

Assessment of compliance with the Code of Practice for Official Statistics

Population Estimates and Projections

*(produced by the Office for National
Statistics)*

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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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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 This is one of a series of reports¹ prepared under the provisions of the *Statistics and Registration Service Act 2007*². The Act requires all statistics currently designated as National Statistics to be assessed against the *Code of Practice for Official Statistics*³. The report covers the sets of statistics produced by the Office for National Statistics (ONS) and reported in:

- *National population projections*⁴;
- *Subnational Population Projections for England*⁵;
- *Marital Status population projections*⁶;
- *Population Estimates*⁷ (*Mid-year Population Estimates*, (MYE));
- *Mid-year Marital Status Estimates*⁸;
- *UK Electoral Statistics*⁹; and
- National life expectancy statistics: (*Decennial Life Tables*¹⁰; *Interim Life Tables*¹¹; and *Period and cohort expectation of life tables*¹²).

1.1.2 The *Statistics and Registration Service Act* also allows the National Statistician to request an assessment of other official statistics in order for them to gain National Statistics status. This report also covers the following experimental statistics¹³ in response to such a request:

- *Population estimates of the very elderly (including centenarians)*¹⁴; and
- *Super Output Area (SOA) population estimates: Mid-2009 Population Estimates for Middle Layer Super Output Areas in England and Wales by Quinary Age and Sex (MSOA) and Mid-2009 Population Estimates for Lower Layer Super Output Areas in England and Wales by Broad Age Group and Sex (LSOA)*¹⁵.

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

² http://www.opsi.gov.uk/Acts/acts2007/pdf/ukpga_20070018_en.pdf

³ <http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html>

⁴ <http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=8519>

⁵ <http://www.statistics.gov.uk/statbase/product.asp?vlnk=997>

⁶ <http://www.statistics.gov.uk/statbase/Product.asp?vlnk=14491>

⁷ <http://www.statistics.gov.uk/statbase/product.asp?vlnk=601>

⁸ <http://www.statistics.gov.uk/statbase/Product.asp?vlnk=15107>

⁹ <http://www.statistics.gov.uk/statbase/Product.asp?vlnk=319>

¹⁰ <http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=333>

¹¹ <http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=14459&Pos=&ColRank=1&>

¹² <http://www.statistics.gov.uk/statbase/Product.asp?vlnk=15098>

¹³ <http://www.statistics.gov.uk/cci/nugget.asp?id=173>

¹⁴ <http://www.statistics.gov.uk/statbase/Product.asp?vlnk=15003>

¹⁵ <http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=14357>

1.2 Decision concerning designation as National Statistics

1.2.1 The Statistics 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 Statistics Authority confirms that the statistics detailed in 1.1.1 are designated as National Statistics and has determined that the statistics detailed in 1.1.2 can be designated as National Statistics, subject to ONS implementing the enhancements listed in section 1.5 and reporting them to the Authority by December 2011. The Statistics Authority has asked ONS to provide a detailed work plan for implementation of the Requirements, in June.

1.3 Summary of strengths and weaknesses

1.3.1 ONS has developed some innovative ways of presenting the national population projections and mid-year population estimates – for example interactive population pyramids¹⁶.

1.3.2 The quality of commentary is extremely variable across releases. Some of the releases listed in 1.1.1 and 1.1.2, such as *National population projections, 2008-based*, include good, clear commentary which helps users to interpret the statistics. Other releases, such as *Mid-2009 Marital Status Estimates* contain no commentary and the statistics are only released as Excel tables.

1.3.3 ONS releases an impressive range of statistics on population estimates and projections. The novice user may, however, struggle to find the information relevant to their needs due to the poor presentation of the available material on ONS's website.

1.4 Detailed recommendations

1.4.1 The Assessment team identified some areas where it felt that ONS could strengthen its 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.

¹⁶ http://www.statistics.gov.uk/populationestimates/flash_pyramid/default.htm

1.5 Requirements for designation as National Statistics

- Requirement 1** Take steps to develop a greater understanding of the use made of the statistics, publish the relevant information and assumptions, and use them to better support the use of the statistics (para 3.4).
- Requirement 2** Communicate clearly in advance any planned changes to methods and classifications, and explain the nature and extent of revisions when revised statistics are released (para 3.9).
- Requirement 3** Produce and publish a clear pricing policy for the provision of supplementary statistical information (para 3.11).
- Requirement 4** Publish more information about the methods used to produce *UK Electoral Statistics* and *Population estimates of the very elderly*, and improve the accessibility of information about the methods used to produce the life expectancy statistics (para 3.15).
- Requirement 5** Provide more information about the quality and reliability of the national life expectancy statistics, and *Mid-year Marital Status Estimates* in relation to the range of potential uses (para 3.16).
- Requirement 6** Publish a plan outlining how the 2011 Census data will be used as the basis of reviewing and improving the methods used to produce the population estimates and related outputs (para 3.18).
- Requirement 7** Document how population estimates and marital status estimates compare with equivalent statistics for the other countries in the UK, and the implications for users of the statistics (para 3.19).
- Requirement 8** Publish a plan to review the data sources and methods used to produce the SOA population estimates and the *Population estimates of the very elderly* experimental statistics, to ensure that they are produced to a level of quality that meets users' needs (para 3.20).
- Requirement 9** Put in place written data access agreements for all exchanges of confidential data (para 3.23).
- Requirement 10** Ensure that all releases are accompanied by commentary in order to enhance users' interpretation (para 3.28).

Requirement 11	Review its presentation of population projections to aid user understanding (para 3.29).
Requirement 12	Improve the accessibility of these outputs on its website and ensure that the presentation of the statistics enables and encourages further analysis and re-use (para 3.31).
Requirement 13	Review the title of the Super Output Area (SOA) population estimates with a view to more clearly conveying the content of the output (para 3.32).
Requirement 14	Provide users with high level guidance (for statistics on life expectancies, population estimates and population projections) explaining what statistics are available, and provide signposts to further information (para 3.33).
Requirement 15	Publish the name and contact details of the responsible statistician on all releases (para 3.39).

2 Subject of the assessment

- 2.1 Population estimates and projections are a vital component of the statistical infrastructure of the UK as they provide information about the demographic characteristics of the country and help in the understanding of the fabric of our society. Accurate statistics on the demographic characteristics of an area are a fundamental building block for many other statistics. They feed into the formation and monitoring of government policies, are widely reported by the media, and are of interest to the general public.
- 2.2 Information about the size and structure of the population in the UK is collected through the Census. ONS's Centre for Demography (ONSCD) produces estimates of the population in England and Wales in the years between the Census based on initial information from the Census, together with information about the components of population change: births, deaths and migration. These are titled Population Estimates - they are generally referred to as Mid-year Population Estimates (MYE) as they relate to the population on 30 June each year.
- 2.3 ONS uses these national MYE in the production of:
- estimates for more detailed sub-groups, including small area population estimates, estimates of the population by marital status and estimates of the very elderly population; and
 - national and subnational population projections – published every two years, these provide projections of the future size and age structure of the UK and its constituent countries. The projections are calculated by projecting forward using past trends in fertility, mortality and net migration.

Scope of Assessment

- 2.4 Further information on the individual products that are the subject of this assessment is as follows:
- *National population projections*
ONS publishes these projections of the future size and structure of the population of the UK and its constituent countries on behalf of the National Statistician and the National Records of Scotland (NRS)¹⁷ and the Northern Ireland Statistics and Research Agency (NISRA)¹⁸. The projections are published every two years and use the latest mid-year population estimates and a set of demographic assumptions about future fertility, mortality and migration based on past trends. The population projections are not forecasts: they take no account of future government policies and do not attempt to predict future demographic trends. ONS produces a range of population projections, referred to as variant projections, alongside the principal population projections, to demonstrate the effect of altering the underlying assumptions, and so show the spread of likely outcomes. These also give users an indication of the uncertainty inherent in predicting future population change. In January 2006 ONS took over responsibility for producing these

¹⁷ <http://www.gro-scotland.gov.uk/>

¹⁸ <http://www.nisra.gov.uk/>

statistics from the Government Actuary's Department (GAD). ONS estimates that its annual costs associated with producing and managing these statistics is £148,000.

- *Subnational Population Projections for England*
Following the production of the national population projections, ONS produces projections of the population of subnational areas (local authority (LA) areas and other health administration areas) in England based on local trends in mortality, fertility and migration projected over the next 25 years. The subnational projections are constrained to the national population projections. ONS produces subnational population projections every two years and they are published in a statistical bulletin and data tables. ONS estimates that its annual costs associated with producing and managing these statistics is £127,000.
- *Marital Status population projections*
The *marital status projections* provide projections of the population of England and Wales by age and sex for the next 25 years by legal marital status (excluding civil partnerships) and cohabitation. The projections are based on estimates of the marital status (single, married, widowed or divorced) of the base year population, together with assumptions about future rates of marriage, divorce and cohabitation. The projections were produced by GAD until 2006 when responsibility moved to ONS. The projections are produced on an ad hoc basis and are published as a statistical bulletin and data tables. ONS estimates that its annual costs associated with producing and managing these statistics is £9,000.
- *Population Estimates (MYE)*
This MYE release provides estimates of the population of England and Wales, Scotland and Northern Ireland and their constituent administrative areas (LA and health areas). ONS produces the statistics for England and Wales and uses statistics produced by NRS and NISRA to provide the UK picture. It publishes the estimates annually in a statistical bulletin and in Excel tables on its website, with links to supporting information (for example, a Quality Report and a Population Estimates Analysis Tool). The tables provide estimates by age group and sex for each area. The national estimates are produced first and estimates for subnational areas (LA areas), constrained to the national estimates, are then produced. ONS estimates that its annual costs associated with producing and managing these statistics is £153,000.
- *Mid-year Marital Status Estimates*
The *marital status estimates* provide estimates of the population of England and Wales by age, sex and legal marital status. The estimates are based on Census data and take account of subsequent births, deaths, marriages, divorces and migration. ONS publishes the estimates annually as Excel tables. ONS estimates that its annual costs associated with producing and managing these statistics is £7,400.
- *UK Electoral Statistics*

These statistics are annual counts of the number of people who are registered on electoral rolls and therefore entitled to vote in for example UK Parliament, LA or European elections. The statistics are published at the end of February and cover people registered on 1 December the previous year. ONS collects data only from people registered in England and Wales but publishes statistics for the UK as a whole by combining statistics published by NRS and Electoral Office for Northern Ireland¹⁹. ONS estimates that its annual costs associated with producing and managing these statistics is £8,900.

- **National life expectancy statistics**
ONS publishes life expectancy statistics in life tables showing age-specific death rates. ONS publishes *Decennial Life Tables* every ten years, which provide statistics on national life expectancy for England and Wales, based on information from the Census. The *Interim Life Tables* provide annual life expectancy by age and sex, for the UK and its constituent countries. The statistics are produced using MYE and data on births and deaths. The life tables (both decennial and interim) were produced by GAD until 2006. In its *Period and Cohort Life Expectancy Tables*, ONS publishes life expectancy statistics (historic and projections) using two different methods: period life expectancy (as used to produce the life tables), which does not take into account future changes in mortality; and cohort life expectancy which *does* take account of known or projected changes to mortality. ONS estimates that its annual costs associated with producing and managing these statistics is £17,000.
- *Population estimates of the very elderly (including centenarians)*
These estimates provide additional detail about the number of very elderly people, to support the MYE. The MYE release provides population estimates by single year of age up to 89, then by grouped age bands for the very elderly. *Population estimates of the very elderly* uses data from death registrations and MYE to provide age-specific estimates of the population for those aged 90 and over. *Population estimates for the very elderly* are constrained to the MYE. Prior to 2007, the statistics were calculated for use in the production of national life tables and in producing national population projections. ONS first published the estimates in 2007 in response to increasing user interest resulting from increased life expectancy and a growth in the number of centenarians. ONS produces the statistics for England and Wales and uses statistics produced by NRS and NISRA to provide the UK picture. The estimates are published annually in September. ONS estimates that its annual costs associated with producing and managing these statistics is £2,400.
- **Super Output Area (SOA) population estimates**
SOA population estimates are population estimates for small areas. They provide mid-year population estimates by age and sex for Middle and Lower Super Output Areas in England and Wales. ONS first published estimates for mid-2001 in 2006 as 'experimental statistics' in response to an increasing demand for small area statistics and to reflect the new geographic hierarchy of SOAs. The mid-2001 SOA estimates largely reflect the 2001 Census counts but incorporate adjustments to reflect the 2001 LA mid-year estimates. The

¹⁹ <http://www.eoni.org.uk/>

methods used to produce the SOA estimates for mid-2002 onwards differ from the method used to produce the LA MYE. ONS publishes the statistics annually as Excel tables with some supporting information. ONS estimates that its annual costs associated with producing and managing these statistics is £42,000.

Uses and Users of Population Statistics

2.5 Specific uses and users of these statistics include:

- National and LA MYE – used by central and local government for resource allocation and the planning and monitoring of services. ONS uses the MYE in the weighting of surveys such as the Labour Force Survey and components are used in the calculation of the national population projections.
- Small area population estimates – used by government departments (including the Department of Health (DH)) as denominators in the calculation of indices of deprivation and as a base for local authority level population projections.
- National population projections – used by HM Treasury as inputs into long-term fiscal projections, such as forecasting expenditure for benefits and pensions.
- Subnational population projections – used by LAs in local planning and the monitoring of services such as education, healthcare and social services.
- Marital status population projections – used by Department for Communities and Local Government (DCLG) in the model to produce household projections for England²⁰ and in the costing of future social security requirements.
- Electoral statistics – used by the Boundary Commission for reviewing and developing Parliamentary Constituency boundaries.
- Statistics on life expectancy at birth have been used as a general indicator of the health of the population since the 1840s. They are used by the DH to develop and monitor health policy.
- Statistics on life expectancy are used in the private sector, by insurance companies and pension providers.

Other Relevant Statistics

2.6 ONS produces the population estimates for England and Wales, and also publishes statistics for the UK, incorporating data from NRS and NISRA. The Welsh Assembly Government, NRS and NISRA publish more detailed population estimates and related statistics for Wales, Scotland and Northern Ireland respectively.

²⁰ <http://www.communities.gov.uk/housing/housingresearch/housingstatistics/housingstatisticsbyhouseholdestimates/>

- 2.7 ONS publishes subnational life expectancy statistics in its publication *life expectancy at birth and at age 65 by local areas in the UK*²¹. This is not produced by ONSCD. It is the subject of Assessment Report X.
- 2.8 ONS takes a lead role implementing the Migration Statistics Improvement Programme²² (MSIP), a cross-government programme of work to improve migration statistics. The programme was introduced in 2007. It has led most notably to improvements to the mid-year population estimates for England and Wales introduced in 2010²³.

²¹ <http://www.statistics.gov.uk/statbase/Product.asp?vlnk=8841>

²² www.ons.gov.uk/about-statistics/methodology-and-quality/imps/index.html

²³ <http://www.ons.gov.uk/about-statistics/methodology-and-quality/imps/mig-stats-improve-prog/comm-stakeholders/improvements-2008-pop-est/index.html>

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 ONSCD produces all the outputs covered by this assessment. ONSCD has two high-level groups that oversee and advise on the production of all its population statistics:

- The National Statistics Centre for Demography Advisory Board²⁴ meets twice a year to review and advise on the UK-wide work programme on population statistics and demographic analysis. The group includes representatives from the Devolved Administrations, academia, local government and the Royal Statistical Society's (RSS's) Demographics User Group.
- The UK Population Committee²⁵ brings together representatives from NRS, Welsh Assembly Government and NISRA to discuss and agree priorities.

ONS publishes²⁶ the minutes of meetings of these groups on its website.

3.2 ONSCD also engages users through other fora. ONSCD hosts the population subgroup of the Central and Local Information Partnership²⁷. There is specific engagement with known users of the different outputs – for example with the DCLG, which uses the projections to feed into its own household projections, and with the Department for Health which uses the projections and life expectancies outputs. ONS arranges governance committees and an advisory panel to oversee and advise on the assumptions feeding into the projections. These groups include academics, government departments and the Devolved Administrations. ONS consults local government users on the subnational projections prior to publication.

3.3 While the extent of user engagement varies somewhat across the different outputs, the focus is on users in government and academia. In November 2010, ONS organised (in collaboration with the RSS) a Population Statistics and Census Outputs User Workshop. This was an open event, bringing together users of population statistics. ONS provided updates on its work and invited user discussion. We view this as a positive step towards enhancing the level of engagement with users. A note of the discussion has been published on the RSS's website, but there is no reference to the event on ONS's website. We suggest that ONS provide more information about this Population Statistics and Census Outputs User Workshop, including a link to the note of the discussion and information about similar future events, on its website.

3.4 ONS has drawn together documentation on the users of all its population statistics. There is little mention of users outside central government, local

²⁴ http://www.statistics.gov.uk/about/data/methodology/specific/population/nscd_ab/default.asp

²⁵ <http://www.statistics.gov.uk/about/data/methodology/specific/population/ukpc/default.asp>

²⁶ http://www.statistics.gov.uk/about/data/methodology/specific/population/nscd_ab/minutes.asp

²⁷ <http://www.clip.local.gov.uk/lgv/core/page.do?pagelId=1>

government and academia. While noting the positive steps ONS has taken, we consider that it could do more to understand the wider range of users of its population statistics, particularly those in the private and third sector. As part of the designation as National Statistics ONS should take steps to develop a greater understanding of the use made of the statistics, publish the relevant information and assumptions, and use them to better support the use of the statistics²⁸ (Requirement 1). As part of documenting the use of these statistics, we suggest that as part of implementing Requirement 1 ONS refer to the types of use put forward in the Monitoring Brief: *The Use Made of Official Statistics*²⁹.

- 3.5 ONS recently consulted and responded to users³⁰ about its statistical work programme which asked users to help prioritise non-statutory outputs in the light of the 2010 Spending Review³¹.
- 3.6 Within ONSCD, user engagement practices vary across the different outputs. For some outputs ONSCD maintains lists of users and takes steps to keep those users informed. However, for other outputs there is less information about users and, for example, users are not notified about new publications. We suggest ONS share best practice across its teams, to ensure a consistent approach to user engagement.
- 3.7 *UK Electoral Statistics* is released in February each year. One user who responded to the consultation carried out as part of this Assessment suggested that it would be more useful if the statistics were released to coincide with the timing of elections. While this seems sensible, there are potential resource issues, both for ONS and for the Electoral Registration Officers who supply the data. We suggest ONS investigate whether the timing of the *UK Electoral Statistics* release might be amended to better meet user needs.

²⁸ In relation to Principle 1, Practice 2 of the *Code of Practice*

²⁹ <http://www.statisticsauthority.gov.uk/assessment/monitoring/monitoring-briefs/monitoring-brief-6-2010---the-use-made-of-official-statistics.pdf>

³⁰ <http://www.ons.gov.uk/about/consultations/closed-consultations/work-programme-consultation/index.html>

³¹ http://www.hm-treasury.gov.uk/press_10_10.htm

Principle 2: Impartiality and objectivity

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

- 3.8 ONS presents all its population statistics impartially and objectively. ONS has published³² a revisions policy for its population statistics, which is consistent with its wider organisational revisions policy. There have been minor errors in these outputs but ONS has corrected these appropriately.
- 3.9 ONS told us that it announces changes to methods and classifications in advance of the release of the changed statistics. However, for some outputs there is no clear means to announce changes in advance, or to explain the nature and extent of any revisions, because the statistics are released as Excel tables without accompanying commentary. For example, the titles of some of the published marital status statistics simply include the word 'revised', but there is no published explanation about why or when they were revised, or the nature or extent of changes. ONS told us that the main changes arise from the MSIP (see paragraph 2.8) and that it has published information about this programme. However, the changes that affect the outputs being assessed should be more clearly communicated. As part of the designation as National Statistics, ONS should communicate clearly in advance any planned changes to methods and classifications, and explain the nature and extent of revisions when the revised statistics are released³³ (Requirement 2).
- 3.10 ONS does not announce in advance the changes to the assumptions underlying the population projections. The assumptions were pre-announced until (and including) the 2006 publication, but ONS and its academic advisory panel felt that this undermined the main release. Following user consultation in 2006, ONS stopped pre-announcing the assumptions. ONS told us that it does not regard changes to the inputs that build the projections as changes to methods or classifications which should be pre-announced, although they are fully explained following the publication of the projections.
- 3.11 Although the statistics are available free of charge on its website, ONS told us that it has charged users of the subnational population projections when responding to requests that involve more than two hours work. ONS has guidance for its staff that outlines the circumstances when charging is acceptable, but it does not have a clear, published pricing policy. This issue was first noted in Assessment Report 34, in March 2010. In common with that report and as part of the designation as National Statistics, ONS should produce and publish a clear pricing policy for the provision of supplementary statistical information³⁴ (Requirement 3).

³² <http://www.statistics.gov.uk/about/data/downloads/PopStatsRevisionsPolicy.pdf>

³³ In relation to Principle 2, Practice 4 of the *Code of Practice*

³⁴ In relation to Principle 2, Practice 9 of the *Code of Practice*

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.

3.12 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.

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.

- 3.13 ONS publishes information about the methods it uses to produce most of these statistics, usually linked from the relevant product page on its website. For example, the MYE are accompanied by: a short, user-friendly methods guide; a flowchart; a detailed methods guide; articles explaining significant changes to the methods introduced in 2007; and other articles on specific aspects of the methods. Following the national population projections publication, ONS publishes a detailed reference volume³⁵, which explains how the assumptions were reached and includes some additional statistics about the input data, for example about fertility.
- 3.14 ONS publishes articles on specific aspects of methods and quality in the ONS journal *Population Trends*³⁶ – for example, it has published an article³⁷ outlining the views of the National Population Projections Expert Advisory Group following each projections publication. It has published articles comparing historic projections with actual population estimates and a subnational analysis of the ageing population³⁸. We regard this as good practice. ONS told us that although *Population Trends* would not continue in its current form, the articles previously published in that journal would still be produced and published on the website.
- 3.15 ONS does not provide sufficient information about methods to accompany *UK Electoral Statistics* and *Population estimates of the very elderly*. While ONS has published some information about the methods it uses to produce the life expectancy statistics, this information is not presented coherently. For example, technical explanations of elements of the methods are described in different documents. ONS provides a link to the national population projections reference volume on the life expectancy product page of its website but does not explain which sections of the report are relevant to life expectancy. As part of the designation as National Statistics ONS should publish more information about the methods used to produce *UK Electoral Statistics* and *Population estimates of the very elderly*, and improve the accessibility of information about the methods used to produce the life expectancy statistics³⁹ (Requirement 4).
- 3.16 ONS has good documentation of its quality assurance procedures for the production of these outputs. The published information about the quality of the statistics is also often good but it is not consistent across the set of outputs. For example, although ONS has published Summary Quality Reports (SQR) for most of the outputs covered in this assessment, there is scope to improve the published information about the quality of:

³⁵ <http://www.statistics.gov.uk/statbase/Product.asp?vlnk=4611>

³⁶ <http://www.statistics.gov.uk/statbase/Product.asp?vlnk=6303>

³⁷ <http://www.statistics.gov.uk/cci/article.asp?ID=2080>

³⁸ http://www.statistics.gov.uk/downloads/theme_population/Popular-Trends136.pdf#43

³⁹ In relation to Principle 4 Practice 1 of the *Code of Practice*

- Life expectancy statistics – ONS does publish information about the quality of the data that feed into the life expectancies statistics (birth and death registrations, MYE and estimates of the very elderly) but does not provide links to this information from the national life expectancy product pages. More importantly, it does not provide any information about the quality of the life expectancy statistics themselves.
- Marital status estimates – these statistics exclude civil partnerships, but this is not discussed in the SQR.

As part of the designation as National Statistics, ONS should provide more information about the quality and reliability of the national life expectancy statistics, and Mid-year *Marital Status* Estimates in relation to the range of potential uses⁴⁰ (Requirement 5).

- 3.17 The MYE use (as their starting point) data from the decennial Census. In the years following a Census the quality of the mid-year estimates will inevitably decline, until the next Census – as the impact of greater uncertainty grows. This will also affect the quality of most of the other outputs being assessed, as they are based on the mid-year estimates. ONS told us that it will be publishing new quality measures to support the mid-year estimates release in the coming months. We welcome this development.
- 3.18 ONS has introduced changes to the methods underpinning most of these outputs in recent years – most notably arising from the MSIP, which has improved the information available on migration. However, across all the outputs, there is no systematic programme of review and some methods have not been reviewed for some time. For example, the last formal review of the methods underlying the population projections was in 1993. Information from the 2011 Census will provide the means to review the accuracy of the estimates, by comparing the estimates to Census data, and hence inform improvements to the methods across this suite of outputs. ONS has not published any information about its plans to review the accuracy of the estimates post-Census. As part of the designation as National Statistics, ONS should publish a plan outlining how it will use 2011 Census data as the basis for reviewing and improving the methods used to produce the population estimates and related outputs⁴¹ (Requirement 6).
- 3.19 The methods that ONS uses to produce these statistics for England and Wales are usually consistent with methods used in the other UK countries, but there are exceptions. Differences between the methods used to produce subnational population projections have been well documented in an information note⁴² published on ONS's website. However, while the note describes the methods adopted by each country, it could do more to describe the implications for comparisons between countries. In addition, methods used by each country vary for other sets of statistics. For example, each country uses different sources of information to generate its population estimates and different methods are used to produce marital status statistics. There is insufficient documentation about the reasons for, and the impact of, the different methods used across the UK. As part of the designation as National Statistics, ONS

⁴⁰ In relation to Principle 4, Practice 2 of the *Code of Practice*

⁴¹ In relation to Principle 4, Practice 1 and Practice 5 of the *Code of Practice*

⁴² http://www.statistics.gov.uk/downloads/theme_population/snpp-2008/SNPP_guidance_for_users.pdf

should document how its population and marital status statistics compare with equivalent statistics for the other countries in the UK, and the implications for users of the statistics⁴³ (Requirement 7). We suggest that as part of implementing Requirement 7 ONS work with Welsh Assembly Government, NRS and NISRA .

- 3.20 The SOA population estimates and the *Population estimates of the very elderly* are experimental statistics, reflecting ONS's work to develop these outputs. For example, the SOA population estimates are the result of a research project⁴⁴ that evaluated possible methods. However, it is not clear that ONS has taken enough steps to involve users during the development of these statistics. ONS has not published any plans describing how it will evaluate these experimental statistics, including how it will involve users in this process. As part of the designation as National Statistics ONS should publish a plan to review the data sources and methods used to produce the SOA population estimates and the *Population estimates of the very elderly* experimental statistics, to ensure that they are produced to a level of quality that meets users' needs⁴⁵ (Requirement 8). ONS may like to refer to the note on the assessment and designation of experimental statistics published⁴⁶ by the Statistics Authority in producing the plan.
- 3.21 For many of these outputs, comparable statistics are available for other countries outside the UK. For example, Eurostat publishes⁴⁷ population statistics for European countries on its website. ONSCD told us that it engages with Eurostat, taking an active role in working groups. However, ONS rarely provides information about the European or wider international context within its releases or on its website. We note that ONS has published⁴⁸ an article looking at these issues but we suggest that ONS publish more information about the international context in relation to these statistics.

⁴³ In relation to Principle 4, Practice 6 and Principle 8, Practice 2 of the *Code of Practice*

⁴⁴ http://www.statistics.gov.uk/about/methodology_by_theme/sape/default.asp

⁴⁵ In relation to Principle 4, Practice 5 and Protocol 1, Practice 5 of the *Code of Practice*

⁴⁶ <http://www.statisticsauthority.gov.uk/news/assessment-and-designation-of-experimental-statistics.html>

⁴⁷ <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/introduction>

⁴⁸ <http://www.statistics.gov.uk/populationtrends/downloads/poptrends142web.pdf#9>

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.

- 3.22 The population projections and life expectancy statistics are based on non-disclosive data, so there are no confidentiality issues to report.
- 3.23 Although ONS has procedures for the secure transfer and storage of confidential data, and follows internal documented guidelines on its use, it does not have up-to-date documentation to cover all the exchanges of confidential data that take place in the course of the production of the MYE. For example, anonymised data from the English and Scottish National Health Service Central Registers are shared on the basis of historic arrangements, which have not been reviewed recently. ONS told us it is in the process of updating its documentation to ensure that it has formal data access agreements. As part of the designation as National Statistics, ONS should put in place written data access agreements for all exchanges of confidential data⁴⁹ (Requirement 9).

⁴⁹ In relation to Principle 5, Practice 6 of the *Code of Practice*

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.

- 3.24 There is no new data collection specifically for the outputs covered in this Assessment; the data supplied to ONSCD are either already collected for another purpose, or are an extract from an administrative source.
- 3.25 The data on electoral registrations are supplied by Electoral Registration Officers in each LA from the administrative systems they maintain. ONS told us that, in 2010, it carried out an exercise to estimate the burden of this data collection, asking a selection of suppliers to estimate how long it took to supply the data. Responses varied from one hour to one day. We suggest that ONS monitor the burden of collecting electoral registration data and explore with LAs whether there are options to reduce the burden.

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.

3.26 The team informed us that it is currently sufficiently funded to ensure that it can produce high quality statistics. The use of existing administrative sources in the production of these statistics (rather than potentially costly surveys) represents good value for money. ONS has recently consulted users on its future statistical work programme in order to identify possible savings (see paragraph 3.5).

Principle 8: Frankness and accessibility

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

- 3.27 National population projections and MYE are published in statistical bulletins with good commentary and analysis that aids interpretation. ONS has developed innovative methods to present the population estimates data. These include the use of interactive population pyramids⁵⁰, and a population estimates analysis tool⁵¹ which allows users to select and view analyses for specific geographical areas and to compare estimates across time.
- 3.28 *UK Electoral Statistics*, the SOA statistics and *Population estimates of the very elderly* are published as Excel spreadsheets with no commentary or analysis. There is little commentary to support the *Mid-year Marital Status Estimates* or the life expectancy outputs. ONS produces a separate release, *Older People's Day*⁵², which it told us provides commentary to support the release of life expectancy statistics and estimates of the numbers of the very elderly. However, ONS does not make it clear whether this is the main release for these outputs, or whether the statistics are released elsewhere first. As part of the designation as National Statistics, ONS should ensure that all releases are accompanied by commentary in order to enhance users' interpretation⁵³ (Requirement 10). As part of improving the commentary, we suggest that ONS refer to the Statistics Authority's Standards for Statistical Releases⁵⁴ for further guidance.
- 3.29 The population projections are not forecasts: they are based on a set of demographic assumptions based on analysis of trends and expert advice, and take no account of future government policies or the effect that changing economic circumstances might have on demographic behaviour. On the whole this is well-communicated within the releases, but it could be more prominent in the opening summary. In addition, the headlines in accompanying press releases, which are likely to be reported by the media, have focussed on UK's projected population over the next decade. To a lay audience, such statements are likely to be interpreted and used as forecasts, rather than projections. As part of the designation as National Statistics, ONS should review its presentation of population projections to aid user understanding⁵⁵ (Requirement 11).
- 3.30 Although the outputs in this assessment are all produced by ONSCD and the main source of data is MYE, the format and presentation of the outputs varies greatly across and between topic areas. For example, none of the good practice in the presentation in the MYE release is extended to the SOA population estimates, which are very hard to use and interpret. The MYE release itself includes very good commentary, but the release does not include sections about methods or quality, which most other ONS releases do. We

⁵⁰ http://www.statistics.gov.uk/populationestimates/flash_pyramid/default.htm

⁵¹ <http://www.statistics.gov.uk/statbase/product.asp?vlnk=14060>

⁵² <http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=12348>

⁵³ In relation to Principle 8, Practice 2 of the *Code of Practice*

⁵⁴ <http://www.statisticsauthority.gov.uk/news/statement---standards-for-statistical-releases.pdf>

⁵⁵ In relation to Principle 8, Practice 2 of the *Code of Practice*

suggest that ONS review the presentation of these outputs to ensure that they are presented consistently.

3.31 The accessibility of these outputs could be improved. For example:

- there is no link from the national population projections product webpage to the subnational population projections product webpage, nor are there links to the SQR or relevant analytical articles published in Population Trends;
- it is not clear where users can find information about methods;
- to access the tables of data underpinning several of the releases, users must open a PDF document to find the relevant links;
- the spreadsheets published for *UK Electoral Statistics* and *Mid-year Marital Status Estimates* show age groups, geographical divisions and sub-divisions presented in the same column using bold text to distinguish between tiers. A user who responded to the consultation carried out as part of this assessment commented that this layout causes problems when analysing the data that it does not encourage re-use;
- some published tables do not print in a user-friendly format, while the tables accompanying the electoral statistics and the SOA population estimates use technical codes without appropriate supporting documentation; and
- many of the published Excel tables have a 'Terms and Conditions' page, which sets conditions on the use of the data. This does not encourage re-use.

As part of the designation as National Statistics, ONS should improve the accessibility of these outputs on its website and ensure that the presentation of the statistics enables and encourages further analysis and re-use⁵⁶ (Requirement 12). ONS told us that its improved website (due to be launched by August 2011) will help to improve the accessibility of its outputs.

3.32 The title of the SOA population estimates release is quite technical and it may not be clear to the non-specialist that this is the main release for small area population statistics. As part of the designation as National Statistics, ONS should review the title of the SOA population estimates with a view to more clearly conveying the content of the output⁵⁷ (Requirement 13).

3.33 In addition to the accessibility issues described above, these outputs would benefit from some guidance to help users find the most appropriate statistics to meet their needs. Some users who contacted us in response to this assessment requested more guidance specifically on the variety of life expectancy products available. Indeed, some medical and health users appeared to be unaware of what statistics are available from ONS. ONS could also do more to make it clear what unpublished material is available to supplement its outputs. For example, when ONS publishes each SOA population estimates release, previous releases are overwritten. ONS told us that these 'superceded releases' are available on request. As part of the designation as National Statistics, ONS should provide users with high level

⁵⁶ In relation to Principle 8, Practice 6 of the *Code of Practice*

⁵⁷ In relation to Principle 8, Practice 4 of the *Code of Practice*

guidance (for statistics on life expectancies, population estimates and population projections) explaining what statistics are available, and provide signposts to further information⁵⁸ (Requirement 14).

⁵⁸ In relation to Principle 8, Practices 3 and 6 of the *Code of Practice*

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.

3.34 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.

- 3.35 The *Code* requires National Statistics releases to be issued at 9.30 am on the day of publication. ONS's website systems do not enable releases to be published simultaneously, which means there is sometimes a delay beyond 9.30 am. ONS informed us that this matter was being reviewed as part of its web development programme, and that it expected its new website to be implemented on 30 April 2011. The Head of Assessment agreed an exemption from Protocol 2 Practice 4 for ONS until that date. The exemption request, and the Head of Assessment's response are available on the Statistics Authority's website⁵⁹. Subsequently, ONS has announced that it does not expect to be able to comply with this practice until the end of August 2011⁶⁰. The Assessment team has asked ONS to submit a report describing the nature of the breach of the *Code* from 1 May 2011, and to log and report to the Authority details about delayed releases.
- 3.36 ONS has recently undertaken a review of all pre-release access. The pre-release access list for all outputs covered in this assessment are available on ONS's website. Some of the publications are released with no pre-release circulation. The current list⁶¹ of those with pre-release access to the MYE release has 32 recipients.
- 3.37 The publication of the mid-2009 MYE release (published in 2010) was brought forward from August to June. This means that the estimates were published within a year of the reference date. ONS told the Assessment team that the time taken to produce the estimates reflects the availability of data sources used to measure the components of population change and that there is no scope for further improvements. However, most of the other releases in this Assessment are based on the MYE, and it is not clear whether the quicker publication of MYE presents the opportunity to publish other outputs more quickly. We suggest that ONS review its publication schedules to ensure that the releases are published as early as possible.
- 3.38 The national population projections reference volume (see paragraph 3.13) is released approximately six months after the release of the statistics. While no users raised this as an issue, we suggest that ONS consider whether the content and format of the reference volume need to be amended, in order for the production of the volume to be more timely and hence better meet users' needs. This could include producing a shorter volume at the same time as the main release.
- 3.39 ONS does not consistently publish the name and contact details of the responsible statistician in its releases. As part of the designation as National

⁵⁹ <http://www.statisticsauthority.gov.uk/assessment/code-of-practice/exemption-requests/index.html>

⁶⁰ <http://www.ons.gov.uk/about/what-we-do/programmes-projects/web-development/index.html>

⁶¹ <http://www.ons.gov.uk/about-statistics/ns-standard/cop/compliance/annual/mid-2009-population-estimates--uk--england--wales--scotland---northern-ireland.html>

Statistics, ONS should publish the name and contact details of the responsible statistician in its releases⁶² (Requirement 15).

- 3.40 The outputs covered in this assessment can be accessed from the National Statistics Publication Hub and a timetable for forthcoming publications 12 months in advance is available⁶³.

⁶² In relation to Protocol 2, Practice 6 of the *Code of Practice*

⁶³ <http://www.statistics.gov.uk/hub/release-calendar/index.html>

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.

- 3.41 Most of these outputs rely on existing administrative data sources and data collected through the Census. ONS publishes details of the administrative systems it uses in its Statement of Administrative Sources⁶⁴.
- 3.42 ONS discusses the quality of the administrative sources it uses in the production of the outputs covered in this Assessment within the SQRs that accompany the releases. For example, the SOA population estimates SQR includes good discussion of the strengths and limitations of the administrative sources that are used. ONS has a range of projects investigating the potential to improve local population estimates through the greater use of administrative data sources⁶⁵. ONS publishes information about these projects and other related work on its website.

⁶⁴ <http://www.ons.gov.uk/about-statistics/ns-standard/cop/statement-of-administrative-sources/index.html>

⁶⁵ <http://www.ons.gov.uk/about-statistics/methodology-and-quality/imps/background/index.html>

Annex 1: Suggestions for improvement

A1.1 This annex includes some suggestions for improvements to ONS's 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.

- | | |
|----------------------|---|
| Suggestion 1 | Provide more information about the Population Statistics and Census Outputs User Workshop, including a link to the note of the discussion and information about similar future events, on the ONS website (para 3.3). |
| Suggestion 2 | As part of documenting the use of the statistics, refer to the types of use put forward in the Monitoring Brief: <i>The Use Made of Official Statistics</i> (para 3.4) |
| Suggestion 3 | Share best practice across teams to ensure a coherent approach to user engagement (para 3.6). |
| Suggestion 4 | Investigate whether the timing of <i>UK Electoral Statistics</i> release might be amended to better meet user needs (para 3.7). |
| Suggestion 5 | Publish more information about the international context in relation to these statistics (para 3.21). |
| Suggestion 6 | Monitor the burden of collecting electoral registration data and explore with local authorities whether there are options to reduce the burden (para 3.25). |
| Suggestion 7 | Refer to the Statistics Authority's Standards for Statistical Releases for further guidance (para 3.28). |
| Suggestion 8 | Review the presentation of all population estimates outputs to ensure that they are presented consistently (para 3.30). |
| Suggestion 9 | Review publication schedules to ensure that the releases are published as early as possible (para 3.37). |
| Suggestion 10 | Consider whether the content and format of the reference volume need to be amended, in order for the production of the volume to be more timely and hence better meet users' needs. This could include producing a shorter volume at the same time as the main release (para 3.38). |

Annex 2: Summary of assessment process and users' views

A2.1 This assessment was conducted November 2010 to March 2011.

A2.2 The Assessment team – Catherine Barham and Jacob Wilcock – agreed the scope of and timetable for this assessment with representatives of the ONS in November. The Written Evidence for Assessment was provided on 14 January. The Assessment team subsequently met ONS during February 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 10 responses from the user consultation. The respondents were grouped as follows:

Local authorities	5
Central government	2
Other	3

A2.5 Many users commented on the importance of the statistics for their work and supported the recent changes to improve the statistics. Some users commented on the lack of information about quality, particularly important when users intend to replicate the figures for local areas. Some users commented on the lack of signposting as statistics are published in different forms in a number of places both on ONS's, and others' websites.

A2.6 Users found ONS statisticians helpful when contacted but commented that given the long timescales between publications, contact was limited.

Key documents/links provided

Written Evidence for Assessment document

