 2011 Census, details of which are covered in *Quality Assurance of the 2011 Census in Northern Ireland*⁶⁵ and the *Northern Ireland Census 2011 Quality Assurance Report*⁶⁶. For the 2021 Census, NISRA will publish similar documents to ensure their quality assurance process is transparent and fully understood by users.

4.3.3 Given the complexity and scale of the 2021 Census operation from data collection through to processing and output production, there is considerable scope for issues to arise that affect quality; therefore, quality control measures will be central to all aspects of the design and methodology. NISRA will seek to ensure that all elements of the 2021 Census operation are implemented successfully, with quality control initiatives identifying any issues that need to be addressed and resolved.

4.3.4 Online data collection offers a number of advantages in terms of improving data quality and therefore reducing the extent of data cleaning required during initial processing. The online questionnaire will incorporate question validation, which will assist users in correctly responding to questions, user-

⁶⁴ <https://www.statisticsauthority.gov.uk/code-of-practice/the-code/quality/q3-assured-quality/>

⁶⁵ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/2011-census-quality-assurance-report.pdf>

⁶⁶ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/2011-census-quality-assurance-strategy.pdf>

optimised indexes are likely to be employed, which present potential question responses to users as they provide their responses all of which will improve the quality of the data collected online.

- 4.3.5 An important element of the quality assurance work will be assessing the extent to which census estimates vary from those derived from alternative sources and ensuring that the difference is understood, plausible and can be explained to users. For the 2021 Census, NISRA will use individual and linked administrative sources as comparator data offering high population coverage, against which to compare the census estimates.
- 4.3.6 While quality assurance arrangements will be thorough in the production of all 2021 Census estimates, they will be especially stringent for the age-sex and household estimates. These are key headline statistics and are important from a public perspective as they inform resource allocation and service planning by government.
- 4.3.7 For the 2011 Census, NISRA established three levels of review to sign-off the population estimates and recommend the data as fit for release. These consisted of the Census Quality Assurance team, the Demographic Policy Board consisting of both Census and NISRA's demography leads and an Expert Quality Assurance Panel including additional topic experts from across NISRA and the Census Advisory Group. A similar approach involving a series of review panels will be employed for quality assurance and sign-off of population estimates from the 2021 Census.
- 4.3.8 Further quality assurance for the 2021 Census in NI will involve the Census Quality Survey (CQS). This small-scale voluntary survey was conducted shortly after the 2011 Census, involving a random sample of households that had previously responded to the census⁶⁷. The CQS provided insight into the overall quality of the information being reported through the census by asking participants the full set of census questions, with their responses matched to, and compared with, those provided in the census.
- 4.3.9 As with the 2011 Census, NISRA will develop a revisions and correction policy for the 2021 Census⁶⁸. This will ensure that revisions to its published census statistics are accurate, robust and freely available and that they are accompanied by detailed supporting and explanatory information.

⁶⁷ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/2011-census-quality-survey.pdf>

⁶⁸ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/2011-census-revisions-and-corrections-policy.pdf>

5. Value

Statistics that support society's needs for information

5.1. Relevance to users

Users of statistics and data should be at the centre of statistical production; their needs should be understood, their views sought and acted upon, and their use of statistics supported⁶⁹.

- 5.1.1 The delivery of the census in NI has been characterised by engagement with key users and the wider public to ensure that resultant outputs meet their requirements and are fit-for-purpose to inform decision making, resource allocation, and service planning and delivery. User engagement was frequent throughout development and delivery of the 2011 Census, and continued during output dissemination; the same approach has been and will continue to be undertaken for the 2021 Census.
- 5.1.2 NISRA routinely obtains guidance from three bodies comprising census users from the public, political, commercial, academic, and voluntary and community sectors, namely the Demographic Statistics Advisory Group⁷⁰, the Statistics Advisory Committee and the Statistics Co-ordinating Group. Furthermore, NISRA established a number of topic expert groups in areas such as housing, health and education to inform development of the 2021 Census questions. To date, NISRA has held two public consultations on topics to be included³³ and the proposed strategy for producing and disseminating 2021 Census results¹².
- 5.1.3 NISRA is proposing to include a number of new questions in the 2021 Census in NI to produce statistics to meet information gaps identified by users, specifically a household question on renewable energy systems and individual questions on sexual orientation and past service in the UK armed forces. In addition, some questions from the 2011 Census have been proposed for amendment, while others have been discontinued on the basis of low user demand or availability of information in alternative sources such as administrative data; details are provided in the *2021 Census Northern Ireland Proposals Document*³².
- 5.1.4 At an appropriate time following the 2021 Census, NISRA will conduct a Census User Satisfaction Survey (CUSS) to assess the overall quality of the delivery and dissemination of the outputs. It will be similar to the CUSS carried out after the 2011 Census⁷¹, aiming to gain feedback from users on their use of the outputs, how well they felt the release of outputs was publicised,

⁶⁹ <https://www.statisticsauthority.gov.uk/code-of-practice/the-code/value/v1-relevance-to-users/>

⁷⁰ <https://www.nisra.gov.uk/statistics/2021-census/planning/consultation/demographic-statistics-advisory-group>

⁷¹ <https://www.nisra.gov.uk/publications/2011-census-user-satisfaction-survey-summary-report>

accessibility, overall level of satisfaction and suggestions for future outputs and dissemination. This information will provide NISRA with a valuable insight into user satisfaction with the relevance, usefulness and accessibility of 2021 Census statistics.

- 5.1.5 In terms of maintaining and refreshing its understanding of the use of census statistics, NISRA conducted and published in 2018 the findings from a benefits realisation exercise for the 2011 Census⁷². Among the objectives of this work was to provide further insight into the diverse nature of key census users, better understand the impact of census outputs in informing the decisions of key users, and enhance the user experience in the 2021 Census in NI. The information sources were the CUSS, interviews with senior NISRA statisticians, a self-completion survey issued to key users and a focus group involving Demographic Statistics Advisory Group members. Successes of the 2011 Census and areas for improvement were identified, which will benefit 2021 Census users.

5.2. Accessibility

Statistics and data should be equally available to all, not given to some people before others. They should be published at a sufficient level of detail and remain publicly available⁷³.

- 5.2.1 There will be free and equal access to statistical outputs from the 2021 Census in NI, provided through a dedicated website offering a single point of access. The outputs will be made publicly available according to a pre-announced release schedule and will meet the standards required by the Code of Practice².
- 5.2.2 NISRA ran a public consultation from October 2018 to January 2019, seeking feedback on the proposed design of 2021 Census outputs and the way statistics will be made available to census users¹².
- 5.2.3 A key principle of the strategy is that outputs will be easily accessible in a variety of formats, thereby catering for the needs of different types of users. Proposed statistical outputs include a flexible dissemination system allowing users to customise tables for their specific needs, a number of headline pre-planned tables, commentary and analysis in statistical bulletins and press releases, and short stories and infographics that focus on particular population characteristics and sub-groups.
- 5.2.4 Outputs from the 2011 Census were released via the Northern Ireland Neighbourhood Information Service (NINIS)⁷⁴, which follows the Worldwide

⁷² <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/2011-census-benefits-realisation-report.pdf>

⁷³ <https://www.statisticsauthority.gov.uk/code-of-practice/the-code/value/v2-accessibility/>

⁷⁴ <https://www.ninis2.nisra.gov.uk/public/Home.aspx>

Web Consortium's Web Content Accessibility guidelines. The website's layout caters for users who are blind or visually impaired and is fully compatible with popular screen reading software. In addition, free software can be downloaded that enables links and documents in various formats to be opened. The dedicated web platform to be used by NISRA for the release of 2021 Census outputs and supporting metadata will include the same accessibility features as a minimum, thereby catering for the needs of people with disabilities.

- 5.2.5 NISRA aims to meet census users' requirements for statistical outputs to be made available at various levels of geography, subject to the overriding requirement to protect data confidentiality. Statistics on small population sub-groups at low levels of geography are one of the most valued census outputs as no other publicly available data source provides a comparable level of detail. Census outputs for NI have traditionally been based on LGDs and electoral wards. For the 2011 Census, a new Small Area geography replaced Output Areas, with an average population size of 155 households and 400 people, which provides users with outputs at fine geographic detail. Outputs from the 2021 Census will be available for a similar low-level geography, with feedback from the Outputs Strategy Consultation¹² informing the choice of retaining the existing Small Areas or developing a new small area statistical geography consistent with the 2015 revision of local government boundaries.
- 5.2.6 The planned Grid Square Product for 2021 Census outputs is further evidence of NISRA's commitment to providing statistics at the greatest level of detail that is practicable to meet user needs.
- 5.2.7 For the 2011 Census, NISRA offered a commissioned output service that provided users with additional tables not included in standard publications⁷⁵. Guidance on using the service is clearly signposted in the 2011 Census section of the NISRA website, which provides users with a lookup to check if data of interest is available in standard results or previously commissioned tables, a timescale for response, and NISRA's method of prioritising requests. A price list for commissioned tables is also publicly available, showing the different costs according to the length of time it takes to produce the requested table(s). Although the proposed dissemination approach for 2021 Census outputs includes a flexible table builder allowing users to customise their own outputs, there will still be a demand for bespoke outputs from NISRA; therefore, a similar service to the aforementioned will be provided.
- 5.2.8 Statistics and reports from previous censuses in NI continue to be publicly available. The NINIS website provides access to a comprehensive range of data from the 2001 and 2011 Censuses. In addition, reports are available for

⁷⁵ <https://www.nisra.gov.uk/publications/census-commissioned-output>

the NI census back to 1926 and for the All-Ireland Census back to 1821, which are a hugely valuable and informative resource.

5.3. Clarity and insight

Statistics and data should be presented clearly, explained meaningfully and provide authoritative insights that serve the public good⁷⁶.

- 5.3.1 A key strategic objective for the 2021 Census in NI is to provide high quality, value for money and fit for purpose statistics that meet user need, which will be consistent in format and content, and comparable across the UK as far as is possible in accordance with published timetables.
- 5.3.2 Given the need to deliver UK outputs, the Registrars General for NI and Scotland and the National Statistician have signed an agreement on the conduct of the 2021 Census²⁰; this includes the production and dissemination of key harmonised statistics. An approach currently being considered is to provide a single point of access for harmonised results for areas across the UK where the data collected is consistent across the three census offices. In addition, NISRA will work with CSO to produce an Ireland – NI 2021 Census report, similar to that published following the 2011 Census⁷⁷. Both of these initiatives will provide a comprehensive and coherent narrative for 2021 Census outputs for the UK and island of Ireland.
- 5.3.3 NISRA aims to produce 2021 Census outputs using recognised international- or UK-based classifications such as Standard Industrial Classification of Economic Activities, Standard Occupational Classification and National Statistics Socio-Economic Classification. This will support appropriate interpretation of the statistics, including within the UK and internationally.
- 5.3.4 Commentary and analysis will accompany key statistics from the 2021 Census in accordance with the Code of Practice², providing a clear description of the main statistical messages and explaining their relevance and meaning in a way that is not materially misleading. The statistics will be illustrated by appropriate data visualisations, mainly charts, tables and maps.
- 5.3.5 A further proposed dissemination approach is to create short stories and infographics to highlight the key findings of 2021 Census outputs. These formats will facilitate quick and clear interpretation of outputs, and will appeal to many potential users.
- 5.3.6 All outputs from the 2021 Census will be accompanied by comprehensive metadata. This will facilitate understanding of the information by describing

⁷⁶ <https://www.statisticsauthority.gov.uk/code-of-practice/the-code/value/v3-clarity-and-insight/>

⁷⁷ <https://www.cso.ie/en/media/csoie/census/documents/north-south-spreadsheets/Census2011IrelandandNorthernIrelandwebversion1.pdf>

features such as disclosure control methods and data quality issues such as under-coverage and edit and imputation.

- 5.3.7 For the 2011 Census, NISRA organised a number of public information events around dissemination of key outputs. Senior statisticians presented the statistics publicly and engaged with attendees to enhance understanding and interpretation. Similar public engagement events will be organised as part of the dissemination of outputs from the 2021 Census.
- 5.3.8 NISRA published a range of guidance and comparability documents to support the interpretation of statistics from the 2011 Census. These included an overview of the differences between the questions asked in the 2001 and 2011 Censuses and how this affects the comparison of outputs⁷⁸, comparability between 2001 and 2011 Census outputs at small geographic areas⁷⁹, and analysis of the religion question in the aforementioned censuses⁸⁰. Similar guidance documentation will be published alongside the statistical outputs from the 2021 Census.

5.4. Innovation and improvement

Statistics producers should be creative and motivated to improve statistics and data, recognising the potential to harness technological advances for the development of all parts of the production and dissemination process⁸¹.

- 5.4.1 The response mode for the 2021 Census in NI will be primarily online, which is a natural development from the traditional paper-based census, a response to the rapid changes in society and technology, and in line with the approach implemented by the main census-taking countries in the recent international census round.
- 5.4.2 Online data collection offers a number of advantages in terms of improving data quality, thereby reducing the extent of data cleaning required during initial processing. The online questionnaire will incorporate question validation, which will assist users in correctly responding to questions. Furthermore, user-optimised indexes are likely to be employed, which present potential question responses to users as they provide their responses online. These innovations will be refined via further testing and intelligence gained from the 2019 Census Rehearsal. Research is ongoing to identify any potential negative impacts

⁷⁸ <https://www.nisra.gov.uk/publications/comparability-census-northern-ireland-between-2001-and-2011>

⁷⁹ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/comparison-census-outputs-from-2001-and-2011-for-geographic-areas.pdf>

⁸⁰ <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/background-to-the-religion-and-religion-brought-up-in-questions-in-the-census-and-their-analysis-in-2001-and-2011.pdf>

⁸¹ <https://www.statisticsauthority.gov.uk/code-of-practice/the-code/value/v4-innovation-and-improvement/>

from the move to a predominantly online census, which will shape the final design of the online questionnaire.

- 5.4.3 NISRA keeps up to date with developments to improve census statistics and data via engagement and collaboration with other traditional census-taking countries. There is a strong working relationship with ONS on the planning and development of shared services for the 2021 Census operation. A number of working groups have been established with ONS and NRS, focusing on specific elements of the 2021 Census such as the field operation and data processing; these facilitate sharing of best practice and technical expertise that benefits each participating organisation. International working groups on edit and imputation and coverage assessment enable NISRA to keep up to date on developments and innovations in these areas in other countries including Canada, Australia and New Zealand. In addition, NISRA attends the annual International Census Forum along with national statistical organisations from the other English-speaking countries that undertake a traditional census, which is another platform for learning and development.
- 5.4.4 The publication of the *2021 Census Northern Ireland Proposals Document*⁸² is a key milestone and demonstrates NISRA's transparency in terms of communicating to users and the wider public their plans for the 2021 Census.
- 5.4.5 NISRA demonstrates a strong commitment to involving users in development of the 2021 Census, particularly regarding questionnaire content and outputs dissemination. For both of these elements, a public consultation was conducted to gather user feedback^{33,12}, which has informed subsequent planning and development.
- 5.4.6 Recent years have seen an increasing use of administrative data to support the production of official statistics; NISRA is proposing to implement this approach for the 2021 Census as it has potential to improve methods and data quality. Proposed innovative uses of administrative data include intelligence to enhance the Address Register, an enhanced version of the Census Under Enumeration Project from 2011 to augment traditional coverage assessment, and linking of sources to create a robust comparator against which to quality assure 2021 Census population estimates⁸². NISRA continues to assess the added value of incorporating administrative data in the 2021 Census process, with the 2019 Census Rehearsal an important learning opportunity in this regard.
- 5.4.7 In terms of engaging users, potential users and other stakeholders for the 2021 Census, social media will have a central role. Relative to 2011, the use, reach and influence of social media has increased substantially; therefore, NISRA will avail of this communication channel, primarily via their official

⁸² <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/use-of-administrative-data-for-2021-census.pdf>

Twitter³⁵ and Facebook³⁶ pages, to publicise and promote engagement with the 2021 Census throughout its lifecycle.

5.5. Efficiency and proportionality

Statistics and data should be published in forms that enable their reuse. Producers should use existing data wherever possible and only ask for more where justified⁸³.

- 5.5.1 Following the 2011 Census in the UK, each of the national statistical organisations reviewed the future provision of population statistics and the options for the 2021 Census. The Beyond 2011 programme at ONS examined and compared various approaches to counting the population and identified the use and re-use of administrative data supplemented by household surveys as an alternative to a conventional census. The approach ultimately accepted by the UK government was for a primarily online census in 2021 with increased use of administrative data to enhance statistics from the census⁸⁴; NISRA considered the evidence base and concluded that a modernised census was the best approach¹⁸. The need for population attribute statistics and the granularity of census data that to date has not been evident in administrative data underpinned the decision to proceed with a conventional Census in 2021.
- 5.5.2 The topics proposed for the 2021 Census in NI are those that have a strong and clearly defined user need and can be expected to produce reliable and accurate data without undue burden on the public. Among the evaluation criteria used by NISRA for the selection of proposed topics was the suitability of alternative sources; the 2021 Census will only collect information that is unavailable in other sources at the required level of detail.
- 5.5.3 The suitability of existing data has influenced the selection of topics for inclusion in the 2021 Census in NI. Research conducted by NISRA following the 2011 Census showed that administrative data maintained by Land and Property Services could provide information on the number of rooms available for use by households at the required quality level. Consequently, this question has not been retained for the 2021 Census.
- 5.5.4 Data sharing and data linkage are key features on the 2021 Census process in NI. NISRA has identified a range of administrative sources with potential to enhance the census process; data sharing arrangements exist for some of these sources via gateways established for the NILS and ADRN, while access to others is being sought from government departments and public bodies. A number of uses have been proposed for linked administrative data in

⁸³ <https://www.statisticsauthority.gov.uk/code-of-practice/the-code/value/v5-efficiency-and-proportionality/>

⁸⁴ https://www.statisticsauthority.gov.uk/wp-content/uploads/2015/12/letterfromrthonfrancismaudemptosirandrewdilnot18071_tcm97-43946.pdf

supporting and enhancing the 2021 Census, some of which are outlined in section 1.16 of Principle Q1.

- 5.5.5 While there is a statutory requirement for households to provide a census return, NISRA will make every effort to encourage participation in the 2021 Census in NI. The data collection operation will be designed to maximise the response rate through features such as the provision of paper questionnaires to households with characteristics indicative of digital exclusion, a large-scale publicity campaign to help people engage with the census, and targeting of reminder letters and enumerator visits to non-responding households.
- 5.5.6 The online questionnaire will incorporate question validation and user-optimised indexes are likely to be employed, which present potential question responses to users as they provide their responses. This will improve the quality and lessen the burden on the users in terms of time taken to complete their questionnaire online.