

Assessment of compliance with the Code of Practice for Official Statistics

Population Estimates and Projections for Northern Ireland

*(produced by the Northern Ireland Statistics and
Research Agency)*

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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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NATIONAL STATISTICS STATUS

National Statistics status means that official statistics meet the highest standards of trustworthiness, quality and public value.



All official statistics should comply with all aspects of the *Code of Practice for Official Statistics*. They are awarded National Statistics status following an assessment by the Authority's regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate.

It is a producer's responsibility to maintain compliance with the standards expected of National Statistics, and to improve its statistics on a continuous basis. If a producer becomes concerned about whether its statistics are still meeting the appropriate standards, it should discuss its concerns with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

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Foreword

Few would disagree that population statistics are as central to a national statistical system's infrastructure as roads are to a country's transport system or the national grid is to its power supply, and so need to meet the highest standards of trustworthiness, quality and value. They provide a detailed picture of the size and composition of the country's population, the drivers for change, and – reflecting well-documented assumptions – the way in which it might change in the years ahead. And in general they do so consistently and coherently from the level of the UK down to very small building blocks. Like all infrastructure, population statistics benefit from regular review and improvement.

This suite of assessment reports – covering population estimates and projections produced about all four administrations of the UK – finds much to celebrate. The good examples of joint working between the four bodies producing population statistics across the UK provide the opportunity and the platform to ensure the continuing coherence and comparability of these statistics. This joint working can ensure that any divergence – in definitions, methods or production arrangements – is justifiable and minimised. The producers' engagement with users exploits a range of methods including groups of expert users, mailing lists and, online fora, reflecting the different user needs.

During the Assessments we found evidence that the resources devoted to population statistics across most of the UK are under significant pressure, exemplified by reductions in the frequency and level of detail of some statistics. And ONS's capacity to provide timely methodological and research leadership across the UK may be at risk, with potentially far-reaching adverse consequences.

Resource constraints limit producers' ability to actively harness the wider expertise that exists within the UK and internationally and reduces their ability to address the recommendation from the recent European peer review¹ of the UK's statistics to 'harmonise UK statistics in order to ensure coherence and comparability in the production of official statistics within the UK, over time and among producers of statistics' in relation to population estimates and projections. And the engaged and knowledgeable users who interact with producers have diverse interests that need to be taken into account in developing methods and outputs – placing further demand on resources – and there are more users with whom dialogue is less well established.

We conducted this series of Assessments reflecting existing methods used to produce population statistics. But we recognise that changes are already happening and will intensify over the next decade. The continuing growth in the use of administrative data and the work being done to reduce dependency upon costly traditional decennial censuses, has the potential to radically alter the landscape for population statistics. It will provide new sources with potential to inform the production and assurance of population estimates and projections. And proposed improvements to the legal base for data sharing would enable more value to be derived from data already held by government – this is in itself a powerful stimulus for improved data sharing legislation.

¹ <http://ec.europa.eu/eurostat/documents/64157/4372828/2015-UK-report/d44f7d3f-64c1-4450-8a37-bfad8542607>

Taking forward actions to meet the specific Requirements in this report will enhance the trustworthiness, quality and value of these statistics, and will earn them the continued right to be labelled as National Statistics. But – because of their position in the UK statistics infrastructure – producers need to be far-sighted to counter the challenges of reducing resources and make the most of the opportunities of administrative data and census replacement to add further value to these statistics. Until then, it is vital that resources are maintained and that the statistics can continue to flourish while the longer term changes take full effect.

Ed Humpherson

Director General for Regulation, UK Statistics Authority

1 Summary of findings

Introduction

- 1.1 This is one of a series of reports² prepared under the provisions of the *Statistics and Registration Service Act 2007*³. The Act gives the Statistics Authority power to re-assess whether the *Code of Practice for Official Statistics*⁴ continues to be complied with in relation to official statistics already designated as National Statistics. The report covers the following population estimates and projections (population) statistics produced by the Northern Ireland Statistics and Research Agency (NISRA) for Northern Ireland and reported in:
- *Population and Migration Estimates Northern Ireland*⁵
 - *Estimates of the Population Aged 85 and Over, Northern Ireland*⁶
 - *Northern Ireland Population Projections*⁷
 - *Population Projections for Areas Within Northern Ireland*⁸
- 1.2 This report forms part of a broader assessment of sets of population statistics across the UK that are produced by the Office for National Statistics (ONS); the Welsh Government; National Records of Scotland (NRS) and NISRA. Assessment reports 309, 310 and 311 examine the population statistics for England, Wales and Scotland respectively.
- 1.3 The previous assessment of these sets of statistics was included in Assessment report 124⁹. They are among the UK's most prominent National Statistics and are being re-assessed because they are an important input to national and local planning activity and to a large number of economic and social statistics.
- 1.4 This report was prepared by the Authority's Assessment team, and approved by the Regulation Committee on behalf of the Board of the Statistics Authority, based on the advice of the Director General for Regulation.

Decision concerning designation as National Statistics

- 1.5 The Authority judges that the statistics covered by this report are 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 Authority confirms that the population statistics for Northern Ireland are designated as National Statistics, subject to NISRA implementing the Requirements listed in paragraph 1.11 and reporting them to the Authority by

² <http://www.statisticsauthority.gov.uk/assessment/assessment-reports/index.html>

³ http://www.opsi.gov.uk/Acts/acts2007/pdf/ukpga_20070018_en.pdf

⁴ <http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html>

⁵ <http://www.nisra.gov.uk/demography/default.asp17.htm>

⁶ <http://www.nisra.gov.uk/demography/default.asp134.htm>

⁷ <http://www.nisra.gov.uk/demography/default.asp20.htm>

⁸ <http://www.nisra.gov.uk/demography/default.asp47.htm>

⁹ <http://www.statisticsauthority.gov.uk/assessment/assessment-reports/assessment-report-124---statistics-on-demography-and-vital-events-in-northern-ireland.pdf>

January 2016. The exception is for Requirement 1a) where the deadline is March 2016 to allow time for the user consultation to be completed (which is due by February 2016) and the outcome of the consultation to be published.

- 1.6 NISRA has informed the Assessment team that it has started to implement the Requirements listed in paragraph 1.11. The Authority welcomes this.

Summary of strengths and weaknesses

- 1.7 The statistical reports produced by NISRA on population estimates and projections are generally of good quality, containing useful commentary putting the statistics into context, and providing tables at a range of different geographies and in a variety of formats. The reports are also supported by methodology and quality documents which are well written and easy to understand.
- 1.8 NISRA engages well with a wide range of users via the Northern Ireland Census Advisory Group (CAG)¹⁰, which advises on both census and demography issues. In February 2015, NISRA considered the future of this group, including increasing the focus on demography statistics and potentially widening the membership. NISRA also contacts users via a user database that includes those who have previously requested data or information. This list is mainly used to inform users of publication dates but NISRA does not currently use it to consult users about issues such as methodology, quality and dissemination changes.
- 1.9 NISRA's website contains a lot of useful information and data about population, but these are not always easy to find. However, NISRA has made some improvements to the website during this assessment. NISRA has also published some infographics and interactive content to the website which makes the statistics more accessible to non-expert users.

Detailed recommendations

- 1.10 The Assessment team identified some areas where it felt that NISRA should improve the production and presentation of population statistics for Northern Ireland. Those which are essential for NISRA to address in order to strengthen its compliance with the *Code* and to enable designation as National Statistics are listed – as Requirements – in paragraph 1.11, alongside a short summary of the key findings that led to each Requirement being made. Other recommended changes, which the Assessment team considers would improve the statistics and the service provided to users but which are not formally required for their designation as National Statistics, are listed – as Suggestions – in paragraph 1.12.

Requirements for designation as National Statistics

- 1.11 This section includes those improvements that NISRA is required to make in respect of its statistics on population estimates and projections in order to fully

¹⁰ <http://www.nisra.gov.uk/census/2011/background/census-advisory-group.html>

comply with the *Code of Practice for Official Statistics*, and to enable designation as National Statistics.

Finding	Requirement
<p>NISRA did not consult users about the decision to stop producing <i>Small Area Population Estimates</i>. NISRA should:</p>	<p>1</p> <p>a) Consult users from a broad spectrum of sectors about the future of Small Area Population Estimates and the decision to subsume this report into Population and Migration Estimates Northern Ireland and publish the results of this consultation, the actions to be taken and a timetable for implementation</p> <p>b) Produce and publish documentation about how it will consult users about future changes to methodology or dissemination that are likely to significantly affect the use of the statistics</p> <p>(para 3.4).</p>
<p>NISRA has not published documentation about the consultation on the statistics work programme, or on how users' views are being taken forward through its statistical planning, and the priorities for individual sets of statistics or how these are set. NISRA should:</p>	<p>2</p> <p>Improve published documentation about statistical planning ensuring it:</p> <p>a) Is up-to-date</p> <p>b) Takes full account of user needs</p> <p>c) Is transparent about priority setting and the reasons that particular choices are made</p> <p>d) Reflects the obligation to serve the public good.</p> <p>(para 3.6).</p>
<p>NISRA has not sufficiently identified or explained the assurance arrangements undertaken for source data, its own assurance procedures for migration data, or the role of external bodies in inspecting or auditing the data collecting organisations; accordingly it has not communicated this</p>	<p>3</p> <p>a) Update its SoAS to ensure that all the data sources are included and the information about them, including the statistical products to which they contribute, is accurate</p> <p>b) Ensure that data sources are named consistently across publications, or refer to the different names and explain in the publications the reasons for those differences</p> <p>c) Publish an appropriate level of detail to inform users about the data assurance and audit arrangements for all the administrative data sources used in the production of the population estimates and</p>

<p>information in an accessible way to users. NISRA has not fully updated its <i>Statement of Administrative Sources</i> (SoAS) which lists the administrative data sources used to produce the population estimates and projections statistics and other documentation is inconsistent with the SoAS. NISRA should:</p>		<p>projections publications, taking into consideration the Authority's <i>Administrative Data Quality Assurance Toolkit</i> (para 3.16).</p>
<p><i>Estimates of the Population Aged 85 and Over, Northern Ireland</i> does not contain any information about the quality of the statistics or what quality assurance processes have been taken. NISRA should:</p>	<p>4</p>	<p>Publish information about the quality of the data in <i>Estimates of the Population Aged 85 and Over, Northern Ireland</i>, and the quality assurance measures that are taken (para 3.19).</p>
<p>Documents that compare the population estimates produced in all countries in the UK have not been updated since their publication. NISRA should:</p>	<p>5</p>	<p>a) Ensure that the remaining comparison documents on the population estimates and projections produced in all countries in the UK are updated and published as planned</p> <p>b) Carry out, and publish, a review of the methodological and comparability differences and, based on knowledge of the uses of the statistics and expert input, evaluate whether the differences are justifiable</p> <p>As part of meeting this Requirement, NISRA should work together with the Welsh Government, NRS and ONS (para 3.22).</p>
<p>Linkage is insufficient to documentation about users, the previous censuses, and to ongoing</p>	<p>6</p>	<p>Review and improve, where relevant, the signposting and navigation from the population section of NISRA's website by referencing, and linking to, relevant documentation from previous censuses and</p>

development work. NISRA should:	the 2021 Census Planning section of NISRA's website (para 3.28).
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Suggestions for extracting maximum value from the statistics

1.12 This section includes some suggestions for improvement to NISRA's statistics on population estimates and projections, 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.

We suggest that NISRA:

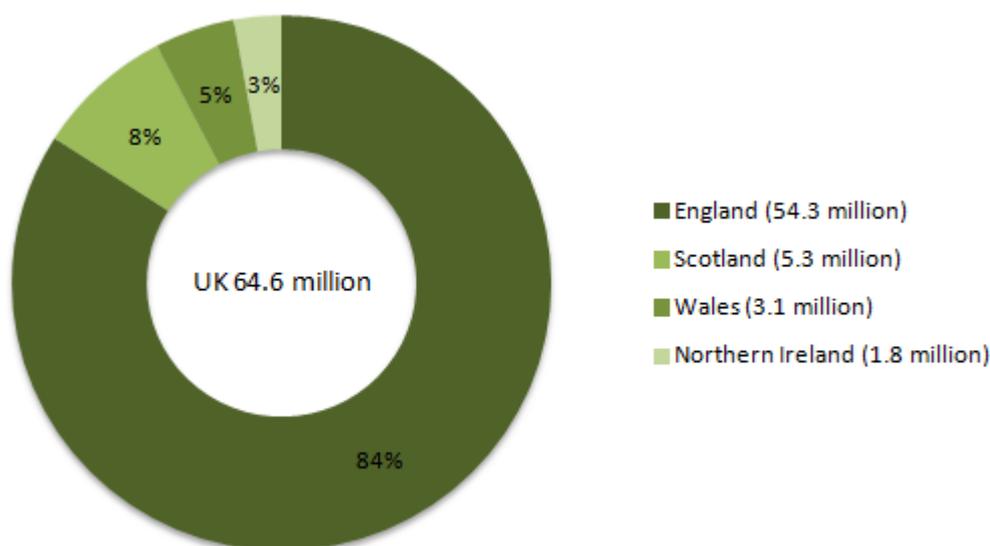
1	Ensure that CAG takes the actions agreed at its February 2015 meeting (para 3.2).
2	Monitor the resources allocated to the production of these statistics to ensure that they continue to be sufficient to meet the standards of the <i>Code of Practice</i> and the obligation within it to serve the public good (para 3.7).
3	Work closely with colleagues within NISRA and statistical producers in ONS, Welsh Government and NRS to clarify data assurance arrangements for administrative data (para 3.16).
4	Review its published process map for accuracy and consistency (para 3.16).
5	Add a link to <i>UK Population Revisions Policy</i> from all of its population estimates and projections statistical reports (para 3.24).
6	Consider the points detailed in annex 1 and annex 2 in order to enhance the statistical reports (para 3.25).

2 Subject of the assessment

Population Statistics across the UK

2.1 Population statistics are an essential part of the UK's statistics infrastructure. They describe the size and structure of the population of the UK, illuminate how and why the population is changing, and project how it might change in the future. The statistics play a vital part in planning and inform decision making from national to local level and are a building block in the development of a large number of economic and social statistics. Figure 1 shows the estimated size of UK population – 64.6 million, which was an increase of 0.77 per cent on the 2013 estimate – and its constituent parts at 30 June 2014.

Figure 1: Mid-year population estimates for the UK mid-2014



Source: Office for National Statistics, National Records of Scotland, Northern Ireland Statistics and Research Agency, as presented in *Mid-year population estimates 2014*¹¹

Note: Numbers do not add exactly due to rounding

2.2 In the UK, population size is estimated annually at 30 June. Annual estimates take into account births, deaths and changes to population through internal and international migration since the previous year. They are made using the detailed estimates of population that are produced from the population census¹² as a baseline; this baseline is updated every ten years.

2.3 Population projections are currently produced every second year in the UK. They are based on mid-year estimates and a set of assumptions about future changes to births, deaths and migration. The population projections are trend-

¹¹ http://www.ons.gov.uk/ons/dcp171778_406922.pdf

¹² In the UK there are three population censuses: England and Wales census, Scotland census, and Northern Ireland census. In this report 'census' will refer to the population census for Northern Ireland unless otherwise specified.

based. They are not policy-based forecasts of what the government expects to happen. Instead they show the consequences of present demographic trends. They are less reliable in periods of rapid change. Variant projections illustrate how the size of the population would change if the assumptions that were made about fertility, mortality and migration changed.

- 2.4 Four organisations – ONS, the Welsh Government, NRS and NISRA – produce population estimates and projections that cover all or part of the UK. ONS produces population estimates for England and Wales and for the UK as a whole, and NRS and NISRA produce their own population estimates for Scotland and Northern Ireland respectively. ONS also produces national population projections for the UK and each of the constituent countries – England, Wales, Scotland and Northern Ireland – and sub-national projections for England. The Welsh Government, NRS and NISRA produce their own sub-national projections for Wales, Scotland and Northern Ireland respectively.
- 2.5 The four producers publish statistics in separate publications that cover the UK as a whole; the constituent countries and administrations; sub-national geographies such as local authorities; and selected population sub-groups. The main differences in the publications are:
- in the specific lower geographies for which estimates and projections are published
 - in the publication of estimates by marital status: ONS is the only producer who publishes national population estimates – for England and Wales combined – by marital status; currently NRS is consulting users about the demand for marital status estimates for Scotland
 - in the detail of the estimates of the elderly: ONS publishes national estimates of the number of people aged 90 or over for England and Wales combined, as do NRS for Scotland; NISRA publishes estimates for Northern Ireland for people aged 85 or over
- 2.6 Further detail of the primary and processed data sources that NISRA uses to produce the population estimates and projections and the data flows are described in paragraph 2.14 to 2.19 and shown in figure 2.

Population Statistics in scope of this assessment

- 2.7 NISRA produces a range of statistical reports on population and projections:
- *Population and migration estimates, Northern Ireland* is published annually and presents statistics on the population of Northern Ireland as a whole and for local government districts, Parliamentary constituencies and super output areas within Northern Ireland. The statistics are based on the latest census data for Northern Ireland and take account of the population changes since the census using data from administrative sources covering the components of population change – births, deaths and migration. The report presents statistics on the population of Northern Ireland by age and sex, as well as statistics on the components of change. It also includes historical information and population densities. NISRA publishes supplementary tables for various other sub-national areas including health districts, former local government

districts, education and library boards, electoral wards and neighbourhood renewal areas

- *Estimates of the population aged 85 and over, Northern Ireland* is published annually. It presents an analysis of the total number of people aged 85 and over, aged 90 to 99 and over 100. It includes breakdowns by gender and comparisons with England, Scotland, Wales and the UK as a whole. Supporting tables are available that include data from 2001 to 2013
- *Population projections for Northern Ireland* is published every two years and presents an estimate of the future population of Northern Ireland, and some variant projections (alternative projections based on different underlying assumptions). The projections are trend-based and do not anticipate possible changes to Government policy. The Government Actuary's Department (GAD) was responsible for producing the projections from the first estimates in 1954 until 2006. The latest NISRA report includes tables and charts for projections up to 2037, although the main body of the report mainly concentrates on 15-year projections up to 2027
- *Population projections for areas within Northern Ireland* is published every two years and presents 10 and 25-year population projections for local government districts. These statistics are consistent with the Northern Ireland projections produced by ONS. The projections are broken down by age and include information about the effects of migration, fertility and mortality. The publication includes a 'key facts' sheet for each Local Government District, highlighting the projected population for the period mid-2012 to mid-2022. Tables are published separately for these and other local areas

2.8 Up until the 2013 population estimates, NISRA published small area population estimates in a separate publication – *Small Area Population Estimates*¹³ that had National Statistics status. Subsequently this publication was combined into *Population and Migration Estimates, Northern Ireland*.

Users and uses of Population Statistics

2.9 Population statistics are used by a range of users to understand what the population of Northern Ireland looks like as a whole and at local level, to feed into the development of wider economic and social statistics and to inform decision-making. Population estimates are widely used within central government, as well as being used by local authorities and health bodies, other public bodies, commercial companies and individuals in the private and academic sector:

- the UK government uses population statistics to allocate public funds to the Northern Ireland Executive
- the Northern Ireland Executive and government departments use population estimates and projections to plan services and resources including for health, housing and education

¹³ <http://www.nisra.gov.uk/demography/default.asp125.htm>

- more generally, the statistics are used to calculate rates (as the denominator), and to weight survey data in order to estimate results for the whole population
- these statistics are also of interest to those involved in research & academia
- commercial organisations use these statistics for strategic planning, evaluation and project review

History and Governance

- 2.10 NISRA is an Executive Agency within Northern Ireland's Department for Finance and Personnel (DFPNI) and is the principal source of official information about Northern Ireland's population and socio-economic conditions. The Agency also incorporates the General Register Office for Northern Ireland (GRONI). The Population and Migration team within NISRA's Demography and Methodology Branch produces the population estimates and projections that are the subject of this assessment.
- 2.11 NISRA's corporate governance arrangements operate across the organisation as a whole. An Agency Board, consisting of the agency Chief Executive and senior statisticians, meets regularly to discuss strategic management issues. This is supplemented by regular meetings of the agency's Senior Managers' Forum, which consists of the Board and the next level of senior managers.
- 2.12 NISRA is an active member of the UK Population Theme Group¹⁴ (UKPTG) and the UK Population Theme Advisory Board¹⁵ (UKPTAB). These groups are all chaired by ONS and attended by representatives from ONS, the Welsh Government, NRS and NISRA, along with other relevant users such as academics, to produce a strategic and co-ordinated approach to statistical planning across the UK, including improving the quality of statistics and analysis. The national projections output is also overseen by the National Population Projection Committee made up of representatives from ONS, the Welsh Government, NRS, NISRA and the Home Office. NISRA is also a member of the Statistics Advisory Committee¹⁶ and the Northern Ireland Statistics Coordinating Group¹⁷. These are both high level groups and are not attended directly by the statistics team, but they have access to them via senior management within NISRA.
- 2.13 NISRA was established in 1996. Before that, estimates of population were published in the Registrar General for Ireland's annual report from 1887 and the Registrar General for Northern Ireland's annual report from 1922. ONS has produced population projections since 2006. The Government's Actuary

¹⁴ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/population-statistics-meetings-and-user-groups/population-theme-group/index.html>

¹⁵ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/national-statistics-centre-for-demography-advisory-board/index.html>

¹⁶ The Statistics Advisory Committee SAC is a statutory public body whose role is to advise Northern Ireland departments on all matters relating to the collection and disclosure of statistical information: <http://www.nisra.gov.uk/aboutus/default.asp.htm>

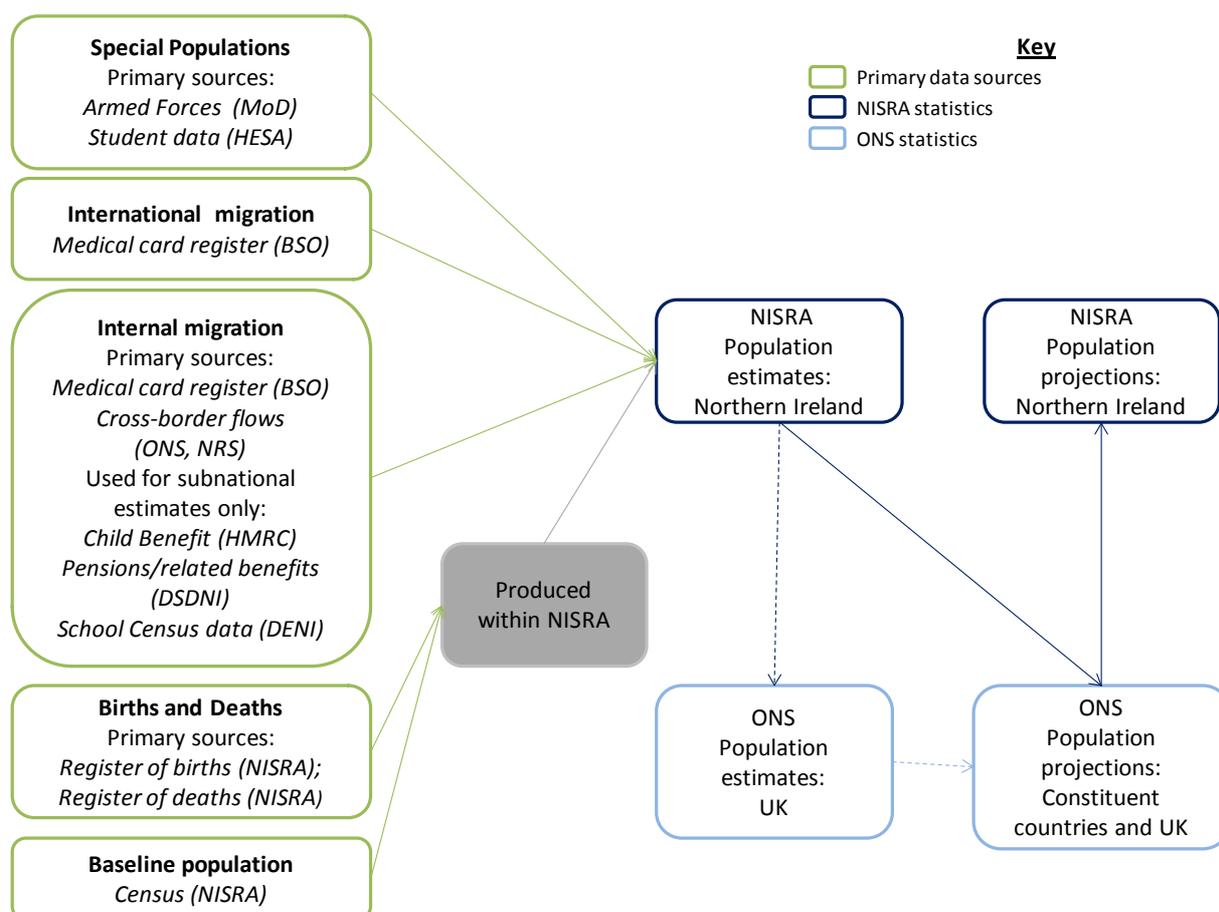
¹⁷ The Northern Ireland Statistics Coordinating Group considers and makes recommendations regarding the need for, and provision of, statistics for economic and social policy in Northern Ireland

Department produced these before then. NISRA published Small Area Population Estimates for Northern Ireland for the first time in March 2010.

Data Sources and flows

- 2.14 Population estimates for Northern Ireland draw on data that are processed by NISRA, as well as directly from primary data sources. The primary source data – including those processed by NISRA – are drawn from administrative systems and the Northern Ireland population census. These primary and processed data flow between different teams in NISRA, and between NISRA and ONS.
- 2.15 Teams within NISRA variously:
- conduct the population census in Northern Ireland and process census data
 - process data on births and deaths received from the General Register Office's Registration and Certificate Modernisation System (RCMS)
- 2.16 The statistics team that produces the population estimates and projections also produces estimates of migration. NISRA, ONS and NRS share data between them on cross-border migration flows.
- 2.17 NISRA supplies the Northern Ireland mid-year estimates and estimates of older people for Northern Ireland to ONS. ONS combines these with its own estimates for England and Wales and similar estimates from Scotland to produce mid-year estimates and estimates of the number of older people across the UK.
- 2.18 ONS produces population projections for the UK and all the constituent countries within the UK using data from the various mid-year population estimates. NISRA publishes a report on the national population projections for Northern Ireland using data supplied by ONS, and produces population projections for areas within Northern Ireland.
- 2.19 Figure 2 shows a simplified diagram of the data sources, processing and data flows for the production of population estimates and projections for Northern Ireland.

Figure 2: Simplified main data suppliers, sources and flows: Population estimates and projections for Northern Ireland



Source: produced by Assessment team

Note: This diagram is a simplified summary of the flow of data from primary source through to population estimates and projections. It groups together the publications for Northern Ireland with those within Northern Ireland and by demographic group. It does not distinguish sources by method and refers to sources by their more common, rather than technical, names.

Open Data and Costs

2.20 NISRA publishes population estimates and projections statistics that are the subject of this assessment in PDF formats with supplementary tables published in Excel format. The tables are also available to download from the Northern Ireland Neighbourhood Information Service (NINIS)¹⁸ website in PDF, Excel and CSV formats. This equates to a level of three stars under the Five Star Scheme that DFPNI has committed to achieve in its Open Data Strategy¹⁹. Five stars represents the highest star rating within the Scheme.

2.21 NISRA estimates that the cost of producing the population statistics for Northern Ireland – based on full economic costing and excluding the cost of data collection – is approximately £134,000.

¹⁸ www.ninis.nisra.gov.uk

¹⁹ http://www.dfpni.gov.uk/open_data_strategy_for_northern_ireland_2015-18.pdf

3 Assessment findings

User Engagement

Suggestions from previous Assessment report 124 (July 2011):

- Publish the minutes and relevant papers of the CAG and other statistical groups on their website
- Refer to the types of use put forward in the Monitoring Brief: *The Use Made of Official Statistics*

3.1 The statistics team's main face to face engagement with its users is through the Northern Ireland CAG²⁰, which advises on both census and demography statistics. The group usually meets twice a year and includes a wide range of users, including central and local government, academics, commercial organisations, and the housing sector. The membership, Terms of Reference (ToR) and minutes of the meetings are available on NISRA's website. The minutes include links to documents or presentations considered at the meetings. NISRA consults CAG on a range of issues, for example, the long-term assumptions for the population projections for areas within Northern Ireland²¹.

3.2 The future of CAG was discussed at the last CAG meeting in February 2015, which has resulted in some likely changes being made to the group. The minutes²² of the meeting state that the following decisions were agreed:

- the CAG (or something similar) should be retained in an advisory and methodology quality assurance role
- the ToR should be reviewed, brought up to date, and widened to include demographic statistics
- if the remit is widened the CAG should be renamed – Demographic Statistics Advisory Group
- the current membership should be retained, to maintain the level of expertise and experience that they bring to the group, and could be widened, if necessary
- meetings should be twice a year, where possible

The Authority welcomes these decisions, which it feels will increase and enhance user engagement with population statistics. We suggest that NISRA ensure that CAG takes the actions agreed at its February 2015 meeting.

3.3 The statistics team told us that its main engagement with users is through the queries and correspondence that it receives and that it maintains a database of all user requests that it receives. It uses this to inform users of future publications dates, or any revisions or corrections to published statistics (see paragraph 3.23). However, NISRA does not actively use this list to consult

²⁰ See footnote 10

²¹ http://www.nisra.gov.uk/archive/demography/population/projections/lgd/SNPP12_Assumptions.pdf

²² <http://www.nisra.gov.uk/archive/census/2011/cag/minutes/25-02-2015.pdf>

users about issues such as changes to methodology or dissemination of statistics. For example, NISRA did not consult users about the decision to stop producing *Small Area Population Estimates*, which used to be published as a separate report, providing commentary on a range of small geography population estimates. NISRA has subsumed this report in *Population and Migration Estimates Northern Ireland*, which now contains commentary and analysis for Northern Ireland, the 11 Local Government Districts and small area geographies. The statistics team told us that it did not consult because they expected that making population estimates for small geographical areas available roughly three months earlier would benefit all users and that the report 'could not cater for each user'. The *Code of Practice* is clear that producers should consult users before making change that affect the statistics or publications. NISRA told us that it would discuss the decision to merge these two reports with users at a population statistics user event, which is likely to be held between December 2015 and February 2016, to assess whether it meets their needs.

3.4 As part of the designation as National Statistics, NISRA should:

- a) consult users from a broad spectrum of sectors about the future of *Small Area Population Estimates* and the decision to subsume this report into *Population and Migration Estimates Northern Ireland* and publish the results of this consultation, the actions to be taken and a timetable for implementation
- b) produce and publish documentation about how it will consult users about future changes to methodology or dissemination that are likely to significantly affect the use of the statistics²³

(Requirement 1).

3.5 NISRA carries out an annual online survey of user satisfaction²⁴. The survey is sent by email to the known users of NISRA's statistics, identified by all teams within NISRA. The latest survey for 2014 was sent to 2,010 users, and received 347 responses. NISRA has published summary results to the 'Government publications²⁵' section of its website. The statistics team told us that it receives more-detailed breakdowns of the results for the demography statistics users only, which covers vital events, population and migration statistics. The 2014 survey results for demography statistics users²⁶ show a 100 per cent 'positive' rating, meaning that users were 'satisfied' or 'very satisfied' with the overall service provided by NISRA, and all aspects of that service. This compared to a 'positive' rating of 98 per cent for NISRA as a whole in 2014.

²³ In relation to Principle 1, Practice 1 and Protocol 7, Practice 7 of the *Code of Practice*

²⁴ http://www.nisra.gov.uk/publications/NISRA_Customer_Satisfaction.html

²⁵ <http://www.nisra.gov.uk/publications/default.asp21.htm>

²⁶ <http://www.nisra.gov.uk/archive/demography/population/NISRA-Customer-Survey-2014-DMB-Results.pdf>

Statistical Planning and Resourcing

Requirements from previous Assessment report 124 (July 2011):

- Requirement 2: Re-examine the findings of the 2009 staff review to ensure that they have sufficient resources to produce demographic and vital events statistics to the standards of the *Code*

3.6 NISRA produces a business plan each year, the latest published business plan being for 2015 to 2016²⁷, which includes NISRA's strategic themes and milestones, and a statistics work programme for each of the official statistics themes, including population. The statistics team consults its known users on the statistics work programme before it is finalised to ensure that it best meets users' needs. The statistics team also publishes its work plan²⁸, which includes a start and end date for high-level pieces of work, as well as a target completion date, although this is not easy to locate through NISRA's website. However, NISRA has not published documentation about the consultation on the statistics work programme, or information about how users' views are being taken forward through its statistical planning, and the priorities for individual sets of statistics or how these are set. As part of the designation as National Statistics, NISRA should improve published documentation about statistical planning ensuring that it:

- a) is up to date
 - b) takes full account of user needs
 - c) is transparent about priority setting and the reasons that particular choices are made
 - d) reflects the obligation to serve the public good²⁹
- (Requirement 2).

3.7 As part of Assessment report 124, NISRA was required to consider whether there were sufficient resources devoted to the production of demography and vital events statistics to meet the standards of the *Code of Practice*. Since that assessment, NISRA has completed a review of staffing and has employed additional staff. Currently two staff members produce population estimates and projections, which is one more than during the previous assessment. Two senior staff also oversee the production of the population and migration estimates. NISRA also appointed two new directors to the division last year – a Director of Sources and a Director of Analysis – which has helped to ease the burden on staff by adding an additional layer of management. The statistics team told us that it also benefits from development work being carried out by the Administrative Data Research Network³⁰ (ADRN) team within NISRA. The statistics team told us that it felt that it was unlikely that its resources would

²⁷ http://www.nisra.gov.uk/aboutus/14_15_NISRA_Business_Plan.pdf

²⁸ www.nisra.gov.uk/archive/demography/population/workplan15_16.xls

²⁹ In relation to Principle 1, Practices 2 and 3 of the *Code of Practice*

³⁰ The ADRN is a UK-wide partnership between universities, government departments and agencies, national statistics authorities, the third sector, funders and researchers, which assists in making administrative data more accessible: <http://adn.ac.uk/>

decrease in the near future, but if they did then the team would need to reduce the number and frequency of the outputs that it produces. We suggest that NISRA monitor the resources allocated to the production of these statistics to ensure that they continue to be sufficient to meet the standards of the *Code of Practice* and the obligation within it to serve the public good.

Quality and Methods

Quality Assurance of Administrative Data

- 3.8 In light of the de-designation of police recorded crime statistics in January 2014 (in Assessment report 268), the Authority published a regulatory standard³¹ that confirms the quality assurance arrangements that are required for statistics compiled using administrative data to comply with the *Code of Practice*. The *Administrative Data Quality Assurance Toolkit*³² is the mechanism that the Authority is using to determine compliance in relation to four areas of practice:
- operational context and administrative data collection
 - communication with data supply partners
 - QA principles, standards and checks by data suppliers
 - producers' QA investigations & documentation
- 3.9 The judgment by statistical producers about the suitability of the administrative data for use in producing official statistics should be pragmatic and proportionate. It should be made in the light of an evaluation of the likelihood of quality issues arising in the data that may affect the quality of the statistics. It should also reflect the nature of the public interest served by the statistics. Statistical producers should determine the types of assurance and documentation required to inform users about the quality assurance arrangements for administrative data.
- 3.10 The population statistics that are the subject of this assessment, are produced within a complex data supply chain (figure 2 shows a simplified version). The statistics team should have reassurance about the quality of the data at each stage of the process to assess its suitability for use in the production of the population estimates. The main data sources used in the production of population estimates and projections are births and deaths registrations, and data on registration and de-registration on the Medical Card Register³³, which are all administrative data sources. The statistics team demonstrates the data quality of these sources in various ways. For example at a basic level, the published *Statement of Administrative Sources (SoAS)*³⁴ includes summary information about audit arrangements that are in place to quality assure the DFPNI-based administrative data. However, it does not include this basic level of information for those data sources that are collected by other organisations.

³¹ <http://www.statisticsauthority.gov.uk/assessment/monitoring/administrative-data-and-official-statistics/index.html>

³² <http://www.statisticsauthority.gov.uk/assessment/monitoring/administrative-data-and-official-statistics/quality-assurance-toolkit.pdf>

³³ The Medical Card Register is a database which holds information about all patients that are registered with a GP Practice within Northern Ireland

³⁴ <http://www.nisra.gov.uk/aboutus/June2015updatedDFPSAS.XLS>

NISRA told us that it is liaising with its Corporate Services team 'regarding the availability of quality assurance processes for all data sources'.

- 3.11 Births and deaths registrations are carried out by registrars within GRONI and the quality assurance processes for these data are well documented in the births³⁵ and deaths³⁶ Quality Assessment Reports and *Vital Statistics Quality Assurance Procedures*³⁷, which include useful information about the data collection processes and quality assurance checks that are carried out on the data. *Population and Migration Estimates 2014*³⁸ summarises, and links to, the information in these documents.
- 3.12 In 2006 a joint report³⁹ was produced by ONS and the devolved administration on the range of data sources that can be used to estimate international migration. Some of these data sources have particular limitations for Northern Ireland. In particular, it is difficult to distinguish whether or not an origin or destination of 'Ireland' is referring to 'Northern Ireland' in the International Passenger Survey data. Therefore the main data source that is used to estimate both internal and international migration for Northern Ireland is the Medical Card Register data. Validation checks are carried out on the data by the data supplier, Business Service Organisation (BSO), before being passed to the statistics team. The statistics team then carries out further checks, including data cleansing and consistency checks with previous years' data and other data sources. However, NISRA has not published sufficient detail about the quality assurance arrangements undertaken by the statistics team with regards to the migration data, or the role of BSO in inspecting or auditing the data collection.
- 3.13 The methodology used for the production of the small area population estimates requires additional administrative data sources, including school census⁴⁰, child benefit⁴¹, and pensions⁴² and related benefits⁴³. NISRA describes these data sources in *Northern Ireland Population Estimates - Quality Report*⁴⁴ (paragraph 3.18), explaining their coverage of the population, their limitations and how they account for these limitations. The quality report also includes useful links to further information about these data sources from the suppliers' websites. However, it does not include information about the quality assurance arrangements that are carried out on these data, either by the statistics team or by the data suppliers, to provide reassurance of the data quality.

³⁵ http://www.nisra.gov.uk/archive/demography/publications/Northern_Ireland_Birth_Statistics_Quality_Assessment.pdf

³⁶ http://www.nisra.gov.uk/archive/demography/publications/Northern_Ireland_Death_Statistics_Quality_Assessment.pdf

³⁷ http://www.nisra.gov.uk/archive/demography/publications/vital_stats_QA.pdf

³⁸ http://www.nisra.gov.uk/archive/demography/population/midyear/MYE14_Bulletin.pdf

³⁹ http://www.nisra.gov.uk/archive/demography/population/migration/Mig_Report11_12.pdf

⁴⁰ http://www.deni.gov.uk/index/32-statisticsandresearch_pg/32-statistics_and_research_statistics_on_education_pg/32_statistics_and_research_numbersofschoolsandpupils_pg/statistics_and_research-school_census_documentation.htm

⁴¹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/407548/Child_Benefit_Geographical_Statistics_Aug_2014.pdf

⁴² <http://www.dsdni.gov.uk/state-pensions-your-guide-pm2.pdf>

⁴³ Related benefits include Attendance Allowance, Disability Living Allowance, Widows Benefit, Bereavement Benefits, State Pension Credit, Incapacity Benefit and Winter Fuel Payment

⁴⁴ http://www.nisra.gov.uk/archive/demography/population/midyear/MYE14_Quality.pdf

- 3.14 DFPNI published its corporate SoAS, which identifies the administrative data sources that are used to produce DFPNI's statistical outputs. It distinguishes between those data sources that are owned and managed by DFPNI – including those produced by NISRA – and those which are administered by other organisations. During this assessment NISRA updated its SoAS and published a process map⁴⁵ to illustrate the supply of data that are used to produce the population estimates and projections.
- 3.15 The updated SoAS and other documentation – including the new process map – do not contain the same information. For example, the SoAS refers to the information about patients registered with a GP as NHAIS (National Health Applications and Infrastructure Services), while other documentation, such as *Mid-2014 Population Estimates Scotland*, refers to it as the Medical Card Register or the RCMS. The SoAS does not include the armed forces data that the Ministry of Defence supplies – they are used to derive the special population estimate – while it includes the Northern Ireland electoral roll as a source for small area population estimates, although this is not mentioned in other documentation. The list in the SoAS of all statistical products that are derived from each source does not appear to be complete for the various population estimates and projections publications. For example no sources are identified for population projections for Northern Ireland or for areas within Northern Ireland.
- 3.16 NISRA has not sufficiently identified or explained the assurance arrangements undertaken for source data, its own assurance procedures for migration data, or the role of external bodies in inspecting or auditing the data collecting organisations; accordingly it has not communicated this information in an accessible way to users. NISRA has not fully updated its SoAS which lists the administrative data sources used to produce the population estimates and projections statistics and other documentation is inconsistent with the SoAS. As part of the designation as National Statistics, NISRA should:
- a) update its SoAS to ensure that all the data sources are included and the information about them, including the statistical products to which they contribute, is accurate
 - b) ensure that data sources are named consistently across publications, or refer to the different names and explain in the publications the reasons for those differences
 - c) publish an appropriate level of detail to inform users about the data assurance and audit arrangements for all the administrative data sources used in the production of the population estimates and projections publications, taking into consideration the Authority's *Administrative Data Quality Assurance Toolkit*⁴⁶
- (Requirement 3).
- In meeting this Requirement, we suggest that the statistics team work closely with colleagues within NISRA and statistical producers in ONS, Welsh Government and NRS to clarify data assurance arrangements for

⁴⁵ http://www.nisra.gov.uk/archive/demography/population/Diagram_PopStat.pdf

⁴⁶ In relation to Principle 4, Practice 2, Principle 8, Practice 1, and Protocol 3 Practice 5 of the *Code of Practice*

administrative data. We further suggest that NISRA review its published process map for accuracy and consistency and updates it as required.

Quality and Methodology Documentation

Requirements from previous Assessment report 124 (July 2011):

- Requirement 3: Provide more information on the quality and reliability of demographic and vital events statistics in relation to the range of potential uses and limitations

Suggestions from previous Assessment report 124 (July 2011):

- Publish quality assurance guidelines for the demography statistics

- 3.17 NISRA has published *Northern Ireland Population Estimates – Methodology*⁴⁷ to accompany *Population and Migration Estimates Northern Ireland*. The methodology paper is written in simple language and is easy for non-expert users to understand. Since NISRA has subsumed *Small Area Population Estimates* into *Population and Migration Estimates Northern Ireland*, the methodology paper includes a summary of the methodology for both mid-year population estimates and the small area population estimates. The mid-year population estimates are produced using the cohort component method⁴⁸, which is the same method used to produce the mid-year population estimates for the other constituent countries of the UK. The small area population estimates are produced using a ‘mixed approach’ methodology, which takes the average of the estimates from the cohort component method and the ratio change method⁴⁹. More-detailed information about both methodology and quality assurance processes in the production of the small areas population estimates, including an explanation for why the ‘mixed approach’ was taken, can be found in *Small Area Population Estimates 2008*⁵⁰, which is linked to within the methodology document. This publication included analysis that shows that the Cohort Component and Ratio Change methods yielded similar small area population estimates for mid-2008.
- 3.18 *Population and Migration Estimates Northern Ireland 2014* highlights the limitations of the data, as well as presenting high-level information about methodology and quality assurance processes. *Northern Ireland Population Estimates – Quality Report*⁵¹ accompanies this report. It shows the range of data sources that are used to produce the population estimates, the limitations of these data sources, and the quality assurance work that is carried out on the population estimates. The document also contains useful charts to show the

⁴⁷ http://www.nisra.gov.uk/archive/demography/population/midyear/Methodology_2014.pdf

⁴⁸ The cohort component method is where the previous year’s population estimate is aged on by one year, births are added, deaths removed, and an adjustment is made for migration

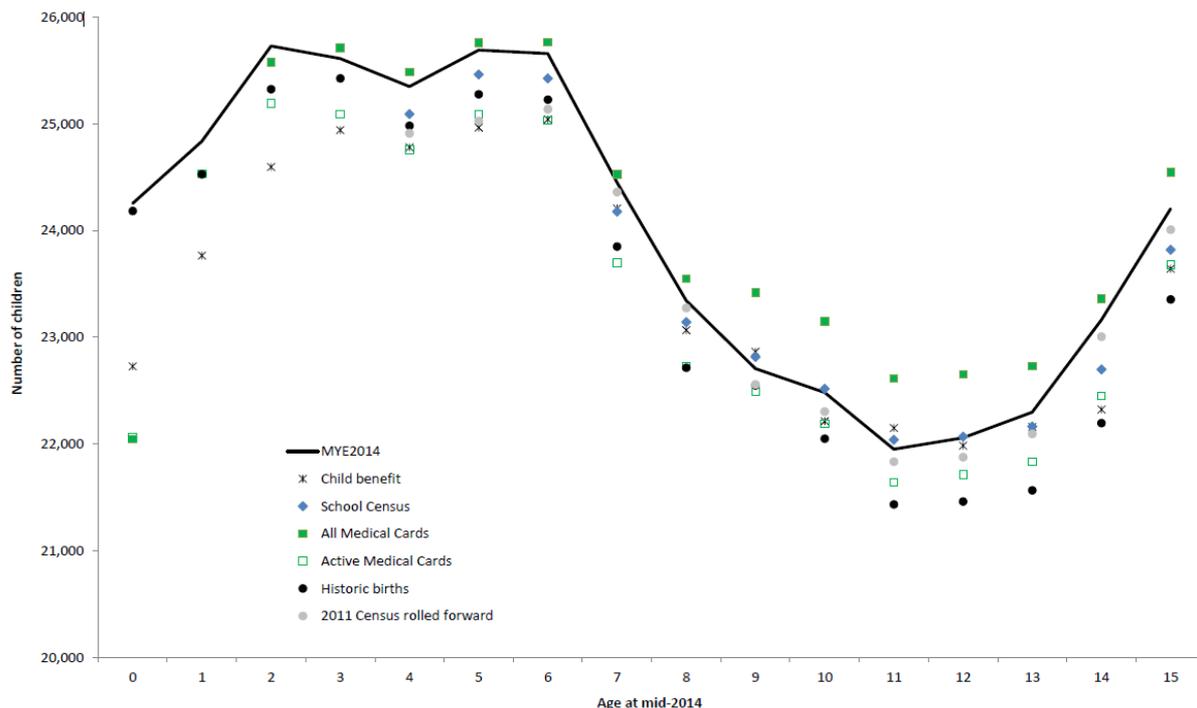
⁴⁹ The ratio change method is where selected indicators of population change are used to update the population estimate from some earlier or base period. The method assumes an unchanged relationship over time between the chosen indicator and the true population.

⁵⁰ http://www.nisra.gov.uk/archive/demography/population/small_area/SAPEdocFinal.pdf

⁵¹ See footnote 44

variance in the different data sources. Figure 3 is one example of the charts and shows the variance between the 2014 mid-year population estimates and secondary data sources for children aged 0 to 15.

Figure 3: Variance in 2014 Mid-year population estimates and secondary data sources, children (non-zero y-axis)



Source: NISRA, *Northern Ireland Population Estimates – Quality Report*⁵².

3.19 *Estimates of the Population Aged 85 and Over, Northern Ireland* contains a useful description of the Kannisto-Thatcher Survivor Ratio⁵³ methodology used to produce these statistics, including a link to more-detailed information about the method. However, the report does not contain any information about the quality of the data or what quality assurance processes have been undertaken. As part of the designation as National Statistics, NISRA should publish information about the quality of the statistics in *Estimates of the Population Aged 85 and Over, Northern Ireland*, and the quality assurance measures that are undertaken on the data⁵⁴ (Requirement 4).

3.20 NISRA has published a *Methodology Paper – Population Projections for Areas Within Northern Ireland*⁵⁵ to accompany the sub-national population projections. This includes information about methodology, comparisons with historic data, and limitations of the data. NISRA has also published a link to a methodology report produced by ONS – *National Population Projections Quality and Methodology Report*⁵⁶.

⁵² See footnote 44

⁵³ The population at a given age is estimated by looking at the ratio of the number of survivors of a cohort still alive to the number of that cohort who died in the last few years

⁵⁴ In relation to Principle 4, Practice 2 of the *Code of Practice*

⁵⁵ http://www.nisra.gov.uk/archive/demography/population/projections/lgd/SNPP12_Methodology.pdf

⁵⁶ <http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/population/quality-and-methodology-information-for-national-population-projections.pdf>

Comparability and Coherence

Requirements from previous Assessment report 124 (July 2011):

- Requirement 1: Document how NISRA's population estimates compare with the equivalent statistics for the other countries in the UK, and the impact for users of the statistics

Suggestions from previous Assessment report 124 (July 2011):

- Work with ONS, the Welsh Government and NRS to achieve this

- 3.21 The methods and data sources that NISRA uses to produce population estimates and projections for Northern Ireland are in some cases consistent with those that are used across the rest of the UK, but there are also some exceptions. The exceptions relate to the methods and data sources used to produce sub-national population projections, mid-year population estimates, and small area population estimates.
- 3.22 In response to Requirement 1 of Assessment report 124, NISRA collaborated with ONS, the Welsh Government and NRS to produce comprehensive documentation comparing the population estimates and projections produced in all countries in the UK. ONS – with input from the other organisations – published *Population estimates for local authorities across UK constituent countries: a comparison of data sources and methods*⁵⁷ and *Sub-National Population Projections Across the UK*⁵⁸. NISRA – again with help from the remaining organisations – published *Small Area Population Estimates Across the UK*⁵⁹, which includes broad descriptions of the methods used to produce small area statistics in each country of the UK. During this assessment ONS updated *Population estimates for local authorities across UK constituent countries: a comparison of data sources and methods* to take account of changes in methods and data sources since the document was first published. For example, the 2011 Census results have been published enabling methods, and differences in these methods, to be evaluated against a robust data source. During this assessment another comparison document, *Sub-National Population Projections Across the UK*⁶⁰, produced jointly by ONS, the Welsh Government, NRS and NISRA, was updated from the original publication of May 2010. The statistics team also told us that *Small Area Population Estimates Across the UK* will be updated after all four UK countries have published their 2014 small area population estimates. As part of the designation as National Statistics, NISRA should:

⁵⁷ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/pop-ests/population-estimates-for-las/population-estimates-uk-comparisons-paper.pdf>

⁵⁸ <http://www.ons.gov.uk/ons/rel/snpp/sub-national-population-projections/2008--based-projections/subnational-population-projections-across-the-uk.pdf>

⁵⁹ http://www.nisra.gov.uk/archive/demography/population/small_area/UK_SAPE_Dec_2011.pdf

⁶⁰ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/population-projections/subnational-population-projections-across-the-uk.pdf>

- a) ensure that the remaining comparison document on the population estimates and projections produced in all countries in the UK is updated and published as planned
- b) carry out, and publish, a review of the methodological and comparability differences and, based on knowledge of the uses of the statistics and expert input, evaluate whether the differences are justifiable⁶¹

As part of meeting this Requirement , NISRA should work together with the Welsh Government, NRS and ONS (Requirement 5).

Revisions and Corrections

- 3.23 *Small Area Population Estimates 2012*⁶² was found to contain small errors when it was first published in March 2014. NISRA corrected these errors in May 2014, including a correction note in the report explaining the reason for the error and the impact that it had on the use of the statistics. Notes on the correction were also added to the metadata published in the downloadable tables on NISRA's and the NINIS websites. NISRA told us that it also contacted its known users by email to alert them of the error and the correction of the data.
- 3.24 NISRA applies the *UK Population Revisions Policy*⁶³ when making revisions to its population estimates and projections. The policy was developed jointly by ONS, the Welsh Government, NRS and NISRA and approved by the Population and Migration Statistics Inter-Departmental Strategy Group and the UKPTG. The revisions policy is published on ONS's website and NISRA includes a link to this document from the 'Official Statistics' section of its website. However, with the exception of *Estimates of the Population Aged 85 and Over, Northern Ireland*, there are no links to the revisions policy directly from any of the reports. We suggest that NISRA add a link to *UK Population Revisions Policy* from all of its population estimates and projections statistical reports.

⁶¹ In relation to Principle 4, Practice 6 and Principle 8, Practice 2 of the *Code of Practice*

⁶² http://www.nisra.gov.uk/archive/demography/population/small_area/SAPE12_Report_May14.pdf

⁶³ <http://www.ons.gov.uk/ons/guide-method/revisions/revisions-policies-by-theme/population/population-statistics-revision-policy.pdf>

Publications, Dissemination and Accessibility

Requirements from previous Assessment report 124 (July 2011):

- Requirement 4: Provide relevant commentary and explanatory information to support the interpretation of the demographic and vital events statistics

Suggestions from previous Assessment report 124 (June 2011):

- Review the current labelling of demography and vital events publications to ensure consistency and clarity

- 3.25 The population estimates and projections reports provide useful commentary on the statistics at a national and sub-national level, including data by detailed age breakdowns where appropriate, and providing analysis of short-term and long-term trends. Additional explanation of the reasons for particular trends – for example as seen in the 85 and over age group – and exploration of trends between Northern Ireland and other areas would enhance the publications further. In response to Requirement 4 of Assessment report 124, NISRA added context to the commentary and published more-detailed supporting documentation about methodology and quality of the data. The reports all contain some information about the users and uses made of the data. However, these are not described in much detail and mainly focus on central and local government uses, with little insight into the wider uses of these statistics. In order to enhance the statistical reports, we suggest that NISRA consider the points detailed in annex 1 and annex 2.
- 3.26 Documentation for many of the relevant user groups is difficult to find on NISRA's website. For example, the CAG documentation is currently published within the 'Census 2011 background' section of NISRA's website, due to the focus being mainly on the census statistics rather than the population statistics in recent years. During the course of this assessment, NISRA introduced a 'Supporting documentation' page⁶⁴ to the population section of its website. This page includes useful links to CAG, UKPTAB and Population and Migration Statistics Inter-Departmental Strategy Group documentation, as well as information about data sources, and several population presentations. This is a useful addition to the website.
- 3.27 The results of the NISRA user survey were previously difficult to find from the population section of the website. For example, the 'Official and National statistics' page⁶⁵ includes the results for demography statistics from the 2011 survey but did not include a link to the more recent NISRA-level survey results for the 2014 survey. During the course of this assessment, the statistics team has improved the signposting to these survey results.
- 3.28 NISRA's website contains a range of useful analysis and documentation about vital events and the census, which are relevant to users of population statistics. The statistical reports sometimes include links to this information, for example

⁶⁴ <http://www.nisra.gov.uk/demography/default.asp300.htm>

⁶⁵ http://www.nisra.gov.uk/demography/Official_national_stats.html

Population and Migration Estimates 2014 contains link to the vital events quality reports. However, the reports do not include sufficient linkage to documents about the quality of previous censuses, or ongoing development work that is being undertaken on Census 2021⁶⁶, which is looking at the increased use of administrative data in population estimates. As part of the designation as National Statistics, NISRA should review and improve, where relevant, the signposting and navigation from the population section of NISRA's website by referencing, and linking to, relevant documentation from previous censuses and the 2021 Census Planning section of NISRA's website⁶⁷ (Requirement 6).

- 3.29 NISRA publishes the population estimates and projections reports in PDF format and the tables are available in Excel formats. *Population and Migration Estimates Northern Ireland* also includes an infographic supplement⁶⁸. Interactive maps and population pyramids are also available on NISRA's⁶⁹ and the NINIS⁷⁰ websites. However, access to the interactive maps and population pyramids is restricted to users who have Adobe Flash Player 9.0 or above. Adobe Flash Player 9.0 is available to download freely from NISRA's website. The NINIS website also contains some interactive tables which can be downloaded in PDF, Excel and CSV formats. Accessibility of NISRA's population estimates and projections reports equates to a level of three stars under the Five Star Scheme.

⁶⁶ <http://www.nisra.gov.uk/census/2021/planning.html>

⁶⁷ In relation to Principle 8, Practice 4 of the *Code of Practice*

⁶⁸ http://www.nisra.gov.uk/archive/demography/population/midyear/MYE14_Infographic.pdf

⁶⁹ <http://www.nisra.gov.uk/demography/default.asp19.htm>

⁷⁰ <http://www.ninis2.nisra.gov.uk/public/InteractiveMapTheme.aspx?themeNumber=74&themeName=Population>

Annex 1: Compliance with Standards for Statistical Reports

- A1.1 In November 2012, the Authority issued a statement on *Standards for Statistical Reports*⁷¹. While this is not part of the *Code of Practice for Official Statistics*, the Authority regards it as advice that will promote both understanding and compliance with the *Code*. In relation to the statistical reports associated with population statistics that are the subject of this assessment, this annex comments on compliance with the statement on standards. The comments included in this annex are based on a review of:
- Population and Migration Estimates Northern Ireland (2014)*
 - Estimates of the population aged 85 and over, Northern Ireland, 2013 (and revised 2001-2012) (Est. of the population aged 85+)*
 - Northern Ireland Population Projections (2012) (Population Projections)*
 - Population Projections within Northern Ireland (2012-based)*
- A1.2 In implementing any Requirements of this report (at paragraph 1.11) which relate to the content of statistical reports, we encourage the producer body to apply the standards as fully as possible.

Include an impartial narrative in plain English that draws out the main messages from the statistics

- A1.3 All of the publications begin with good clear key points that capture the main findings. The publications are well structured with sub-sections clearly titled and are written in an accessible format. *Population and Migration Estimates* includes a good regional analysis, covering local government districts, Parliamentary constituencies and super output areas (SOA).
- A1.4 The statistics are well explained and the commentary includes sufficient explanation of the patterns seen in the data over time.
- A1.5 In *Population and Migration Estimates* a geographical breakdown by SOA is included for the first time. Previously NISRA included this geographical breakdown, in a separate publication⁷² (published in 2008 and 2012). The SOA section of NISRA's website clearly links the reader to the latest *Population and Migration Estimates*.
- A1.6 *Estimates of the Population Aged 85 and over, Northern Ireland* does not include any explanation as to why the trends in the statistics occur. For example: 'Why does Northern Ireland have a lower proportion of the elderly compared to Wales?' or 'Why is the growth of this age group greater in Northern Ireland than elsewhere?' Statements are not always justified; for example 'migration into this age group is negligible'.
- A1.7 Sometimes jargon is used in the commentary instead of plain English. For example in *Population projections* the commentary says that growth in the number of those aged 65 and over 'is solely due to a surplus of persons ageing into this age group over mortality losses'. Also some of the commentary is

⁷¹ <http://www.statisticsauthority.gov.uk/news/standards-for-statistical-reports.html>

⁷² <http://www.nisra.gov.uk/demography/default.asp125.htm>

imprecise; for example the use of sentences such as: 'It is evident that the age profile of the population will gradually become older' or 'The population will continue to age after 2027'. Language is used that implies value-judgements such as 'outperform' used in the context of projected population growth in different parts of the UK. The section headed: 'Comparison with previous projections' is difficult to follow because the figure that the section is describing does not appear alongside the associated text.

- A1.8 *Population projections* includes comparisons with the rest of the UK, and explanations of why the differences occur. It also includes projections for population growth in the Republic of Ireland, although no explanation for the difference between this and Northern Ireland is included. No reference is made in *Population and Migration Estimates* as to whether the trends seen in Northern Ireland are typical for the UK or for Europe.
- A1.9 *Population and Migration Estimates* are well discussed by local government district (defined by geographical area), Parliamentary constituency (defined by holding similar number of people), and SOA (areas of similar size population with some equivalent to electoral wards) but the importance of comparing by district or constituency or SOA is not considered, nor contrasted. Although the differences between the analytical comparisons may be clear to expert users, the commentary does not discuss why this is important and to whom.
- A1.10 In both *Population and Migration Estimates* and *Population projections within Northern Ireland*, reference is made to the local government districts being 'new' and only basic details are included about when they will be introduced and what they will replace. These two reports do not include discussion about why the geographic basis was changed, and no comparison is made between the new and old districts.
- A1.11 *Population and Migration Estimates* describes SOAs as being 'more uniform than electoral wards'. However, this report does not include a definition of either an SOA or an Electoral Ward, what 'more uniform' means or why this is important. Electoral ward is not a term used elsewhere in the publication.
- A1.12 *Population and Migration Estimates* does not explain why the 'usually resident population' definition is used or why 30 June is used as the date for estimating the population, particularly as Eurostat use 1 January.

Include information about the context and likely uses of the statistics

- A1.13 All of the publications summarise the main uses and users for these statistics in the introduction section, but they do not describe them in detail. They focus mainly on government use for example in the 'planning of services, such as health and education' for *Population and Migration Estimates* and 'the delivery of front line services such as housing, transport and health care' for *Estimates of the Population Aged 85 and over, Northern Ireland*. Details about why they are used by government departments and about why and how these data are of interest to other users are not included. The examples given in the publications do not say what decisions are made based on the statistics.
- A1.14 The commentary of *Population and Migration Estimates* places the statistics in the context of current issues, such as patterns of migration discussed in the context of the economic downturn and population by age in the context of

migration and changing proportions of the population in age groups. It does not discuss what factors might have contributed to the population change in local government districts, Parliamentary constituencies or SOAs.

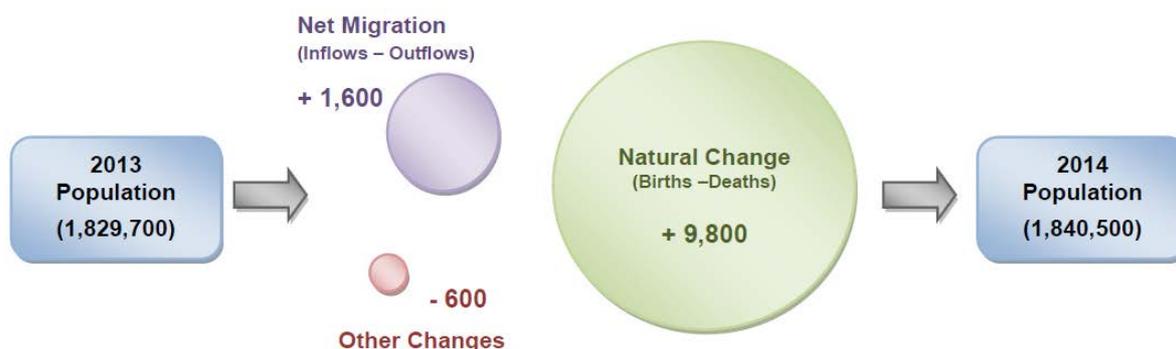
Include information about the strengths and limitations of the statistics in relation to their potential use

- A1.15 Appropriate emphasis is made in *Population and Migration Estimates, Estimates of the Population Aged 85 and over, Northern Ireland and Population Projections* that the statistics are estimates or projections and how this impacts potential use.
- A1.16 The discussion of strengths and limitations in *Population and Migration Estimates* gives an accessible account of the factors that contribute towards the calculation of the estimate, such as the legality of registering births and deaths and the positive impact on the subsequent data set. This section is linked to the associated Quality Report which gives further detailed information and a summary of quality assurance checks. *Population projections* gives little explanation of the limitations of the projections in the publication itself but the accompanying Quality and Methodology document sets these out clearly.
- A1.17 The Population Estimates Methodology paper gives a succinct overview of the main methodological considerations; it does not contain much more detail than is available in the publication. It does include a few links to published research papers.
- A1.18 *Estimates of the Population Aged 85 and over, Northern Ireland* includes an adequate description of the Kannisto-Thatcher model, it justifies the use of the model over standard population estimate techniques and it demonstrates the level of error, though does not discuss the impact of the error on the use of the statistics. For example In the case of the estimate of number of centenarians, the estimate was 11 per cent lower in the revised series, which the report points out relates to a small population, but does not explain if and how this might affect use.

Be professionally sound

- A1.19 All publications use percentages, percentage change and absolute numbers to describe change over time and across regions. Figures are consistent and clear across the publications; they are well labelled and clear.
- A1.20 The use of flow diagrams such as figures 1 and 6 in *Population and Migration Estimates* is an excellent demonstration of coupling the components that build up a population estimate with the high-level figures that contribute to change and demonstrating the bottom-up approach used to aggregate data respectively. As can be seen for figure 1, which is replicated here, these are very effective and make the technical aspects of the bulletin highly accessible.

Figure 1: Contribution of components of change to population increase, 2013 to 2014



Source: NISRA, *Population and Migration Estimates*⁷³

A1.21 In *Population and Migration Estimates*, figures 5a and 5b compares percent population change between 2004 and 2014 across local government districts. The text at the start of section 6 highlights that the subject is the ‘new’ local government districts. However, figures 5a and 5b do not make clear whether they use the ‘new’ Local Government District classification, the old classification, or a combination of both, which could be confusing if the figures are replicated without supporting text.

A1.22 NISRA has included a link to a short user survey in all publications that were published since June 2014. Publications that were published before that date – for example the latest *Population Projections* that was published in November 2013 – do not include a link.

A1.23 In *Estimates of the Population Aged 85 and over, Northern Ireland* no explanation is given for the population base being 85 and over. The base used differs from other UK publications, where estimate of the elderly population begin at age 90⁷⁴ ⁷⁵. The population base of 85 and over is not aligned with the analysis in the bulletin, where the total population breakdown (figure 1) uses an 80 to 89 and 90 to 99 age band. Subsequent analysis (section 4) compares all population 85 and over and then breaks down the analysis into 90 to 99 and 100 and over.

Include, or link to, appropriate metadata

A1.24 The titles of the publications describe the coverage of the statistics in plain English. The titles of the two projections publications do not include the period over which projections are made.

A1.25 The publications list appropriate contact details for the statistical team. A publication month is included on the relevant publication web page for all of the publications that are part of this assessment.

⁷³ http://www.nisra.gov.uk/archive/demography/population/midyear/MYE14_Bulletin.pdf

⁷⁴ <http://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/estimates-of-special-populations/population-estimates-for-scottish-centenarians>

⁷⁵ <http://www.ons.gov.uk/ons/rel/mortality-ageing/estimates-of-the-very-old-including-centenarians-/2002---2013--england-and-wales--united-kingdom-/stb-2002-2013-estimates-of-the-very-old.html>

- A1.26 The Small Area Population Estimates web page⁷⁶ suggests that SOA will now be included in *Population and Migration Estimates* publication annually, although this is not formally stated in the publication. *Population and Migration Estimates* does not include a link back to the previous, separate small area population estimates publications. Some supporting tables for the available lower-level geographies are signposted in the side bar menu on the website, while others are accessed through the small area population estimates page.
- A1.27 *Population and Migration Estimates* is well-linked to Quality and Methodological reports, as well as more-specific reports to illustrate data quality, such as the Census 2011 Quality Assurance Report and Migration Methodology paper. *Estimates of the Population Aged 85 and over, Northern Ireland* is linked to some external documentation about the Kannisto-Thatcher model, but does not have a specific quality report. The population projections web page includes a link to the Quality and Methodology report. However, *Populations projections* does not include such a link.
- A1.28 *Population projections within Northern Ireland* includes a link to the methodology document, but the link is actually generic and leads to NISRA's home page.
- A1.29 NISRA uses both the Northern Ireland Statistical geography names and codes in the NINIS statistics, but does not include the geography codes in the excel tables that accompany the publications that can be downloaded from NISRA's website.
- A1.30 *Estimates of the population aged 85 and over, Northern Ireland* includes a link to NISRA's revisions policy. None of the other publications include such a link nor make it clear whether the revisions policy applies or not.

⁷⁶ <http://www.nisra.gov.uk/demography/default.asp125.htm>

Annex 2: Summary of assessment process and users' views

- A2.1 This assessment was conducted from July 2014 to July 2015.
- A2.2 The Assessment team – Donna Hosie and Pat MacLeod – agreed the scope of and timetable for this assessment with representatives of NISRA in October 2014. The Written Evidence for Assessment was provided on 11 November 2014. The Assessment team subsequently met NISRA during March 2015 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 As it was known that some of the users that we planned to approach would have an interest in the range of population estimates and projections we invited comments about all of the sets of statistics covered by Assessment reports 309 to 312 as part of a single user consultation. The Assessment team received 83 responses from its user consultation. It followed-up some of the initial responses with a small number of email, telephone and face to face discussions. The respondents were grouped as follows:

Local authorities	21
Government departments	17
Commercial	9
Government agencies/other public sector	8
NHS	7
Producer organisations (as users)	6
Academics	5
Data suppliers	10

Common Themes

- A2.5 A large number of users contributing to the consultation were expert users who were often well connected to the producers and to other users through various networks. Often they used the data, rather than the statistical reports. As a consequence many were not routinely drawing on the published commentary that accompanies the statistics. They had good knowledge of the methods used to produce the estimates and projections and of their strengths and limitations. Some users did call for more documentation about uncertainty, more highlighting of the methodological issues identified, and for clearer documentation about quality.

A2.6 Users expressed a demand for statistics to be available for various different or lower-level geographies, although none were requested by more than one or two users. Producers have already met some of these requests either by producing the data at the required level or supporting users to produce their own statistics. A small number of users highlighted differences between the producers in the visual presentation of the statistics, while acknowledging the different resources available to the different producers.

NISRA

A2.7 Those who responded to the Authority's consultation included NISRA and other data suppliers. Users responded from government departments in Northern Ireland and government agencies; and commercial organisations. Most of those who did respond did not raise any issues. Issues that users raised about the methods included the need for more detailed methodological information and – for projections – the inclusion of comparisons with estimates and with projections made by others. One user reported that the size of the statistics team has led to a slow response.

Key documents/links provided

Written Evidence for Assessment document

