Government
Statistical Service

NATIONAL STATISTICIAN'S GUIDANCE:

Quality, Methods and Harmonisation

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The National Statistician
The National Statistician – a statutory office holder – is also the Chief Executive of the UK Statistics Authority Board and the Board's principal adviser on:

• the quality of official statistics
• good practice in relation to official statistics, and
• the comprehensiveness of official statistics

She is also the Head of the Government Statistical Service (GSS) which is a network of professional statisticians and their staff operating both within the Office for National Statistics and across more than 30 other government departments and agencies.

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Introduction

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Edition 1.0 of the Code of Practice for Official Statistics was published in January 2009. It provides a benchmark of good practice for all bodies producing official statistics. Complying with the Code will help provide assurance that official statistics have been produced to high standards and that they serve the public good. It will also help raise trust and confidence in those statistics.

This supplementary guidance to the Code is intended to help producers of statistics, other officials and ministers to interpret, understand and implement the Code. It should be viewed as supporting documentation and should not be regarded as prescriptive.

It is anticipated that the guidance will be reviewed and updated periodically, in response to experiences of using it as well as to reflect possible updates to the Code itself. Comments on this first edition of the guidance would therefore be most welcome.

August 2009

Objectives

1. This document provides guidance to all producers of official statistics on interpreting and implementing the 'Principles' and 'Practices' in the Code of Practice for Official Statistics which relate to the quality and methodological basis of their official statistics.

2. Where appropriate, web links to standards and guidance are included.

3. Please note that references to the 'Head of Profession for Statistics' are also intended to refer to the equivalent lead official in each organisation.

Quality, methods and harmonisation

4. There is no universal definition of quality; it is multifaceted and can therefore mean different things to different people, and vary in concept in relation to different procedures and products. Yet, to maintain trust in official statistics and to provide products that are fit for purpose, quality should be at the centre of our procedures and methods.

5. Statistical quality is embedded both in the statistical products themselves and in the processes used to produce them. These two aspects of statistical quality are often referred to as (a) output quality, and (b) process quality.

6. In relation to output quality, the European Statistical System's (ESS's) six dimensions of quality are generally used: relevance, accuracy, timeliness, accessibility and clarity, comparability and coherence. There are other dimensions relating to process quality: effectiveness, efficiency, robustness, flexibility, transparency and integration.

7. A method is part of the process for producing statistics. It is a systematic way of doing something and should be appropriately implemented in the correct context. In relation to producing statistical products there are both survey and analytical methods and these are usually specific to a stage or stages in the statistical business process model.

8. Harmonisation is the process of agreeing and applying standards that can lead to comparability. Comparability is one of the ESS dimensions of quality. Across the UK statistical systems, and between the four UK administrations, harmonisation should be considered in relation to, for example, concepts, sampling frames, questions, definitions, statistical units, classifications and methods.

Responsibility and resources

Principle 3, Practice 3:	Ensure that the relevant statistical Head of Profession has the *sole responsibility* for deciding on statistical methods, standards and procedures, and on the content and timing of statistical releases.
Principle 3, Practice 5:	Inform the National Statistician about *complaints* that relate to professional integrity, quality or standards, whether or not they can be resolved directly.
Principle 3, Practice 7:	Promote a *culture* within which statistical experts in government can comment publicly on statistical issues, including the misuse of official statistics.
Principle 4, Practice 4:	*Publish quality guidelines*, and ensure that *staff are suitably trained* in quality management.
Principle 7, Practice 5:	*Seek to balance quality (for example, accuracy and timeliness) against costs* (including costs to government and data suppliers), taking into account the expected uses of the statistics.

Head of Profession responsibility

9. 'Sole responsibility' refers to the absence of inappropriate influence/pressure at all stages during the production, management and dissemination of official statistics. This is to ensure true statistical independence as set out in the *Statistics and Registration Service Act 2007*. In practice, the Head of Profession for Statistics (HoP) (or the equivalent lead official) may choose to delegate responsibility for the sign-off of statistical products and methodological changes. In such cases the HoP remains accountable for the official statistics concerned and should ensure that the standards laid out in the Code are being adhered to.

10. Where statistical releases are dependent on administrative data sources, the statistical requirements of the administrative systems should be promoted and risks to the integrity of the statistics minimised.

Complaints

11. Complaints will predominantly arise from parties outside government. Government stakeholders will normally use working agreements and regular liaison to resolve any issues, although they remain entitled to make a formal complaint.

12. Complaints relating to **professional integrity** may include examples of organisational, political or personal influence compromising the production, management and dissemination of official statistics, such as pre-release access rules being flouted or political influence affecting the text or presentation of statistical releases.

13. Complaints relating to **standards** may include the release of disclosive data (without legal provision). Complaints concerning breaches to data security will also fall into this category.

14. Complaints relating to **quality** should not cover queries over published statistics while still provisional. Organisations may receive queries over the accuracy of published statistics which may result in investigations to identify if data errors exist. These reflect collaborative working arrangements for quality assurance where interested parties are seeking to ensure the quality of the statistics and would not constitute a complaint as such. In such circumstances, organisations should clarify when a complaint is being made. Complaints relating to quality might include those about the timeliness of release of data or any other quality dimension.

Reporting complaints to the National Statistician

15. HoPs and chief statisticians in the devolved administrations should report complaints to the National Statistician in their annual reports. This should include the number and types (quality, methods and harmonisation) of complaints, although complaints with the potential to cause public embarrassment or media coverage should be discussed with the National Statistician as they arise. The National Statistician will monitor levels of complaints associated with the various official statistics products and work areas.

Culture

16. The Statistics and Registration Service Act, the Code of Practice and associated governance arrangements all support a culture where those working within the UK statistical system can raise concerns about any statistical impropriety, threat to integrity, and misuse or misinterpretation of official statistics. HoPs should work to promote this culture, endorsing the statistical professionalism and promoting professional statistical networks within their organisations.

17. When individuals identify statistical issues which they feel need to be raised, it is important that these are progressed in a co-ordinated manner so as to provide support to the individual, to ensure that the credibility of such concerns is not undermined, and to enhance the professionalism of the UK statistical system. In the first instance concerns should be raised with the person responsible for the production of the statistic; if the individual is the person responsible for the production of the statistic then it should be raised with the HoP. If the individual still feels that their concern has not been taken on board then they should go to their HoP (if not already done) or to the head of the National Statistician's secretariat. If it is decided to make a public statement then the HoP should consult the National Statistician.

Publish quality guidelines

18. This guidance is the UK statistical system's quality guidelines. However, organisations may wish to publish supplementary guidelines. The guidelines may include aspects such as quality management, quality assurance and continuous improvement. There may also be guidelines for specific products.

Balance quality against costs

19. It is important that statistics producers understand and measure the quality of their statistics. User expectations must be understood and managed through consultation. Producers should estimate the resource costs and, where applicable, respondent burden for each statistical product. Planning decisions are then taken by bringing this information together in a transparent way through a cost/benefit framework. This should include the relative costs of suitable administrative sources versus survey data collection and the associated quality implications of each source.

Quality management training

20. Each organisation should ensure that applicable quality management training is provided to staff on a periodic basis. This should include how to carry out quality assurance and striving towards continuous improvement.

Users' quality needs

Principle 4, Practice 2 (part):	Ensure that official statistics are produced to a level of quality that meets users' needs …
Principle 1, Practice 5 (part):	Publish information about users' experiences of… data quality.

User engagement strategy

21. Each organisation should state publicly how it meets the requirements of Protocol 1 covering 'User engagement'. This might be through a user engagement strategy, which could include strategic objectives in relation to frequency and types of user consultation, documentation of user requirements, types of feedback sought from users, how feedback is considered, and how user feedback is fed into the planning process. In the strategy, quality would feature as an important element of user discussions.

22. Periodic reviews should be undertaken of users' experience of data quality. This may also be part of an organisation's user engagement strategy. In addition, and for products derived from business and local authority survey data, this should be part of the survey control[1] review process. Users should also be encouraged to provide feedback, to a named contact or designated helpdesk, as they see fit.

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1 www.ons.gov.uk/about-statistics/methodology-and-quality/quality/survey-control/index.html

User requirements

23. All official statistics should have documented user requirements in relation to the level of quality required for different dimensions of quality. Usually this will involve trade-offs between the different dimensions of quality. For example, for some statistical outputs users may prefer timeliness over accuracy, or vice versa. These may be specified by the user or, more typically, the relevant statistical producer should have a sufficient understanding of user requirements and priorities to be able to understand the quality implications. Trade-offs are also required in order to balance the needs of a variety of users of a single product.

24. During the production process and prior to release, predefined and documented checks should be undertaken to ensure that the documented quality requirements are being met.

The design and production of statistical products

Principle 4, Practice 1 (part):	Ensure that official statistics are produced according to *scientific principles* …
Principle 4, Practice 6:	Promote *comparability* within the UK and internationally by, for example, adopting common standards, concepts, sampling frames, questions, definitions, statistical units and classifications (including common geographic referencing and coding standards). Make the reasons for any deviations from standard models publicly available.
Principle 3, Practice 4:	Follow all *statutory obligations and internationally endorsed guidelines* governing the collection of data, confidentiality, and release.

Scientific principles

25. The principles of observation and deductive reasoning should be adhered to. Statistics should be derived either from data collected objectively and independently or from predefined administrative data that follow established procedures and are auditable. Methods used at each stage to produce official statistics should be based on statistical theory and/or good practice, and have been peer reviewed. These methods should result in statistics that could be replicated by others subject to confidentiality constraints.

Comparability

26. The objective of harmonising official statistics is to promote comparability; this may be between statistical output and geographies, for example England and Wales, Great Britain and the UK. In certain circumstances, associated with relevance, there may be a rationale for not using the same definitions, concepts, questions and classifications. Where possible, harmonisation should be considered in relation to concepts, sampling frames, questions, definitions, statistical units, classifications and methods. This work will be taken forward by the appropriate Government Statistical Service (GSS) committee.

27. A standard can be defined as an established requirement. Standards provide a basis for comparison; a reference point against which other things can be evaluated. In terms of statistical standards they should be associated with how quality, methods, definitions and classifications meet the requirements of the Code of Practice and customer expectations. Where relevant, UK standards should be consistent with international standards to promote wider comparability. UK standards may also include within them variants which can be applied by the devolved administrations to reflect their different circumstances and customer needs. Producers of official statistics should use the harmonised standards whenever possible[2].

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2   Examples of statistical standards can be found at www.statistics.gov.uk/ons/about-statistics/methodology-and-quality/quality/statistical-standards/index.html

28. Exceptionally, harmonised standards may not meet users' needs or there may be practical barriers to their use. In these cases the reasons for departure from the standards should be made available alongside the publication of the statistics together with, where relevant, a timetable for the future use of the standards. Use of the comparability section of a summary quality report may be a suitable place to report deviations from international guidance and standards.

An example of good practice in relation to harmonisation

An example of good practice is work carried out on harmonising UK statistics on the time patients wait for admission to hospital. In the 2004 *Enhancing the Value of Health Statistics: User Perspectives* report the former Statistics Commission requested the publication of harmonised waiting-time statistics across the UK. Previously there had been disparities in UK statistics due to differences in waiting-time policies between administrations. The Statistics Commission recommended that a methodology should be developed to address the inconsistencies in waiting-time definitions across the UK. In response, statisticians from the four UK administrations together developed a methodology to ensure the consistent comparison of the period of time patients had to wait for admission to hospital. Statistics derived from this methodology were first published in the 2008 edition of *UK Health Statistics*.

29. It is also important to recognise where official statistics are not comparable and to take appropriate steps to prevent inappropriate internal or external use. For example, for the overseas trade statistics, adjustments are made to account for the impact of VAT fraud on the trade statistics. The adjustments do not equate to the levels of the fraudulent activity but the effect that activity has on the trade statistics. Careful briefing and announcement is required to stop users drawing false conclusion about the fraudulent activity from the trade adjustments.

Good practice

30. Much good practice material already exists in relation to the production and dissemination of official statistics[3].

31. Organisations should use a form of self-assessment to ensure that the methods used follow good practice, are appropriate, and that regular reviews are undertaken. A useful tool for assuring methods is the Quality, Methods & Harmonisation Tool (QMHT)[4]. The tool contains questions on the different processes and methods involved in the production and dissemination of statistics and has been developed in association with Office for National Statistics (ONS) methodologists. Self-assessment outcomes and recommendations should be made publicly available in order to allow users to assess whether common and appropriate methods are being used.

New or improved methods

32. In some cases, new or improved methods will be developed which may not have been previously used for that particular statistical product. When adopting new methods, quality assurance procedures should be adopted (see the section on Quality assurance, coherence and continuous improvement).

Statutory obligations and internationally endorsed guidelines

33. Many statistical areas (for example National Accounts and labour market statistics) have regulations and international guidelines specific to them; these should be documented as desk instructions. The relevant statistical producer should ensure adherence to, and provide a report on, compliance with international regulations via the GSS committee responsible for international matters.

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3   Examples of statistical good practice can be found at www.statistics.gov.uk/ons/about-statistics/methodology-and-quality/quality/statistical-good-practice/index.html

4   www.ons.gov.uk/about-statistics/methodology-and-quality/quality/quality-methods-and-harmonisation-tool/index.html

34. Adherence to UK and international legislation should be reported internally, on an annual basis, as part of organisations' reporting on internal adherence with legal compliance. International guidelines, definitions and methods should be adopted where practical to promote the coherence of published statistics and to allow for international comparability. Users should be told when it is not possible to follow international standards.

35. Occasionally there can be conflict between different statistical legislation and standards. Constitutionally EU regulations override UK legislation. The list below outlines the different types of non-UK statistical legislation and standards and source:

    • Primary European statistical legislation resulting in European regulations (which override UK legislation) and are agreed by the European Council and European Parliament

    • Secondary European statistical legislation resulting in directives and are agreed by the European Commission (Eurostat) and the European Statistical System Committee

    • International standards (which do not override UK legislation) and are agreed by organisations such as the United Nations (UN), International Monetary Fund (IMF), European Central Bank (ECB), Organisation for Economic Co-operation and Development (OECD) and International Labour Organization (ILO).

Other regulations and guidance

36. Other generic regulations (for example, Freedom of Information Act) and guidance (for example, European quality dimensions) should also be considered. In relation to freedom of information, human rights and data protection the Ministry of Justice and/or ONS will take a co-ordinating role in advising producers of official statistics. Where possible, for all other regulations and guidance ONS will take a co-ordinating role.

Co-operation

37. Producers of official statistics should support co-operation between international organisations such as the European Commission, the OECD, and the UN, in particular to promote the use of common standards across the international statistics community. They should make effective contributions to international statistical developments, in particular to the development of, or revisions to, common frameworks and classifications to ensure international decisions are relevant to the UK.

Quality assurance, coherence and continuous improvement

Principle 4, Practice 3:	Adopt *quality assurance* procedures, including the consideration of each statistical product against users' requirements, and of their coherence with other statistical products.
Principle 4, Practice 5:	Seek to achieve *continuous improvement* in statistical processes by, for example undertaking regular reviews or releasing statistical work in progress such as experimental statistics.

Quality assurance

38. Quality assurance is being confident that methods and processes are capable of delivering fit for purpose products or services. In relation to statistical quality assurance, there is also the objective of reducing the possibility of data errors and having confidence that you are producing statistics fit for purpose.

Quality assurance strategy, policy and procedures

39. It is recommended that organisations produce, document, implement, monitor and maintain a quality assurance strategy, policy and quality assurance procedures. These should be specific to regular publications, new outputs and changes to outputs. They should include statistical outputs derived from surveys, administrative sources and other secondary sources.

40. The quality assurance policy should include aspects such as control, improvement processes, quality measures, documentation and awareness-raising.

41. The quality assurance procedures should specify clear ownership and accountability for statistics and related products.

42. Appropriate validation to minimise the risk of errors should also be included in the quality assurance procedures. This could include:

    • validation built into the production processes wherever possible

    • internal validation checks – for example, checking against previously produced outputs from the same source, or parallel running by two people where there is a large degree of manual intervention

    • external validation checks – for example, 'sense-checking' against other relevant sources

43. For all regular statistical outputs a programme of periodic reviews should be planned and undertaken; these should cover quality, methodologies and processes.

New or improved methods

44. When adopting new or improved methods, quality assurance procedures should be used. These should include assessing the impact on the statistical series of adopting the new methodology and subjecting the proposed methodology to peer review. Various mechanisms exist to gain input from experts into the suitability of new or improved methods. These include the GSS Methodology Advisory Committee, and the GSS Methodology Conference. The Methodology

Consultancy Service can also provide a peer review service. The setting up of specific peer review groups and collaboration with users, academics and subject matter experts, for example industrialists or demographers, can also be considered or simply peer review from a statistical colleague. The appropriate level of peer review will depend on how new the methodology is, and on the profile of the statistics.

Continuous improvement

45. One recognised good practice in relation to continuous quality improvement is process measurement. A process is a series of actions or steps towards achieving a particular end; process quality is an assessment of how far each step meets defined criteria; and process variables are factors that can vary with each repetition of the process. It is recommended that producers of official statistics define and produce a selection of process quality measures to provide an indication of the overall quality of processes and facilitate continuous quality improvement.

46. For official statistics produced from surveys, examples of process quality measures are the percentage of ineligible sampling units found in the sample, the proportion of proxy interviews by survey, travel time for interviewers, and scanning/keying error rates.

47. When dealing with statistics produced from administrative sources, process quality measures may be the number of queries from the statistical producer to the administrative data supplier, and the percentage of data items changed during quality assurance.

48. Further information can be found on the statistical good practice page[5].

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5   www.ons.gov.uk/about-statistics/methodology-and-quality/quality/statistical-good-practice/index.html

Dissemination

Principle 2, Practice 2: Present statistics impartially and objectively.

Principle 8, Practice 2: Prepare and disseminate commentary and analysis that aid interpretation, and provide factual information about the policy or operational context of official statistics. Adopt formats for the presentation of statistics in graphs, tables and maps that enhance clarity, interpretability and consistency.

Presentation and commentary

49. The presentation of statistics and accompanying text must be appropriate. Further advice on this is provided in the *National Statistician's Guidance: Presentation and Publication of Official Statistics.*

Historical data

Principle, 4, Practice 7: Where time series are revised, or changes are made to methods or coverage, produce consistent historical data where possible.

Revisions policy

50. Each organisation should produce, implement, monitor and maintain a revisions policy. This should describe how revised data and information on the reasons for revisions are communicated to users, the required internal documentation, and in which circumstances historical data should be revised.

51. The reason for making a time series revision should be documented by internal producers and communicated to users. If the revision is due to a methodological or regulatory change, consultation with users should be considered to determine their requirements for consistent historical data, before the change is made. Producers should always strive to understand the impact of discontinuities on users.

Breaks in time series

52. If breaks in series – for example where statistical series are subject to regular changes (such as annual updates to product classifications) or where administrative data sources are changed as a result of policy or operational changes – are not backcast to produce a consistent series of historical back-data, then the reason for the break in series should be clearly communicated, together with some estimation of the effect on the statistics, if possible. Where practicable, parallel running of old and new systems may help quantify the impact of change.

An example of good practice in relation to changes in classifications

An example of good practice is the mapping of the Standard Occupational Classification 1990 (SOC90) to Standard Occupational Classification 2000 (SOC2000). Survey and census data were dual coded to SOC90 and SOC2000. The dual-coding exercises were conducted on three datasets:

• The Labour Force Survey July to August 2000
• The Labour Force Survey December 1996 to February 1997
• The 1991 census subsample

The output of the mapping exercise assisted users in determining the impact of the change in classification at the major group level. An example of the results of dual coding is shown below for 1991 census subsample data:

SOC2000 and SOC90 major groups – male & female										
Percentages within SOC2000 major groups										
		SOC2000 major groups								PERCENTAGES
		1	2	3	4	5	6	7	8	9	Total
SOC90	1	89.0	3.4	11.3	9.8	5.9	6.2	2.3	0.6	0.4	16.0
major	2	2.4	85.7	2.6	0.1	0.4	3.6	0.0	0.1	0.0	8.5
groups	3	3.2	9.8	57.9	0.8	0.7	4.3	0.4	1.0	0.3	8.7
	4	0.4	0.5	2.8	88.2	0.1	2.9	7.3	0.6	11.4	15.9
	5	1.3	0.1	0.8	0.5	84.9	0.1	0.6	13.4	1.8	15.5
	6	0.6	0.0	14.1	0.0	5.7	79.3	0.1	0.4	17.0	9.0
	7	2.5	0.0	9.2	0.3	0.6	0.2	88.5	0.1	1.9	6.9
	8	0.4	0.3	1.2	0.3	1.3	1.0	0.4	79.4	9.8	10.7
	9	0.1	0.0	0.1	0.1	0.4	2.4	0.4	4.4	57.5	8.8
	Total	100	100	100	100	100	100	100	100	100	100

Output quality information

Principle 4, Practice 1 (part):	Publish details of the *methods adopted*, including explanations of why particular choices were made.
Principle 2, Practice 4:	*Announce changes to methods or classifications* well in advance of the release of the changed statistics.
Principle 4, Practice 2 (part):	Ensure…that users are informed about the *quality of statistical outputs*, including estimates of the main sources of bias and other errors, and other aspects of the European Statistical System definition of quality.
Principle 8, Practice 1:	Provide information on the *quality and reliability of statistics* in relation to the range of potential uses, and on methods, procedures, and classifications.

Information accompanying statistics

53. Producers of official statistics have a responsibility to produce and disseminate the necessary information to facilitate user decisions in relation to the quality of the statistical outputs. This should include, metadata (information on methods, processes, classifications, questions, etc), changes to methods and classifications, and quality output measures.

Metadata

54. Information on the methods, procedures and classifications relating to individual statistical outputs must be documented and publicly available. One useful framework for the documentation of methods is the comprehensive and generic statistical business process model agreed by the joint UNECE/Eurostat/OECD work session on statistical metadata known as METIS[6]. The model outlines the main stages in the production of statistics. The processes used in any one area may start at different stages of the model and stages may be repeated or undertaken in various orders. The decisions made at each stage should be documented to meet the needs of users and made publicly available. The assumptions made at each stage should also be made available along with the likely impact of those assumptions. Organisations must agree what they will do for each statistical product and be transparent about why there may be more detail for some. When making these decisions organisations must take into consideration any EU or international reporting requirements.

55. Metadata should clearly outline the statistical frameworks, units, definitions, methods, and standards used, and the reasons for any divergence from national or international standards.

Quality output measures

56. It is recommended that statistical products are released with at least a minimum predefined set of quality output measures[7]. For example, (1) for statistics produced from surveys, output quality measures such as response rates, imputation rates and standard error as a percentage of mean; (2) for statistics produced from administrative sources, output quality measures such as the proportion of administrative records with missing data, documentation of the main uses of administrative data and the known sources of error.

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6   www1.unece.org/stat/platform/display/metis/The+Generic+Statistical+Business+Process+Model

7   Good practice in relation to quality output measures can be found at www.ons.gov.uk/about-statistics/methodology-and-quality/quality/quality-considerations/index.html

An example of good practice in relation to quality output measures

ONS Key Quality Measures

Key Quality Measure	Quantitative/ qualitative	ESS Quality Dimension
1. Where possible, describe how the data relate to the needs of users	Qualitative (Summary Quality Report)	Relevance
2. Provide a statement of the nationally/internationally agreed definitions and standards used	Qualitative (Summary Quality Report)	Comparability
3. Unit response rate by sub-groups, weighted and unweighted	Quantitative (Basic Quality Information)	Accuracy
4. Key item response rates	Quantitative (Basic Quality Information)	Accuracy
5. Editing rate (for key items)	Quantitative (Basic Quality Information)	Accuracy
6. Total contribution to key estimates from imputed values	Quantitative (Basic Quality Information)	Accuracy
7. Estimated standard error for key estimates	Quantitative (Basic Quality Information)	Accuracy
8. Compare estimates with other products covering the same theme	Qualitative (Summary Quality Report)	Coherence
9. Estimate mean absolute revision between provisional and final statistics	Quantitative (Basic Quality Information)	Accuracy
10. Identify known gaps between key user needs, in terms of coverage and detail, and current data	Qualitative (Summary Quality Report)	Relevance
11a. Time lag from the reference date/period to the release of the provisional output	Quantitative (Summary Quality Report)	Timeliness and punctuality
11b. Time lag from the reference date/period to the release of the final output	Quantitative (Summary Quality Report)	Timeliness and punctuality

Quality reporting

57. Each organisation should have a policy which states where and which quality output measures will be reported. For example, the organisational policy may state that all first releases will include a core set of quality measures or include a web link to quality information; while statistical press releases would contain this information in their 'Notes to editors'. All key statistical outputs should have basic quality information as the minimum. The policy may also state that for each statistical product a reference report is produced which contains measures that do not change from one release to another[8].

Range of uses

58. Published statistical products should be accompanied with a statement outlining the key use of the statistics. For example, census population counts should record their use in terms of allocation of financial resources. Any potential quality issues in using the statistics for reasons other than the key use should be clearly stated in the statistical publication.

Changes to methods

59. At the very least, key users should be consulted and other users informed (this could be included in the user engagement strategy, see the section on Users' quality needs) on proposed methodological changes that will potentially impact on the time series and/or level of quality of the statistical output. Once changes have been agreed they should be pre-announced where they affect the data being published, for example a change in the level of classification at which non-response estimates are allocated will directly affect the published statistics and should be pre-announced. Where changes do not specifically affect the published statistics, such as improvements to data validation routines, these do not need to be pre-announced and the relevant statistical producer should judge if users need to be informed about such changes.

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8   Quality considerations for published statistical outputs can be found at www.ons.gov.uk/about-statistics/methodology-and-quality/quality/quality-considerations/index.html

60. For some sensitive statistical series, such as those estimating fraudulent activity in the economy, it may not be possible to publish details of the methodology or relevant changes in order to protect the operational work to combat the illegal activity. In these cases users should be provided with sufficient information to inform their use of the statistics. For example, the likely discontinuity in the series due to changes in the methodology.

Changes to classifications

61. Although a single classification may be used in a variety of datasets/products, changes to that classification should be co-ordinated by the area of the UK statistical system with business responsibility for that classification. This will include consulting over proposed changes and announcing amendments. Where the classification is administrative rather than statistical, producers should influence any changes to ensure that statistical needs are met. For individual products, when classification changes affect the level at which the statistical outputs are published, for example product, industry or occupation, the relevant statistical producer should pre-announce the adoption of classification changes prior to implementation.

Pre-announcing changes

62. The timing of pre-announcement will depend on the frequency of publication. Ideally, changes should be pre-announced at the time of the previous period's publication, in the notes of the previous statistical release and on organisational websites (and, in the case of National Statistics, the Publication Hub). It is recommended that changes should be pre-announced at least a month before implementation, and key users informed. Pre-announcement notices should always be linked to publications.

63. Further guidance on releasing statistics and publishing information to accompany statistics can be found in the *National Statistician's Guidance: Presentation and Publication of Official Statistics*.