

# Assessment of compliance with the Code of Practice for Official Statistics

## Special assessment of the 2011 Censuses in the UK: Phase 2

*(produced by the Office for National  
Statistics, the General Register Office for  
Scotland and the Northern Ireland Statistics  
and Research Agency)*

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### **About the UK Statistics Authority**

The UK Statistics Authority is an independent body operating at arm's length from government as a non-ministerial department, directly accountable to Parliament. It was established on 1 April 2008 by the *Statistics and Registration Service Act 2007*.

The Authority's overall objective is to promote and safeguard the production and publication of official statistics that serve the public good. It is also required to promote and safeguard the quality and comprehensiveness of official statistics, and good practice in relation to official statistics.

The Statistics Authority has two main functions:

1. oversight of the Office for National Statistics (ONS) – the executive Office of the Authority;
2. independent scrutiny (monitoring and assessment) of all official statistics produced in the UK.

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# **Special assessment of the 2011 Censuses in the UK: Phase 2**

*(produced by the Office for National Statistics, the General Register Office for Scotland and the Northern Ireland Statistics and Research Agency)*

## ASSESSMENT AND DESIGNATION

The *Statistics and Registration Service Act 2007* gives the UK Statistics Authority a statutory power to assess sets of statistics against the *Code of Practice for Official Statistics*.

Assessment will determine whether it is appropriate for the statistics to be designated as National Statistics.

Designation as National Statistics means that the statistics comply with the *Code of Practice*. The *Code* is wide-ranging. Designation can be interpreted to mean that the statistics: meet identified user needs; are produced, managed and disseminated to high standards; and are explained well.

Designation as National Statistics should not be interpreted to mean that the statistics are always correct. For example, whilst the *Code* requires statistics to be produced to a level of accuracy that meets users' needs, it also recognises that errors can occur – in which case it requires them to be corrected and publicised.

Assessment Reports will not normally comment further on a set of statistics, for example on their validity as social or economic measures. However, Reports may point to such questions if the Authority believes that further research would be desirable.

Assessment Reports typically provide an overview of any noteworthy features of the methods used to produce the statistics, and will highlight substantial concerns about quality. Assessment Reports also describe aspects of the ways in which the producer addresses the 'sound methods and assured quality' principle of the *Code*, but do not themselves constitute a review of the methods used to produce the statistics. However the *Code* requires producers to "seek to achieve continuous improvement in statistical processes by, for example, undertaking regular reviews".

The Authority may grant designation on condition that the producer body takes steps, within a stated timeframe, to fully meet the *Code's* requirements. This is to avoid public confusion and does not reduce the obligation to comply with the *Code*.

The Authority grants designation on the basis of three main sources of information:

- i. factual evidence and assurances by senior statisticians in the producer body;
- ii. the views of users who we contact, or who contact us, and;
- iii. our own review activity.

Should further information come to light subsequently which changes the Authority's analysis, it may withdraw the Assessment Report and revise it as necessary.

It is a statutory requirement on the producer body to ensure that it continues to produce the set of statistics designated as National Statistics in compliance with the *Code of Practice*.

# Contents

Section 1: Summary of findings

Section 2: Subject of the assessment

Section 3: Assessment findings

Annex 1: Suggestions for improvement

Annex 2: Summary of the assessment process and user views

# 1 Summary of findings

## 1.1 Introduction

1.1.1 The population Census is the largest and most high-profile statistical operation conducted in the UK. Separate censuses are carried out in England and Wales<sup>1</sup> (by the Office for National Statistics, ONS), Scotland (by the General Register Office for Scotland<sup>2</sup>, GROS) and Northern Ireland (by the Northern Ireland Statistics and Research Agency, NISRA). In this report we generally refer to ‘the Census’ to include the three separate censuses. We also refer to ONS, GROS and NISRA collectively as ‘the Census Offices’.

1.1.2 This is one of a series of reports<sup>3</sup> prepared under the provisions of the *Statistics and Registration Service Act 2007*<sup>4</sup> which requires the Statistics Authority to re-assess all statistics currently designated as National Statistics against the *Code of Practice for Official Statistics*<sup>5</sup>. These include the 2001 Census results, and we regard this special assessment as fulfilling our obligation in that respect. The outputs from the 2011 Census are likely to be broadly similar in nature to, but further developed from, those in 2001. These included UK-wide estimates of population and housing, geographical and population breakdowns, and research reports on a variety of topics. We understand that there were around 140 primary tabular reports produced from the 2001 Census, as well as many more bespoke outputs, analytical reports and articles.

1.1.3 The Authority is carrying out its special assessment of the 2011 Census in three phases:

- The first phase, which was carried out between October 2009 and January 2010, assessed compliance with the *Code* for those areas where the planning for 2011 was essentially complete at the end of 2009. The Authority published the Assessment report from this phase in March 2010<sup>6</sup>.
- The second phase – which this report covers – assessed compliance with most of the remaining *Code* practices, in particular plans for developing and disseminating 2011 Census outputs.
- The third phase will be carried out after the first Census outputs have been published, and will involve an assessment of these outputs in light of users’ views. The producers plan to publish the first Census outputs in

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<sup>1</sup> ONS is responsible for conducting the Census in England and Wales but the Welsh Assembly Government will also publish Census results, focusing on the key trends for Wales. The Welsh Assembly Government informed us that these outputs will be supported by similar documentation on quality assurance and statistical disclosure control as that provided by ONS

<sup>2</sup> On 1 April 2011 GROS merged with the National Archives of Scotland to form a new body, the National Records of Scotland (NRS): <http://www.scotland.gov.uk/News/Releases/2011/03/10144001>. In this report we refer to GROS as it was responsible for planning the 2011 Census in Scotland

<sup>3</sup> <http://www.statisticsauthority.gov.uk/assessment/assessment-reports/index.html>

<sup>4</sup> [http://www.opsi.gov.uk/Acts/acts2007/pdf/ukpga\\_20070018\\_en.pdf](http://www.opsi.gov.uk/Acts/acts2007/pdf/ukpga_20070018_en.pdf)

<sup>5</sup> <http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html>

<sup>6</sup> <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/assessment-report-28---census-phase-1--8-march-2010.pdf>

July 2012; this date will be firmed up in output schedules that the Census Offices will publish in advance of the outputs. The Authority expects to publish an Assessment report on these outputs by mid-2013.

- 1.1.4 This report was prepared by the Authority's Assessment team, and approved by the Board of the Statistics Authority on the advice of the Head of Assessment.

## **1.2 Decision concerning designation as National Statistics**

- 1.2.1 The Statistics Authority judges that the statistics covered by this report will be readily accessible, produced according to sound methods and managed impartially and objectively in the public interest, subject to any points for action in this report. The Statistics Authority has determined that the 2011 Census outputs may be designated as National Statistics, subject to ONS, GROS and NISRA implementing the enhancements listed in section 1.5 and reporting them to the Authority by January 2012.

## **1.3 Summary of strengths and weaknesses**

- 1.3.1 The Census Offices have engaged with a wide range of users and have carried out extensive consultation – including formal web-based consultations, roadshows and regular meetings with advisory groups – to investigate users' requirements for the main statistical outputs from the 2011 Census. The Census Offices provided a range of guidance material for users to inform their responses to consultations and have published some information about the outcomes of consultations on their respective websites. However, there may be scope to publish feedback in a more consistent and timely way and to publish more information about the work of the various advisory and working groups. The Census Offices have published information about the uses of Census results, including practical examples of how Census results can be used.
- 1.3.2 The Census Offices have developed strategies for assuring the quality of estimates from the 2011 Census, working with local authorities and other users to ensure that suitable local data sources are used in the quality assurance (QA) process. This work has been well documented and the Census Offices have published a range of information on their respective websites. However, there is scope for the Census Offices to provide clearer information about how the QA process will be carried out in practice, who will be involved at each stage and what the roles of participants will be. ONS commissioned an independent review of its QA process which provided assurance that the planned methods would produce reliable population estimates. The findings from the review also apply to the Censuses in Scotland and Northern Ireland as QA will be harmonised as far as possible across the UK countries.
- 1.3.3 The Census Offices have worked together to ensure the confidentiality of the data gathered and compiled from the 2011 Census, and an independent review provided assurance about the Census Offices' approaches for ensuring the physical and technical security of the data. The Census Offices have also

agreed a harmonised statistical disclosure control<sup>7</sup> (SDC) methodology and have taken on lessons learned following the 2001 Census in designing these methods. It is important that the Census Offices adequately explain SDC methods to users, particularly non-expert users.

1.3.4 The Census Offices are currently planning the types of outputs and dissemination tools for 2011 Census statistics – this work is still in development but it appears as though the Census Offices are being responsive to users' requirements. The Census Offices have consulted extensively about the tables to be produced and levels of output geography, and plan to consult further about users' needs for commentary and analysis of the Census results. The Census Offices have agreed to develop a database pulling together data from all three Censuses in order to be able to produce some UK-specific outputs.

## 1.4 Detailed recommendations

1.4.1 The Assessment team identified some areas where it felt that ONS, GROS and NISRA could strengthen their compliance with the *Code*. Those which the Assessment team considers essential to enable designation as National Statistics are listed in section 1.5. Other suggestions, which would improve the statistics and the service provided to users but which are not formally required for their designation, are listed at annex 1.

## 1.5 Requirements for designation as National Statistics

<b>Requirement 1</b>	Publish information about the outcomes from user consultations in a timely manner and explain clearly their decisions based on these consultations (para 3.3).
<b>Requirement 2</b>	Inform users about any changes to plans for publishing the outputs prospectus and timetable, and explain clearly the reasons for any changes (para 3.5).
<b>Requirement 3</b>	Publish more information about Census Advisory Groups and about the UK Census Outputs Working Group (para 3.8).
<b>Requirement 4</b>	Adopt clear pricing policies for any supplementary statistical services related to Census outputs (para 3.11).
<b>Requirement 5</b>	GROS and NISRA should improve the signposting to relevant methodology papers on ONS's website (para 3.20).
<b>Requirement 6</b>	GROS and NISRA should publish details of quality assurance advisory groups and accessible

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<sup>7</sup> [http://www.statistics.gov.uk/about/data/methodology/general\\_methodology/sdc.asp](http://www.statistics.gov.uk/about/data/methodology/general_methodology/sdc.asp)

information about plans for quality assuring Census data (para 3.31).

**Requirement 7**

Publish accessible information about Census output geography to help users understand the policies and why key decisions were made (para 3.44).

**Requirement 8**

Publish information about statistical disclosure control methodology to help non-expert users understand the methods and why they were chosen (para 3.52).

**Requirement 9**

Publish plans to develop commentary and analysis that aid interpretation of the Census results (para 3.68).

**Requirement 10**

Publish a list of administrative sources which will be used to quality assure the Census results, and information about the quality of these sources (para 3.80).

## 2 Subject of the assessment

- 2.1 A population Census has been held in the UK every 10 years since 1801, with the exception of 1941. The 2011 Census was held on 27 March 2011 and the Census Offices plan to publish the first outputs in summer 2012.
- 2.2 The Phase 1 Assessment report included a range of background information about the UK Censuses, including:
- the legislative basis for carrying out the Censuses;
  - various uses of Census results and data, including: supporting the efficient allocation of billions of pounds across the public sector; providing definitive population estimates and projections to help plan front-line services; and informing planning decisions by organisations in the business and voluntary sectors;
  - the costs of the Censuses, which remain unchanged (England and Wales – £482 million for 2005 to 2016, plus an additional £10 million for the Census publicity campaign; Scotland – £65 million for 2005/06 to 2012/13; and Northern Ireland £25 million for 2004/05 to 2013/14);
  - reviews by other organisations – for example, the National Audit Office, the Statistics Commission and the House of Commons Treasury Committee – to identify lessons from the 2001 Census and inform the planning for the 2011 Census; and
  - the development of alternative and less costly administrative data sources to provide census-type information in the future.
- 2.3 The Phase 1 report also included four Requirements which the Census Offices were obliged to implement to comply fully with the *Code*:
- Publish explanations of how the Census estimates relating to the resident population, based on 12-month residency, will be derived from the information collected about 3-month and 6-month residency.
  - Publish information on how discontinuities (relating to the introduction of the 12-month residency base) between population estimates from the 2001 and 2011 Censuses will be measured and explained.
  - Publish plans for how participation in both the Census and the follow-up surveys will be maximised, in the light of the low response rates in the Census Rehearsals.
  - Publish estimates, with methods, of the times taken to complete the paper and online versions of the Census questionnaire, based on data from the Census Rehearsals.
- 2.4 The Census Offices published their response to the Authority's Requirements in July 2010 with an update<sup>8</sup> in December 2010. The response is summarised as follows:

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<sup>8</sup> <http://www.ons.gov.uk/census/2011-census/2011-census-project/independent-assessments/uk-response-to-uksa-special-assessment---phase-one.pdf>

- Requirement 1: ONS and NISRA provided an explanation of the different population bases to be used for enumeration and outputs in the 2011 Census in England and Wales, and Northern Ireland. They also explained the rationale for using each population base, the process for moving from enumeration to outputs, and the proposed use of the 'intention to stay in the UK' question to differentiate between 'usual' residents and short-term migrants. GROS did not ask respondents how long they intended to stay in the UK and has provided us with details of its approach for estimating the number of short-term migrants in Scotland. GROS plans to publish this information in September 2011.
- Requirement 2: The Census Offices anticipated that any discontinuity between population estimates from the 2001 and 2011 Censuses (based on the introduction of the 12-month residency base) would be small. However, we were told that should there be concerns about how the population estimates compare with other data sources (such as previous mid-year estimates), the Census Offices will carry out further analysis to investigate these differences. They will also assess whether these differences were due to definitional changes of 'usually resident in the UK' and will explain the differences in the relevant metadata which accompanies the published Census results.
- Requirement 3: The Census Offices provided details of how they planned to use the findings from the 2009 Census Rehearsals to maximise participation in both the Census and the follow-up surveys. These included: increased spending on publicity; allocating more field staff to hard-to-count areas; and increased community engagement activities, including liaison with university authorities with a view to raising response rates among students.
- Requirement 4: The Census Offices provided details of their analysis of the time taken to complete the online questionnaire from the Census Rehearsal, predicated on the assumption that the average time taken to complete the paper version would be similar to the online completion time.

2.5 In addition to the 2011 Census, the Statistics Authority has assessed<sup>9</sup> other population estimate statistics produced by ONS, GROS, NISRA and the Welsh Assembly Government. These included assessments of annual population estimates in each UK administration in the years between the Censuses based on information from the Census, together with information about the components of population change (births, deaths and migration). These 'mid-year' population estimates relate to the population on 30 June each year.

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<sup>9</sup> See footnote 3 for a list of published assessment reports

### 3 Assessment findings

#### Principle 1: Meeting user needs

**The production, management and dissemination of official statistics should meet the requirements of informed decision-making by government, public services, business, researchers and the public.**

- 3.1 The Census Offices have engaged extensively with users to investigate their requirements for the main statistical outputs from the 2011 Census. In February 2008, the Census Offices carried out a 12-week consultation to help them to identify and prioritise users' needs for Census outputs. This consultation sought users' initial views on issues such as statistical products, dissemination methods and metadata.
- 3.2 The Census Offices subsequently carried out separate consultations about the main statistical outputs. These consultations comprised:
- roadshows and web-based surveys in 2009 and 2010 to seek users' views on the Census Offices' initial proposals for Census outputs and dissemination methods; and
  - further consultations in spring 2011 about Census outputs, dissemination strategies and issues such as disclosure control, based on users' responses to the previous consultations.
- 3.3 The Census Offices have published some information from these consultations, including copies of roadshow presentations<sup>10</sup> (ONS), details of the issues discussed at these events<sup>11</sup> (NISRA), and analyses of the consultation responses<sup>12</sup> (GROS). However, the Census Offices have not always published the results of consultations (including details of decisions made) and there have occasionally been delays of up to a year between the end of a consultation and the publication of the analyses and outcomes. As part of the designation as National Statistics, the Census Offices should publish information about the outcomes from user consultations in a timely manner and explain clearly their decisions based on these consultations<sup>13</sup> (Requirement 1).
- 3.4 The Census Offices published guidance documents<sup>14</sup> to help users contribute to the consultations. The guidance included information about issues such as comparability between the 2001 and 2011 Censuses, and levels of output geography. In 2010 ONS published a Census Outputs Strategy<sup>15</sup> which

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<sup>10</sup> <http://www.nisra.gov.uk/Census/2011%20Census/2011%20Census%20Planning/Consultation.html>

<sup>11</sup> <http://www.ons.gov.uk/census/2011-census/process-info/data-quality-assurance/spotlight-on-completing-the-count---questions-and-answers.pdf>

<sup>12</sup> <http://www.gro-scotland.gov.uk/files2/the-census/scotlands-census-2011/spring2010-census-outputs-consultation-analysis.pdf>

<sup>13</sup> In relation to Principle 1 Practice 5 of the *Code of Practice*

<sup>14</sup> ONS: <http://www.ons.gov.uk/census/2011-census/consultations/open-consultations/2011-geography-outputs-consultation/2011-census-geography-outputs-consultation.doc>

GROS: <http://www.gro-scotland.gov.uk/census/censushm2011/preparations/consultation-and-research/formal-consultations/feb-2011.html>

NISRA: <http://www.nisranew.nisra.gov.uk/census/pdf/proposals.pdf>

<sup>15</sup> <http://www.ons.gov.uk/census/2011-census/consultations/open-consultations/2011-output-consultation---main-statistical-outputs/2011-census-outputs-strategy.pdf>

included its aims and proposals for census outputs, and key challenges such as technological development, statistical disclosure control and quality assurance. NISRA published a similar outputs strategy<sup>16</sup> in March 2011 and GROS has developed a strategy which it plans to publish by September 2011.

- 3.5 As part of the spring 2011 consultation, the Census Offices informed users that in summer 2011 they would publish a prospectus containing an agreed set of output specifications and a timetable for publishing the outputs. However, the Census Offices subsequently told us that they would not be able to publish the prospectus until early 2012, and planned to inform users in July 2011 about their plans for publishing the prospectus and the timetable for the first Census outputs. As part of the designation as National Statistics, the Census Offices should inform users about any changes to plans for publishing the outputs prospectus and timetable, and explain clearly the reasons for any changes<sup>17</sup> (Requirement 2).
- 3.6 The Census Offices plan to publish a first release of Census results, including a headline population count, in summer 2012. They had previously planned to publish the first outputs in autumn 2012 but brought the planned release date forward in response to users' requests for more timely data.
- 3.7 The Census Offices hold regular meetings with their respective Census Advisory Groups and other groups to discuss and share information about census-related topics:
- ONS has six Census Advisory Groups representing the interests of central and local government, the NHS, the business sector, academics and other groups such as ethnic minorities and special needs groups. ONS has a separate advisory group for Wales, consisting of users of Census results for Wales. ONS periodically discusses with its advisory groups issues such as the user consultation process (including evaluation), new tables and derived variables, and statistical disclosure control. The groups also advise on topic-specific issues – for example, advice on religious groups to be approached from the Diversity Advisory Group.
  - NISRA's Census Advisory Group includes representatives from local authorities, academia, private consultants, the voluntary sector, and housing and equalities organisations. The group meets twice a year. NISRA also engages regularly with the Heads of Branch in Northern Ireland government departments as, due to the small size of most local authorities in Northern Ireland, many local services (such as transport) are delivered by central government rather than by local authorities.
  - The Population and Migration Statistics Committee (Scotland)<sup>18</sup> (PAMS) acts as the main Census advisory group for Scotland. Its members include representatives from GROS, local authorities and the NHS. A separate group – the Scottish Census Steering Committee<sup>19</sup> – advised the Registrar General for Scotland about how to develop plans for the 2011

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<sup>16</sup> <http://www.nisra.gov.uk/Census/2011%20Census/2011%20Census%20Planning/CensusPolicyDocuments.html>

<sup>17</sup> In relation to Principle 1 Practice 4 of the *Code of Practice*

<sup>18</sup> <http://www.gro-scotland.gov.uk/statistics/user-consultation-groups-seminars/pams/index.html>

<sup>19</sup> <http://www.gro-scotland.gov.uk/census/censushm2011/preparations/consultation-and-research/scottish-census-steering-committee/index.html>

Census. The Scottish Census Steering Committee included representatives from disability groups, local authorities, academia, the voluntary sector, the NHS and consumer groups. GROS has also met the Scottish Government Analytical Services Divisions (ASDs) and the Information Services Division of NHS National Services Scotland (ISD) to discuss their requirements for Census data.

- A UK-wide Census Outputs Working Group was formed in March 2009 to contribute expert data users' views on 2011 Census outputs. The group comprises representatives from ONS, GROS and NISRA plus central and local government, NHS, and private sector users. The group advises on the outputs strategy, users' requirements for products and metadata, and issues relating to outputs development (such as statistical disclosure control, content of tables, derived variables and internet dissemination).

3.8 The Census Offices have published some information about these advisory groups – for example, both ONS<sup>20</sup> and GROS<sup>21</sup> have published details of group memberships and papers from meetings, and GROS also publishes the minutes of PAMS meetings. However, ONS has not published information about advisory group discussions, NISRA has not published any information about its Census Advisory Group, and the Census Offices have not published any information to inform users about the work of the UK Census Outputs Working Group. As part of the designation as National Statistics, the Census Offices should publish more information about their Census Advisory Groups and about the UK Census Outputs Working Group<sup>22</sup> (Requirement 3).

3.9 The Census Offices have documented users' experiences of Census results and data based on user consultations, case studies, meetings with stakeholders, and topic-specific surveys (for example, GROS's 2007 survey<sup>23</sup> of SCROL<sup>24</sup>, its current Census dissemination tool). GROS has also published some case studies<sup>25</sup> on how statistics based on the Census are used in Scotland and both ONS<sup>26</sup> and NISRA<sup>27</sup> have listed various uses of Census results on their websites.

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<sup>20</sup> <http://www.ons.gov.uk/census/2011-census/consultations/user-adv-groups/census-adv-groups/index.html>

<sup>21</sup> See footnote 18

<sup>22</sup> In relation to Principle 1 Practice 5 of the *Code of Practice*

<sup>23</sup> <http://www.gro-scotland.gov.uk/files1/stats/statistical-users-survey-report-2007.pdf>

<sup>24</sup> *Scotland's Census Results OnLine*, <http://www.scrol.gov.uk/scrol/common/home.jsp>

<sup>25</sup> <http://www.scotlandscensus.gov.uk/en/yourcensus/people/other.html>

<sup>26</sup> <http://2011.census.gov.uk/My-census/What-s-in-it-for-me>

<sup>27</sup> <http://www.nisra.gov.uk/Census/2011Census.html>

## Principle 2: Impartiality and objectivity

### Official statistics, and information about statistical processes, should be managed impartially and objectively.

- 3.10 The published Statement of Agreement<sup>28</sup> between the National Statistician and the Registrars General for Scotland and Northern Ireland includes an aim to make no revisions to the 2011 Census outputs. This aim is underpinned by a commitment to assure the quality of the results before publication, and to incorporate any subsequent revisions to mid-year population estimates, if required. However, there may still be a need to correct errors in the published statistics. We suggest that the Census Offices publish clear procedures for correcting errors in published Census statistics, including how users will be informed about these corrections.
- 3.11 The Census Offices plan to make most Census outputs available free of charge, but to charge for some additional products and services. The Census Offices have not yet adopted a pricing policy for these additional products and services. As part of the designation as National Statistics, the Census Offices should adopt clear pricing policies for any supplementary statistical services related to Census outputs<sup>29</sup> (Requirement 4).
- 3.12 In 2009 the Census Offices carried out separate Census Rehearsals to test various processes for collecting Census data. The Census Offices subsequently published evaluation reports<sup>30</sup> which included their planned improvements to methods and operations.
- ONS's changes included: improved matching of national data sources to deliver a high-quality Address Register; an improved process for enumerating communal establishments such as student residences; and providing more resources for hard-to-count<sup>31</sup> groups and areas. However, some users told us that they felt that the Rehearsal, and in particular the Rehearsal report, did not adequately deal with issues of quality for hard-to-count areas.
  - NISRA's changes included: re-designing the return envelope; resolving problems with the questionnaire tracking system; and reviewing the arrangements for transporting questionnaires to the processing site.
  - GROS's changes included: allocating more senior staff to enumerate communal establishments; improving the data capture and coding procedures; and changing the design of the questionnaire to highlight the possibility for online completion.

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<sup>28</sup> <http://www.gro-scotland.gov.uk/census/censushm2011/policy-and-methodology/uk-harmonisation.html>

<sup>29</sup> In relation to Principle 2 Practice 9 of the *Code of Practice*

<sup>30</sup> ONS: <http://www.ons.gov.uk/census/2011-census/consultations/user-adv-groups/census-adv-groups/operational/rehearsal-evaluation.pdf>

GROS: <http://www.gro-scotland.gov.uk/census/censushm2011/preparations/2009-census-rehearsal/09-census-rehearsal-eval-report/index.html>

NISRA:

<http://www.nisranew.nisra.gov.uk/Census/pdf/2009%20Census%20Rehearsal%20evaluation.pdf>

<sup>31</sup> Hard-to-count groups include young people (especially males), economically inactive people, students and people in rented housing

### Principle 3: Integrity

**At all stages in the production, management and dissemination of official statistics, the public interest should prevail over organisational, political or personal interests.**

- 3.13 The Census Offices confirmed to us that their respective Heads of Profession have sole responsibility for deciding on statistical methods, standards and procedures, and on the content and timing of statistical releases. In February 2011 the National Statistician and the Registrars General for Scotland and Northern Ireland published an updated Statement of Agreement<sup>32</sup>, outlining the principles and areas for joint governance. No incidents of political pressures, abuses of trust or complaints relating to professional integrity, quality or standards were reported to or identified by the Assessment team.
- 3.14 The Census Offices informed us that the 2011 Census follows UN and EU recommendations on carrying out censuses. In particular, the Census Offices have followed the UN Economic Commission for Europe's *Conference of European Statisticians Recommendations for the 2010 Censuses of Population and Housing*<sup>33</sup>.
- 3.15 ONS is responsible for providing UK Census data to Eurostat<sup>34</sup>, the EU's statistical office, under Regulation 763/2008<sup>35</sup>. In its Census Outputs Strategy<sup>36</sup>, ONS provided details of how it will meet European requirements for Census data. Eurostat told us that it is satisfied that the UK's proposed approach for the 2011 Census is consistent with European requirements.
- 3.16 Statisticians in the Census Offices regularly brief the press on statistical releases and, where necessary, also brief the National Statistician or Registrars General for Scotland and Northern Ireland about misuses of its statistics or where public comment might be appropriate. Senior statisticians in the Census Offices have received media training and have given numerous press interviews about Census issues<sup>37</sup>. In England and Wales, 156 Local Area Managers were media-trained as they are the main point of contact for local media during the census operation.

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<sup>32</sup> <http://www.ons.gov.uk/census/2011-census/2011-census-project/index.html>

<sup>33</sup> [http://www.unece.org/stats/publications/CES\\_2010\\_Census\\_Recommendations\\_English.pdf](http://www.unece.org/stats/publications/CES_2010_Census_Recommendations_English.pdf)

<sup>34</sup> [http://epp.eurostat.ec.europa.eu/portal/page/portal/about\\_eurostat/corporate/introduction](http://epp.eurostat.ec.europa.eu/portal/page/portal/about_eurostat/corporate/introduction)

<sup>35</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:218:0014:0020:EN:PDF>

<sup>36</sup> See footnote 16

<sup>37</sup> ONS: <http://www.telegraph.co.uk/news/uknews/8408003/Census-2011-an-army-of-enforcers.html>

GROS: <http://www.bbc.co.uk/news/uk-scotland-12660688>

NISRA: <http://www.bbc.co.uk/news/mobile/uk-northern-ireland-12518209>

## Principle 4: Sound methods and assured quality

**Statistical methods should be consistent with scientific principles and internationally recognised best practices, and be fully documented. Quality should be monitored and assured taking account of internationally agreed practices.**

### *Methods*

- 3.17 The UK Census Design and Methodology Advisory Committee<sup>38</sup> (UKCDMAC) and its topic-specific sub-groups advise the Census Offices about various aspects of Census methodology. The Census Advisory Groups also provide feedback on the methods to be used for:
- the Census Quality Surveys being planned by each Census Office, which aim to provide users with information about the quality of the responses to Census questions to help them decide on the appropriate use of Census results and data; and
  - the Census Coverage Surveys being planned by each Census Office, which will be carried out six weeks after Census day to estimate the level of undercounting in the Census and to assess the characteristics of individuals and households missed by the Census.
- 3.18 The UK is one of only a few countries which carry out coverage assessment and adjustment of Census data. Some countries only publish results based on the responses received, along with information on non-response, leaving users to calculate the estimated total population figure. The Census Offices carry out this adjustment before publishing any Census statistics to provide a single population figure. The method (dual system estimation) ensures a consistent approach across the UK but is time consuming. Users who responded to our survey for this assessment highlighted the importance of receiving timely data but most understood the need to ensure accuracy, even if this meant that the Census Offices took longer to produce and publish results. ONS has published papers<sup>39</sup> which describe coverage assessment and adjustment methodology but we suggest that the Census Offices also publish information about the benefits of carrying out coverage assessment and adjustment of Census data compared with other methods of estimating total population figures.
- 3.19 In November 2010 ONS held a series of seminars for users to discuss various aspects of Census methodology including the Census Coverage Survey and quality assurance. In the following month ONS published a report<sup>40</sup> which summarised the questions and answers from these discussions.
- 3.20 ONS has also published papers<sup>41</sup> on its website about various aspects of Census methods, including: predicting patterns of household non-response; Census quality; coverage assessment and adjustment; measuring duplication; over-counting; coding classifications; and Census Coverage Survey sample

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<sup>38</sup> <http://www.ons.gov.uk/census/2011-census/consultations/user-adv-groups/census-adv-groups/general/role-uk-cen-des-mac.pdf>

<sup>39</sup> <http://www.ons.gov.uk/census/2011-census/process-info/statistical-meth/index.html>

<sup>40</sup> <http://www.ons.gov.uk/census/2011-census/process-info/data-quality-assurance/spotlight-on-completing-the-count---questions-and-answers.pdf>

<sup>41</sup> See footnote 37

sizes and estimation. Some of these papers cover UK-wide issues but neither GROS's nor NISRA's websites include easily accessible links to the papers. As part of the designation as National Statistics, GROS and NISRA should improve the signposting to relevant methodology papers on ONS's website<sup>42</sup> (Requirement 5).

- 3.21 The Census Offices have participated in international Census seminars and have discussed best practice for Census issues with other countries. NISRA has liaised with counterparts in Ireland on Census issues as part of wider cross-office statistical discussions that resulted in the publication of a joint report, *Ireland North and South: A Statistical Profile*<sup>43</sup> (2008). The 2003 edition<sup>44</sup> included a report on results from the 2001 (Northern Ireland) and 2002 (Ireland) Censuses.
- 3.22 The 2011 Census is the first UK Census to offer online completion of the questionnaire. The Census Offices expected around 20–25 per cent online completion, based on experiences of online questionnaires from other UK surveys and Censuses in other countries. GROS provided enough capacity for this level of online completion and ONS's and NISRA's systems allowed for at least 40 per cent online completion.

#### *Quality assurance of Census data*

- 3.23 ONS aims to achieve a response rate across England and Wales of at least 94 per cent, and for all local authorities to have a response rate of at least 80 per cent<sup>45</sup>. GROS and NISRA aim to match (at least) the 2001 Census response rates of 96 per cent across Scotland and 95 per cent across Northern Ireland, respectively. On 31 March 2011, NISRA reported<sup>46</sup> that more than half of all Census forms in Northern Ireland had been completed and returned and on 6 April – nine days after Census Day – ONS announced<sup>47</sup> that nearly 75 per cent of all households in England and Wales had completed and returned their Census forms. Response rates across Government Office Regions in England and Wales ranged from 75 per cent in the North East to 60 per cent in London. On 28 April GROS reported<sup>48</sup> that the response rate for Census forms in Scotland was estimated to have reached 96 per cent. The Census Offices plan to publish the final response rates in summer 2012.
- 3.24 The Census Offices have worked together to develop a common UK-wide approach to assuring the quality of the Census results. In 2009 ONS published a Quality Assurance Strategy<sup>49</sup> which sets out the aims of the Census and

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<sup>42</sup> In relation to Principle 4 Practice 1 of the *Code of Practice*

<sup>43</sup> [http://www.nisra.gov.uk/archive/uploads/publications/North\\_South\\_2008.html](http://www.nisra.gov.uk/archive/uploads/publications/North_South_2008.html)

<sup>44</sup> [http://www.nisra.gov.uk/archive/uploads/publications/North\\_South\\_2003.html](http://www.nisra.gov.uk/archive/uploads/publications/North_South_2003.html)

<sup>45</sup> In the 2001 Census, the response rate in 13 local authorities in England and Wales was less than 80 per cent

<sup>46</sup> <http://www.northernireland.gov.uk/es/index/media-centre/news-departments/news-dfp/news-dfp-30032011-more-than-half.htm>

<sup>47</sup> *29,000 census collectors start work today:*

<https://2011mc.census.gov.uk/index.php?module=documents&action=view&id=851>

<sup>48</sup> <http://www.scotlandscensus.gov.uk/en/news/Estimatedcensusresponseratereaches96percentasnon-compliancestaffstartwork.html>

<sup>49</sup> <http://www.ons.gov.uk/census/2011-census/process-info/data-quality-assurance/data-quality-assurance-strategy---2011-census.pdf>

various aspects of quality including questionnaire design, operational quality management, quality assurance, and quality measurement and reporting. The strategies also contain details about:

- quality assurance of Census topics – including the checking frameworks, data from comparator sources and quality assurance at local and national levels;
- quality assurance of population counts and structures – including quality assurance of estimated population totals, reconciliation of local and national estimates, evidence of multiple enumeration, and adjustments for ‘usual residence’; and
- the quality assurance sign-off process, both internally and involving external parties.

NISRA and GROS have developed similar quality assurance strategies which they plan to publish by August and September 2011, respectively.

- 3.25 Since publishing its Quality Assurance Strategy in 2009, ONS’s Census team has worked with local authorities and ONS topic experts on a ‘Quality Assurance (QA) Studies’ project to identify and assess potential local comparator data sources. The project also aimed to:
- improve local authorities’ understanding of, and confidence in, the Census results by informing them about the quality assurance processes; and
  - develop the best possible understanding of each local authority’s population ahead of the Census, with clear evidence about where there were discrepancies in (or concerns about) mid-year estimates.
- 3.26 In December 2010 ONS published a report<sup>50</sup> from the QA Studies project which included an overview of the proposed QA process, analysis of various data sources, lessons learned, recommendations for improving the QA process, and ONS’s plans for continuing engagement with local authorities. Following the project, ONS also gave each participating local authority a summary of the analysis for that authority.
- 3.27 Following the QA Studies, ONS established a QA advisory group with representatives from local authorities who participated in the project. ONS told us that local authorities will not be directly involved in quality assuring Census data, although ONS will seek support and input from individual authorities when there are significant and unexplained discrepancies between Census results and local data. However, ONS expects this to be the exception rather than the norm. In May 2011 ONS published *2011 Census – Methodology for Quality Assuring the Census Population*<sup>51</sup> to provide an overview of the methods for assuring the quality of Census population estimates. The document also provides details of the process by which the estimates will be adjusted (if required) and agreed.
- 3.28 NISRA is developing its quality assurance strategy and procedures in line with those being developed by ONS and GROS. NISRA will use various comparator

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<sup>50</sup> <http://www.ons.gov.uk/census/2011-census/process-info/data-quality-assurance/evaluation-of-the-census-2011-quality-assurance-studies-project.pdf>

<sup>51</sup> <http://www.ons.gov.uk/census/2011-census/process-info/data-quality-assurance/2011-census---methodology-for-quality-assuring-the-census-population-estimates.pdf>

datasets – including the Electoral Register, small area population estimates and mid-year estimates – to check the plausibility of Census information as it progresses through the various phases of downstream processing. However, the relatively small size and resources of local authorities in Northern Ireland mean that NISRA is not planning to involve them in quality assurance in the same way as in the other UK countries. NISRA consulted with local authorities in advance of the Census about the address register that underpins the 2011 Census and they are represented on the Northern Ireland census Advisory Group.

- 3.29 GROS is working with local authorities to develop its QA processes and has established a Census Data Quality Advisory Working Group as a subgroup of PAMS. The group includes representatives from around ten local authorities (including those with the most hard-to-count areas) and representatives from the Convention of Scottish Local Authorities, academia, and the Scottish Government. The group aims to develop methods to assess the validity of initial Census results and is currently identifying comparator datasets for this purpose.
- 3.30 GROS has contacted all local authorities in Scotland about the local data sources required for QA and requested that they inform GROS about any other sources that could be used and any developments or issues that may be relevant. The deadline for local authorities' feedback is the end of 2011. GROS's coverage adjustment will take account of factors such as major building and demolition exercises, openings and closures of communal establishments, and migration. GROS's Census Coverage Survey is stratified to give a higher sampling rate in the most hard-to-count areas.
- 3.31 The Census Offices have published some information about their QA processes but they have not published details about the membership and discussions of advisory groups. There is also scope for GROS and NISRA to provide users with accessible and consistent information about how they plan to quality assure Census data. ONS provided this type of information in a summary<sup>52</sup> of quality assurance methods which it published in March 2011 and in Section 6 of its *Census – Methodology for Quality Assuring the Census Population*. As part of the designation as National Statistics, GROS and NISRA should publish details of their quality assurance advisory groups and accessible information about their plans for quality assuring Census data<sup>53</sup> (Requirement 6).
- 3.32 As part of the QA process the Census Offices plan to carry out regular checks of emerging 2011 Census population counts by comparing early extracts of Census data with other data sources such as data from ONS's Integrated Household Survey, mid-year population estimates and data from the Higher Education Statistics Agency. ONS's routine checks will cover around 20 topics, including age by sex, ethnicity, marital status, communal establishment residents, and country of birth. ONS also plans to carry out ad hoc checks on several other variables, including visitors.
- 3.33 In October 2010 ONS commissioned academics at the Universities of Manchester and Liverpool to carry out a review of its methods for coverage

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<sup>52</sup> <http://www.statistics.gov.uk/cci/article.asp?id=2652>

<sup>53</sup> In relation to Principle 4 Practice 2 of the *Code of Practice*

assessment, adjustment and QA. The report<sup>54</sup> from the review was published in February 2011 and concluded that, subject to the implementation of its recommendations, ONS's methods:

...give confidence that the resulting final census population estimates will be better than any other method and will be suitable for use in resource allocation and planning.

- 3.34 The review made 23 recommendations: 11 relating to coverage assessment; 3 to coverage adjustment; 8 relating to QA and 1 relating to Census field work. ONS published its response<sup>55</sup> to the report's recommendations in March 2011 and described the documents it plans to publish to address the recommendations. NISRA and GROS informed us that they will also be applying the findings and conclusions from the review to their Censuses.

#### *Internal quality management*

- 3.35 In 2006 the Census Offices published a *2011 Census Quality Strategy*<sup>56</sup>. This high-level document presented a general framework for developing and implementing processes to define, manage and measure the quality of the 2011 Census.
- 3.36 The Census Offices have since developed separate approaches to quality management:
- ONS uses PRINCE2<sup>57</sup> methodology to plan and carry out its Census operations. It has also developed management plans to identify key processes and their outputs, and has defined quality goals and standards to show how the targets for key processes will be measured. ONS has published quality objectives<sup>58</sup> for the 2011 Census and has developed quality goals and standards for various Census operations including the address register, field operations, statistical adjustment, and output production and dissemination. ONS reports its progress on these quality goals and standards to internal project boards. Data from the Northern Ireland Census will be transferred by secure data link and processed by ONS.
  - GROS statisticians are using the *Code of Practice for Official Statistics* to assess delivery of key Census processes. They have identified a range of processes – including the Census Coverage Survey and output dissemination – and developed performance indicators to monitor progress against the *Code* at various stages in the Census programme.

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<sup>54</sup> <http://www.ons.gov.uk/census/2011-census/2011-census-project/independent-assessments/independent-review-of-coverage-assessment--adjustment-and-quality-assurance/independent-review-final-report.pdf>

<sup>55</sup> <http://www.ons.gov.uk/census/2011-census/2011-census-project/independent-assessments/independent-review-of-coverage-assessment--adjustment-and-quality-assurance/ons-response-to-recommendations-from-the-independent-review.pdf>

<sup>56</sup> <http://www.gro-scotland.gov.uk/files1/stats/census-quality-strategy-2011.pdf>

<sup>57</sup> <http://www.prince2.com/what-is-prince2.asp>

<sup>58</sup> <http://www.ons.gov.uk/census/2011-census/consultations/user-adv-groups/census-adv-groups/general/cag--10-17-census-objectives.pdf>

## *Outputs geographies*

- 3.37 The Census Offices have carried out separate user consultations about Census geography policy. ONS carried out an initial consultation from November 2006 to February 2007 to inform its policy on the use of small area geographies – specifically Output Areas<sup>59</sup> (OAs) and Super Output Areas<sup>60</sup> (SOAs). ONS published a report<sup>61</sup> summarising the consultation responses and made all responses available.
- 3.38 In December 2009, ONS consulted about the main statistical outputs from the Census, asking stakeholders about specific aspects of Census geography policy. ONS published a report<sup>62</sup> from this consultation in January 2011. ONS's 2011 consultation on statistical outputs invited users to comment on the final 2011 Census Output Geography policy for England and Wales, and ONS's proposed set of geographic products (such as OA boundaries, reference tables (look ups) and population estimates at postcode level) for the 2011 Census.
- 3.39 ONS's guidance document<sup>63</sup> for the 2011 consultation states that a maximum of 5 per cent<sup>64</sup> of the OAs developed for the 2001 Census will be changed for 2011 to ensure maximum comparability with 2001 OAs while maintaining OAs that are relevant and useful for 2011. Such changes could result, for example, from a significant number of new homes being built in a particular OA. ONS aims to produce the new OAs by merging and splitting the old OAs so that users can recreate and compare the higher level geographies used previously. ONS will provide reference tables so that users can compare new and old geographies, particularly using the new coding system to be introduced to bring the 2011 Census OAs into line with Geography Policy for National Statistics<sup>65</sup> which aims to promote comparability within the UK by adopting common geographic standards. The way output geographies are being constructed is comparable across the UK although Scotland and Northern Ireland will change fewer OAs as the populations in these countries have been more stable.
- 3.40 In the 2001 Census ONS and GROS used different methodologies for developing OAs and SOAs which resulted in these areas being misaligned along the England-Scotland border. In response to users' feedback to ONS's 2006-07 consultation, ONS will ensure these areas are aligned along the border for 2011 Census results.
- 3.41 NISRA consulted users about geographies in March 2011. Compared with 2001, NISRA proposed to make no change in overall structure as the planned

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<sup>59</sup> Output Areas (OAs) were created for the 2001 Census specifically for the output of census statistics. For England and Wales, around 175,000 OAs with an average of 123 households were created. Scotland and Northern Ireland created their own set of OAs, using similar methods

<sup>60</sup> Super Output Areas (SOAs) are aggregations of OAs to create a stable small area geography hierarchy

<sup>61</sup> <http://www.ons.gov.uk/about/consultations/closed-consultations/geography-policy-public-consultation/index.html>

<sup>62</sup> <http://www.ons.gov.uk/census/2011-census/consultations/open-consultations/census-output-geography-consultation/index.html>

<sup>63</sup> <http://www.ons.gov.uk/census/2011-census/consultations/open-consultations/2011-geography-outputs-consultation/2011-census-geography-outputs-consultation.doc>

<sup>64</sup> This percentage is based on a 2005 analysis of how many OAs had changed during the previous five years

<sup>65</sup> <http://www.ons.gov.uk/about-statistics/geography/policy/best-practice-guidance/geography-policy-for-national-statistics.pdf>

boundary review of Northern Ireland councils has not yet taken place and is now planned for 2015. NISRA asked users for their views about whether to keep OAs the same as in 2001 for purposes of continuity, or whether to change to suit the current circumstances.

- 3.42 GROS consulted users about geographies in its 2010 consultation on the main statistical outputs, and its 2011 consultation also sought users' views about output geographies. Local authority boundaries in Scotland have remained reasonably stable in recent years, so GROS's 2011 Census geographies will largely match those from 2001. GROS intends to design its new Census outputs dissemination tool to allow users to build their own geographies. GROS established a Census Outputs Geography Working Group in 2009 as a subgroup of PAMS to review and comment on geographical issues relating to 2011 Census outputs.
- 3.43 ONS's guidance document for the 2011 consultation also outlined the advantages of using best fit<sup>66</sup> and exact fit estimates. ONS recognises that local authorities would prefer exact fit rather than best fit estimates as this would be consistent with the approach used for the 2001 Census. However, it is not in line with Geography Policy for National Statistics and would therefore not be comparable with other survey data. GROS informed us that local authority users in Scotland are generally satisfied with the best fit approach.
- 3.44 ONS<sup>67</sup>, GROS<sup>68</sup> and NISRA<sup>69</sup> have published various documents about Census output geography, but there is scope for all the Census Offices to publish more easily understandable information about their decisions to produce only best fit areas and the reasons for doing so. As part of the designation as National Statistics, the Census Offices should publish accessible information about Census output geography, including about best fit versus exact fit areas, to help users understand the policies and why key decisions were made<sup>70</sup> (Requirement 7).

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<sup>66</sup> Where OAs and SOAs do not fit exactly within the boundaries of higher levels of geography (often electoral wards) due to changes in these boundaries since 2001, the OAs or SOAs will not be split to fit exactly but a best fit estimate will be produced using a 'look up' reference

<sup>67</sup> <http://www.ons.gov.uk/census/2011-census/produce-deliver-data/output-geog/index.html>

<sup>68</sup> <http://www.gro-scotland.gov.uk/statistics/user-consultation-groups-seminars/pams/13-oct-2010.html>

<sup>69</sup> <http://www.nisra.gov.uk/geography/default.asp.htm>

<sup>70</sup> In relation to Principle 4 Practice 2 of the *Code of Practice*

## Principle 5: Confidentiality

**Private information about individual persons (including bodies corporate) compiled in the production of official statistics is confidential, and should be used for statistical purposes only.**

- 3.45 The Census Offices told us that all staff working on the UK Censuses – including temporary staff – are checked against the HM Government Baseline Personnel Security Standard<sup>71</sup>. Staff also sign a Census Confidentiality Undertaking which details their responsibilities in terms of data confidentiality. For staff with additional access to the data, such as database administrators and staff with extra editing responsibilities, an additional level of personal security clearance is required.
- 3.46 We were told that all Census field staff and contractor staff have received security awareness training and guidance about their responsibilities regarding Census data that they are responsible for. GROS has procured offices across Scotland to securely store Census forms during the fieldwork period, and ONS and NISRA are storing Census forms at secure central sites.
- 3.47 The Census questionnaires and accompanying guidance material included information for respondents about how the Census Offices will protect the confidentiality of Census information. The Census Offices also published a range of information<sup>72</sup> on their websites about confidentiality and data security measures. Each Census Office has published a Privacy Impact Assessment report containing information about plans to protect Census data. These reports included: 2011 Census innovations (such as online data collection) and any associated privacy concerns; privacy issues relating to Census questionnaire content; the use of third parties; technical and practical arrangements for capturing, securing and transferring data; and uses of Census information.
- 3.48 In February 2011 the Census Offices published a report<sup>73</sup> from an Independent Review of the 2011 Census information assurance. The report stated that the reviewers were confident that the Census Offices:
- ...are capable of delivering their (information assurance) objectives and that information will be held in secure environments and that it will be handled in line with best practice and Government standards. The public can be assured that the information they provide to the 2011 Censuses will be well protected.
- The review did not examine downstream processing of Census data, or Census outputs. ONS informed us that these issues will be included in the next stage of the review.
- 3.49 In 2007 the Census Offices established the UK Census Statistical Disclosure Control (SDC) Working Group to agree and recommend a UK SDC strategy for all types of Census output, and to ensure that external users are consulted and

<sup>71</sup> [http://www.cabinetoffice.gov.uk/media/207318/hmg\\_security\\_policy.pdf](http://www.cabinetoffice.gov.uk/media/207318/hmg_security_policy.pdf)

<sup>72</sup> ONS: <http://www.ons.gov.uk/census/2011-census/2011-census-project/index.html>

GROS: <http://www.scotlandscensus.gov.uk/en/yourprivacy/>

NISRA: <http://www.nisranew.nisra.gov.uk/census/data-confidentiality-security.htm>

<sup>73</sup> <http://www.ons.gov.uk/census/2011-census/2011-census-project/commitment-to-confidentiality/2011-census--independent-information-assurance-review.pdf>

kept informed of the development of SDC methodology. The Census Offices are currently developing a UK-wide SDC policy for 2011 Census outputs and will harmonise their pre-tabular methods to ensure a consistent approach across the UK. An SDC subgroup of UKCDMAC provides external assurance by peer reviewing all SDC methodology.

- 3.50 In 2009 ONS published information<sup>74</sup> describing various SDC methods and the advantages and disadvantages of each method. As with the 2001 Census, pre-tabular record swapping will be the main SDC method used. However, unlike 2001, swapping will be targeted more to individuals and households with unusual and potentially identifying characteristics at the smaller geographies. The swapping rate will vary inversely to imputation rates as areas with low response rates will already have larger numbers of imputed records to provide most of the necessary protection for the confidentiality of individual records. The levels of swapping and the targeting methodology will also make it unnecessary to impose an additional post-tabular small cell adjustment method to outputs. This was used in 2001 for England, Wales and Northern Ireland outputs and proved extremely unpopular with users since the resultant counts in tables were not always consistent.
- 3.51 ONS's Census Outputs Strategy described the development of SDC methodology and how this was aligned with users' requirements for detailed statistics and flexibility. In autumn 2010 ONS provided an update paper<sup>75</sup> to its Census Advisory Groups which outlined the progress regarding SDC development and its likely impact on the design of Census outputs. The update included a summary of the discussions between the National Statistician and Registrars General for Scotland and Northern Ireland on the level of record swapping needed to provide a sufficient level of uncertainty to support a UK-wide SDC policy.
- 3.52 ONS has published various documents<sup>76</sup> about SDC and both ONS and NISRA provided users with an update on SDC developments as part of their 2011 consultations about Census outputs. However, there is scope for all three Census Offices to publish more-accessible and easily understandable information about SDC to inform non-expert users about the methods to be used. As part of the designation as National Statistics, the Census Offices should publish information about SDC methodology to help non-expert users understand the methods and why they were chosen<sup>77</sup> (Requirement 8).
- 3.53 As with the 2001 Census, the Census Offices plan to produce Samples of Anonymised Records<sup>78</sup> (SARs) for the 2011 Census. These microdata files allow flexible, multivariate analysis of individual people, covering the full range of Census topics including housing, education, health, transport, employment and ethnicity. The Census Offices are currently working together to ensure that access to this individual-level microdata is controlled in a secure way and that

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<sup>74</sup> <http://www.ons.gov.uk/census/2011-census/produce-deliver-data/confidentiality/statistical-disclosure-control-for-the-2011-uk-census.pdf>

<sup>75</sup> <http://www.ons.gov.uk/census/2011-census/consultations/user-adv-groups/census-adv-groups/output/outputs---consultation--evaluation-and-statistical-disclosure.pdf>

<sup>76</sup> <http://www.ons.gov.uk/census/2011-census/produce-deliver-data/confidentiality/index.html>

<sup>77</sup> In relation to Principle 5 Practice 4 of the *Code of Practice*

<sup>78</sup> <http://www.ons.gov.uk/about/who-we-are/our-services/unpublished-data/census-data/individual-sars>

data are protected in line with the *Code of Practice* and the requirements of census legislation.

- 3.54 ONS will use a specially designed secure environment to carry out statistical analyses of Census data. We were told that the environment will meet all relevant security requirements. In addition to Census data from England and Wales, ONS will also process all Northern Ireland data. ONS and NISRA have developed a secure procedure for transferring data. GROS is carrying out all data processing itself in a secure downstream processing environment.

## Principle 6: Proportionate burden

**The cost burden on data suppliers should not be excessive and should be assessed relative to the benefits arising from the use of the statistics.**

- 3.55 All three Census Offices launched their publicity campaigns on 21 February 2011, around five weeks before Census day (March 27). ONS's Census Marketing Plan included details about how it aimed to maximise public participation in the Census through: an advertising campaign using various media; initiatives such as music videos and engagement with student organisations and schools; and social networking and media sharing.
- 3.56 In December 2010 ONS published a *Framework for getting the count right for key target population groups*<sup>79</sup> which identified around 30 groups which presented potential enumeration difficulties for the Census in England and Wales. These groups included short-term migrants, illegal immigrants, students, homeless people and various ethnic minority groups. The framework also outlined ONS's planned activities for engaging with these groups.
- 3.57 ONS engaged extensively with local authorities to raise awareness of the Census in England and Wales. This included regional events, appointing regional champions to publicise the Census in their areas, and developing local partnership plans for all councils and community advisors working with hard-to-reach communities. Some local authorities informed us that they would have liked to have contributed to ONS's plans for publicising the Census. However, ONS told us that the development and dissemination of its plans were delayed because the new UK government required all such spending decisions to go through a new efficiency committee so it was not possible to involve local authorities at an early stage.
- 3.58 GROS developed a community liaison strategy<sup>80</sup> to communicate with hard-to-count groups to encourage participation and maximise response rates in the 2011 Census. GROS based its strategy on its evidence from the 2001 Census about groups which were under-counted. GROS employed a larger number of enumerators in hard-to-count areas and commissioned extra publicity for the Census in these areas.
- 3.59 NISRA held liaison meetings with various community groups to encourage participation in the Census. These included: residents from Eastern Europe, a traveller support group, the Northern Ireland Council for Ethnic Minorities, the Northern Ireland Council for Voluntary Action, the Royal National Institute for the Blind, the Royal National Institute for the Deaf, Disability Action, the Council for the Homeless Northern Ireland, and Age Northern Ireland. NISRA produced an information video<sup>81</sup> which its Census Area Managers used at community liaison meetings and as part of staff training.

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<sup>79</sup> <http://www.ons.gov.uk/census/2011-census/consultations/work-with-com-LAs/framework-for-getting-the-count-right-for-key-target-population-groups.pdf>

<sup>80</sup> <http://www.gro-scotland.gov.uk/census/censushm2011/preparations/consultation-and-research/scottish-census-steering-committee/meeting-13-april-2010.html>

<sup>81</sup> <http://www.nidirect.gov.uk/index/2011-census.htm>

## Principle 7: Resources

**The resources made available for statistical activities should be sufficient to meet the requirements of this Code and should be used efficiently and effectively.**

### *Funding*

- 3.60 Following its election in May 2010, the new UK government confirmed its support for the 2011 Census. The 2010 Comprehensive Spending Review confirmed the assumed level of funding for the Census in 2011/12 and provided new funding for 2012/13 through to 2014/15 in line with ONS's bid to HM Treasury. ONS told us that this should provide sufficient funding to complete the 2011 Census programme effectively and to provide a range of products and services that will allow the results to be exploited fully by Census users. For the 2001 Census ONS spent around £7 million developing and producing outputs (around 3 per cent of the £207 million total). For the 2011 Census ONS told us that, while costs are not currently finalised, it expects to spend a similar proportion of the census budget (around £15 million of the £482 million total) on output policy, production and dissemination.
- 3.61 NISRA's bids for Census funding have been approved by the Northern Ireland Assembly. GROS has still to submit budget requests for 2011/12 to 2014/15 but told us that these bids will be within the original programme costs.

### *Monitoring progress*

- 3.62 ONS's and GROS's Census business plans include the overall budgets and the amounts allocated to individual workstreams. These amounts are monitored by internal committees, for example, for ONS a Census Delivery Board and Census Finance Board. Both monitor the overall progress and workstream deliverables on a monthly basis. NISRA monitors the progress of its planned Census work at internal management boards held several times a year.

### *Staff*

- 3.63 All Census Offices have recruited a large number of temporary field staff – around 35,000 in England and Wales, 7,000 in Scotland and 2,000 in Northern Ireland. These included regional managers, enumerators and processing staff. Recruitment went smoothly in most areas, though the recruitment companies had to carry out some follow-up activities in some areas to ensure posts were filled.
- 3.64 The Census Offices delivered intensive training for these temporary staff, carried out both internally and by the recruitment companies. The training consisted of written instructions, e-learning and classroom training. It covered issues such as: safe storage of Census questionnaires and documentation; data security and confidentiality issues; keeping technical equipment secure; and techniques for persuading and helping householders to complete and return their questionnaires.

## Principle 8: Frankness and accessibility

**Official statistics, accompanied by full and frank commentary, should be readily accessible to all users.**

### *Outputs*

- 3.65 The Census Offices are currently consulting on the table specifications and outputs to be published following the 2011 Census. The proposed designs for the standard set of 2011 Census output tables are based on the corresponding tables produced for the 2001 Census. The Census Offices are considering the different levels of information about quality and reliability to be published alongside the outputs from the 2011 Census. These metadata will include details of the Census questionnaire, variables, definitions, classifications used, changes between 2001 and 2011, coverage adjustments, and information about which populations the outputs refer to. ONS told us that it is planning to consult about the type of information users want included. In light of experience from the 2001 Census when there was a piecemeal approach to publishing metadata, the published Statement of Agreement<sup>82</sup> between the National Statistician and the Registrars General for Scotland and Northern Ireland includes an aim to publish appropriate metadata alongside the relevant statistical outputs.
- 3.66 ONS has carried out research on different types of Census users and is preparing a paper outlining an audience model to inform the development of 2011 Census outputs. ONS will include this in the outputs prospectus (see paragraph 3.5) which it plans to publish jointly with the other Census Offices in early 2012. The Census Offices told us that they are planning a range of outputs for different users although there will be a focus on a self-service approach to allow users to build the tables they require. The Census Offices will still publish some pre-defined tables and headline figures.
- 3.67 The Census Offices plan to develop multi-dimensional tables (data cubes), based around specific themes, such as the working population. They consider that this is the best way to ensure the maximum flexibility for users. It is important that these data cubes are defined correctly so that users can pull together the data they require. We suggest that the Census Offices publish more information about the data cubes and explain how they plan to define the data cubes, including how flexibility will be balanced with statistical disclosure control.
- 3.68 ONS told us that it is planning to set up a centre of excellence for the analysis of Census results and other survey and administrative data. The Census Offices also informed us that they are considering developing topic-specific reports and are planning to consult further with users about their needs for commentary and analysis to maximise the use of Census results. As part of the designation as National Statistics, the Census Offices should publish plans to develop commentary and analysis that aid interpretation of the Census results<sup>83</sup> (Requirement 9).

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<sup>82</sup> See footnote 28

<sup>83</sup> In relation to Principle 8 Practice 2 of the *Code of Practice*

3.69 The Census Offices have agreed to develop a UK outputs database, with common table specifications across the UK, and a suitable dissemination system to meet the needs of users who require comparable UK-wide Census data.

#### *Dissemination*

- 3.70 The Census Offices plan to use the internet as the primary dissemination tool for Census results:
- ONS plans to use its new website (due to be launched in August 2011) as the primary interface for releasing Census statistics;
  - GROS plans to develop a specific website to disseminate the Census results, similar to the *SCROL* website (see paragraph 3.9) developed for the 2001 Census results; and
  - NISRA plans to use a redeveloped version of the Northern Ireland Neighbourhood Statistics<sup>84</sup> (NINIS) website.
- 3.71 The Census Offices told us that they still plan to develop some non-web-based products, such as printed versions of reports and tables on CD-Rom, for those users who require these products.
- 3.72 ONS is drafting an Equality Impact Assessment to ensure that the 2011 Census results will be accessible to all. GROS and NISRA have confirmed that they have required that accessibility standards are built into the specifications for their re-designed dissemination tools.

#### *Data archiving*

- 3.73 ONS maintains personal census data for 100 years with the permission of the National Archives. Paper records are managed by the Departmental Records Officer in a secure store. Electronic data are held securely and maintained in a usable format. Paper, electronic and microfilm records are documented in an asset register, which holds details of the location of both the data and the metadata necessary to understand the data.
- 3.74 NISRA will place Census data with the Public Records Office of Northern Ireland, in accordance with public records legislation.
- 3.75 GROS will archive Census images on microfilm within National Records of Scotland.

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<sup>84</sup> <http://www.ninis.nisra.gov.uk/>

## **Protocol 1: User engagement**

**Effective user engagement is fundamental both to trust in statistics and securing maximum public value. This Protocol draws together the relevant practices set out elsewhere in the Code and expands on the requirements in relation to consultation.**

3.76 The requirements for this Protocol are covered elsewhere in this report.

## Protocol 2: Release practices

**Statistical reports should be released into the public domain in an orderly manner that promotes public confidence and gives equal access to all, subject to relevant legislation.**

- 3.77 Compliance with the majority of practices under Protocol 2 will be assessed as part of the Phase 3 assessment, once the outputs from the 2011 Census have been published.
- 3.78 The Census Offices told us that they plan to release the first outputs from the 2011 Census in summer 2012, around 16 months after the Census was held. This is slightly earlier than previously planned, in response to users' needs for more timely data. The Census Offices will publish a timetable for releasing the outputs in early 2012.
- 3.79 The Census Offices are not planning to grant any pre-release access to 2011 Census statistics in their final form.

### **Protocol 3: The use of administrative sources for statistical purposes**

**Administrative sources should be fully exploited for statistical purposes, subject to adherence to appropriate safeguards.**

- 3.80 Statistics from the 2011 Census are based entirely on data gathered via the 2011 Census fieldwork and coverage surveys therefore the practices in this Protocol are not directly relevant. The Census Offices plan to use a range of administrative sources for quality assurance purposes (see Principle 4 for more information about these sources). As part of the designation as National Statistics, the Census Offices should publish a list of administrative sources they plan to use to quality assure the Census results, and information about the quality of these sources<sup>85</sup> (Requirement 10).
- 3.81 ONS is leading a Beyond 2011 Population Statistics Programme<sup>86</sup> to examine whether alternative methods of producing census-type statistics, including the use of administrative sources, could be used in the future to provide the data usually gathered in the Censuses. GROS and NISRA are both represented on the Programme Steering Group.

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<sup>85</sup> In relation to Protocol 3 Practice 5 of the *Code of Practice*

<sup>86</sup> <http://www.ons.gov.uk/about/what-we-do/programmes-projects/beyond-2011/index.html>

## Annex 1: Suggestions for improvement

A1.1 This annex includes some suggestions for improvement to the work of ONS, NRS and NISRA on the 2011 Censuses, in the interest of the public good. These are not formally required for designation, but the Assessment team considers that their implementation will improve public confidence in the production, management and dissemination of official statistics.

- |                     |   |
|---------------------|---|
| <b>Suggestion 1</b> | Publish clear procedures for correcting errors in published Census statistics, including how users will be informed about these corrections (para 3.10).                              |
| <b>Suggestion 2</b> | Publish information about the benefits of carrying out coverage adjustment of Census data compared with other methods of estimating total population figures (para 3.18).             |
| <b>Suggestion 3</b> | Publish more information about the data cubes and explain plans to define the data cubes, including how flexibility will be balanced with statistical disclosure control (para 3.67). |

## Annex 2: Summary of assessment process and users' views

- A2.1 This assessment was conducted from December 2010 to April 2011.
- A2.2 The Assessment team – Phil Grigor and Cathy Kruger – agreed the scope of and timetable for this assessment with representatives of the Census Offices in December. The Written Evidence for Assessment was provided between November 2010 and March 2011. The Assessment team met the Census Offices several times during the assessment to review compliance with the *Code of Practice*, taking account of the written evidence provided and other relevant sources of evidence.

### Summary of users contacted, and issues raised

A2.3 Part of the assessment process involves our consideration of the views of users. We approach some known and potential users of the set of statistics, and we invite comments via an open note on the Authority's website. This process is not a statistical survey, but it enables us to gain some insights about the extent to which the statistics meet users' needs and the extent to which users feel that the producers of those statistics engage with them. We are aware that responses from users may not be representative of wider views, and we take account of this in the way that we prepare assessment reports.

A2.4 The Assessment team received 57 responses from the user consultation. The respondents were grouped as follows:

Government	14
Local authority	26
Private sector	5
Non-governmental organisation	6
Academic	6

A2.5 The majority of users responding to our questions noted that they were very satisfied with the consultation and engagement by the Census Offices. In particular, the roadshows were seen as a useful way of informing and gathering views and many seemed to have attended these events. Some local authorities, in particular, felt that the consultation exercises time-consuming and that feedback following consultation could have been improved.

A2.6 Some local authorities were disappointed with the extent to which the Census Offices involved them in some aspects of the Census process, such as recruitment and quality assurance. However all of these noted that they had already had discussions with the relevant Census Office but were perhaps unclear about how their views had been taken into account.

### Quality

A2.7 Consistency was seen as crucial to some users, including consistency with the 2001 results, across low level geographies, across the UK and, for NI, with the Republic of Ireland. Some noted that it was not clear, from the information published, how this consistency would be ensured. Users mentioned the best fit approach in some cases, highlighting the need to ensure that higher

aggregations are comparable to existing geographies. Some users wanted changes in local areas to be taken into account in the new geographies, while others wanted to maintain comparability with the previous geographies.

### *Outputs*

- A2.8 Many of the users responding from across the UK mentioned timeliness of the outputs as an important issue. While many noted that the timeliness of the publication of the first results from the 2011 Census is not particularly good (around 16 months after the reference date) some also acknowledged the importance of ensuring high quality, accurate results.
- A2.9 Users highlighted the importance of flexibility of the outputs, both in terms of geographies and breakdowns, and several users mentioned positively the plans to allow users to build their own tables. Some mentioned the need, in this regard, for good support for infrequent users, good software functionality, and the importance of providing good metadata linked to the tables.

### *Dissemination*

- A2.10 Several users further emphasised the need to ensure infrequent users are able to find accessible information. Steps to link and disseminate data via existing websites such as NINIS were seen as very positive.

### **Key documents/links provided**

Written Evidence for Assessment document



