

# Quality Assurance Framework for the Statistical First Release

Version 1  
June 2010

## 1. Introduction

The Data Service publish a statistical first release (SFR) “Post-16 Education & Skills: Learner Participation, Outcomes and Level of Highest Qualification Held” on a quarterly basis, on behalf of the Department for Business, Innovation and Skills (BIS).

This Framework describes the procedures in place to quality assure (QA) the Statistical First Release (SFR) and associated products that are produced by the Data Service and BIS. It provides a general framework and an in-depth checklist to manage the quality of the data, outputs and any accompanying commentary. Lessons learned from previous publication have informed this Framework.

This policy is based on the [National Statistics Code of Practice](#)<sup>1</sup> and states the general principles to be followed when producing official statistics.

## 2. Objectives of the QA Framework

The objectives of this Data Quality Assurance Framework are:

- a. To ensure that all outputs are accurate and fit for purpose.
- b. To be transparent in the methods and implementation of data QA in the production of the SFR.
- c. To help plan the resource required to quality assure the SFR and associated outputs.
- d. To seek continuous improvements in the quality assurance processes that the Data Service and BIS use.

## 3. How we will address these objectives?

- a. **To ensure that all outputs are accurate and robust.**

In order to achieve this we have devised a quality assurance checklist (described in section 5) to apply to all our statistical outputs to ensure they are accurate and robust. This lists all checks that we will apply to outputs, before they are published on the Data Service website.

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<sup>1</sup> <http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html>

**b. To be transparent in the methods and implementation of data QA in the production of the SFR.**

By publishing our QA framework and allowing users to provide feedback via the Data Service and BIS websites, we aim to be transparent in the methods and the implementation of our QA.

**c. To help plan the resource required to quality assure the SFR and associated outputs.**

Project management principles including the implementation of a team plan, action log and issues log are used throughout the planning and producing of the SFR, in order to ensure a robust and timely publication. Outputs are assigned within the statistical team to be checked, and these are then signed off by the team leader. This process is included in the project plan, and time is allocated to staff specifically to QA outputs.

**d. To seek continuous improvements in the quality assurance processes that the Data Service and BIS use.**

The QA checklist is periodically reviewed after each SFR is published. We consider any issues that occurred during the publication process, and use these to improve the scope of the checklist. We also feed in any feedback from stakeholders or users, and through this we aim to continuously seek to improve the quality assurance processes that we use. In conjunction with the QA framework we have recently developed a more automated production routine, used to populate the SFR tables. We are currently looking at ways to extend this to also automate the formatting of tables and supplementary outputs.

#### **4. Data Quality**

Alongside each SFR, we publish a quality statement for each dataset, as well as any known data quality issues. Access to quality statements can be found on the Data Service website at: <http://www.thedataservice.org.uk/Services/DataQuality/>. We also publish a statement of administrative sources, that shows, amongst other things, what arrangements are in place to audit the quality of the data used in the SFR. This statement can be found on the Data Service website at: <http://www.thedataservice.org.uk/NR/ronlyres/D69E2A02-20CD-4BEE-A61E-1535C51F34EC/0/StatementofAdministrativeSources.pdf>

#### **5. Quality Assurance Checklist**

All statistical outputs are subject to the QA checklist which can be found in Annex A. This is an evolving document which is reviewed regularly and in particular at the start of the production process for each SFR. Responsibility for ensuring this checklist is reviewed sits with the SFR project manager. Prior to commencing the production of each SFR, this checklist is signed off by statisticians in BIS.

In order to reduce the amount of checking done during the production of the SFR and in the final stages before publication, tables without any figures in them will be produced in advance to agree the content, layout and format of the final tables. This will minimise the amount of QA required in section iii below.

Each SFR table produced will be quality assured by the producer of the table, an independent person and then signed off by the data manager. Copies of the QA checklist for each table will be kept on file and held by the Data Service.

A separate style guide will accompany this document to provide more guidance on the format of the statistical outputs from the Data Service.

The QA checklist in Annex A includes the following sections:

#### **i. Data Provision**

As outlined in the confidentiality document (link to conf doc), data and information is shared between the Data Service and analysts in BIS in line with Cabinet Office guidelines, via a secure server and is encrypted. Relevant details, including who has checked outputs at each stage, are included in the Data Provision section.

#### **ii. Syntax and Cover Sheet**

The checks outlined here are completed for each syntax/table file that is produced and accurately documented.

#### **iii. SFR Tables**

For each table three files will be created:

- a working version which contains links and disaggregated data;
- a rounded version with formulae which takes the final results only from the working version and applies formulae to round the figures as appropriate;
- and a final version for publication which takes the rounded version and removes all formulae so only the data values are shown.

The working Excel files (pre-final tables) will always contain a cover sheet with the relevant documentation and this should be checked against ii above.

At least 3 people will complete section iii to ensure accuracy, and these will be documented using the checklist provided in Annex A. These checks are completed on the initial figures before the final tables are produced. If figures are updated then these checks are repeated.

The footnote checks in iii are also completed once the SFR is in its final form prior to publishing.

#### **iv. The SFR Publication**

Checks on the SFR publication document are undertaken by at least 3 people. Whilst they can be undertaken at an early stage in the SFR process, they are repeated once the SFR commentary and figures are in their final form prior to publishing.

#### **v. Sign Off**

Sign-off takes place throughout the SFR production process, as required.

In conjunction with the checklist in Annex A, further documentation is produced to ensure consistency and transparency of the data and methods used in the SFR. These are:

- A list of the data files and the version number used in the SFR, an example of this can be found in Annex B
- A list of the files to be used in each table, an example of this can be found in Annex C.
- A list of the files that have been published on the Data Service website, an example can be found in Annex D.

## Annex A: Quality Assurance Checklist

### i. Data Provision - To be completed **once per SFR**

SFR: <i>Dec 09</i>	Date: <i>10/12/09</i>
Producer: <i>Joe Bloggs</i>	First QA:
Second QA/Sign off:	Table:

<b>Data Provision</b>	
a. Confirm what datasets are being used for SFR and document in Annex A	<input type="checkbox"/>
b. New files sent to BIS.	<input type="checkbox"/>
c. Review written statement from the Data Quality Manager detailing whether there are any known issues with the data and whether the data is deemed to be representative of all providers.	<input type="checkbox"/>
d. Regularly check the 'log of issues' for data during the SFR production process	<input type="checkbox"/>
e. Row/cell count provided to BIS/DCSF for each file	<input type="checkbox"/>
f. Syntax has been sent for each file/SFR table (and each time syntax is updated)	<input type="checkbox"/>
g. Final syntax documents should be sent in one batch to BIS (after the production of the SFR)	<input type="checkbox"/>

## Annex A: Quality Assurance Checklist

### ii. Syntax and Cover Sheet – This should be completed **once per file**

SFR: <i>Dec 09</i>	Date: <i>10/12/09</i>
Producer: <i>Joe Bloggs</i>	First QA:
Second QA/Sign off:	Table:

<b>Syntax Checks</b>	
a. Syntax includes a version number	<input type="checkbox"/>
b. Syntax gives details of changes from previous version	<input type="checkbox"/>
c. Syntax is fully commented with details of what it does and what tables it produces figures for	<input type="checkbox"/>
d. Syntax produces both main and supplementary tables	<input type="checkbox"/>
e. Syntax references correct dataset (outlined in table in Annex B)	<input type="checkbox"/>
f. Final syntax is signed-off by the Data Service syntax producer, Definitions Manager and BIS before the SFR is published	<input type="checkbox"/>

SFR: <i>Dec 09</i>	Date: <i>10/12/09</i>
Producer: <i>Joe Bloggs</i>	First QA:
Second QA/Sign off:	Table:

<b>Working Files Cover Sheet</b>	
a. Version number and key changes since previous version	<input type="checkbox"/>
b. Details of author and second quality assurer	<input type="checkbox"/>
c. List of data included in table to be documented in Annex C	<input type="checkbox"/>
d. QA sheet included with comparisons across sheets or workbooks e.g. LA totals match PCON totals; supplementary tables match main tables	<input type="checkbox"/>
e. SQL syntax is included (as separate sheet, not in cover sheet).	<input type="checkbox"/>

### iii. SFR Tables – This section should be completed **once per table**

## Annex A: Quality Assurance Checklist

SFR: <i>Dec 09</i>	Date: <i>10/12/09</i>
Producer: <i>Joe Bloggs</i>	First QA:
Second QA/Sign off:	Table:

### Check of Figures

a. Automated QA sheet drawn up for each table and signed-off/agreed by the SFR Project Manager	<input type="checkbox"/>
b. Sum of all unrounded sub-totals equals the overall total	<input type="checkbox"/>
c. Sum of all unrounded components equals sub-total e.g. LAs sum to region.	<input type="checkbox"/>
d. Percentages are calculated on unrounded data	<input type="checkbox"/>
e. Figures in supplementary tables match the main tables	<input type="checkbox"/>
f. Same figures in different tables match	<input type="checkbox"/>
g. Unchanged figures match between SFRs	<input type="checkbox"/>
h. Trends look reasonable over time – if there are any known changes affecting figures, these should be documented/footnoted in tables	<input type="checkbox"/>
i. General sense check of figures e.g. 100% of learners are not male	<input type="checkbox"/>
j. Formulae are correct and consistent, referencing the right data	<input type="checkbox"/>
k. Exceptions should be checked e.g. Isles of Scilly is included with Cornwall LA (exceptions should be explicitly listed)	<input type="checkbox"/>

### Table Formatting

a. All borders are visible.	<input type="checkbox"/>
b. Cells are aligned consistently across tables	<input type="checkbox"/>
c. Headers and totals are bolded	<input type="checkbox"/>
d. Font type and size for headers and figures are consistent throughout tables.	<input type="checkbox"/>
e. Print layout setup to print complete table and all footnotes on one page where appropriate	<input type="checkbox"/>
f. 'Active cell' is top left in final version so that table header is clearly displayed when file is opened	<input type="checkbox"/>
g. Figures in final table are values and not formulae	<input type="checkbox"/>
h. Figures in final table are comma separated	<input type="checkbox"/>
i. Percentages are given to 1 decimal place and formatted in italics	<input type="checkbox"/>
j. Figures in final table have been rounded as agreed and footnoted in table	<input type="checkbox"/>
k. Figures in final table have been suppressed when below certain values as agreed and footnoted in table	<input type="checkbox"/>

### Table Footnotes

a. Footnotes are consecutively numbered	<input type="checkbox"/>
b. Footnotes are consistently ordered across tables	<input type="checkbox"/>
c. Font type and size are consistent	<input type="checkbox"/>
d. All footnotes are relevant e.g. no footnote on age definition unless age breakdown is given in this table	<input type="checkbox"/>
e. Spell check undertaken	<input type="checkbox"/>
f. Grammar is correct and full-stops included at the end of each footnote	<input type="checkbox"/>

**iv. The SFR Publication Document** – this should be completed **once per SFR**

## Annex A: Quality Assurance Checklist

SFR: <i>Dec 09</i>	Date: <i>10/12/09</i>
Producer: <i>Joe Bloggs</i>	First QA:
Second QA/Sign off:	Table:

<b>Commentary Checks</b>	
a. Spell check undertaken	<input type="checkbox"/>
b. Paragraph numbers are consecutive	<input type="checkbox"/>
c. Page numbers have been included and are consecutive throughout, starting with front page as 1	<input type="checkbox"/>
d. References to footnotes are correct	<input type="checkbox"/>
e. Links to external sources (e.g. other SFRs) are correct and presented as hyperlinks	<input type="checkbox"/>
f. References to tables are correct (figures of x% in table 1 really is in table 1 and not elsewhere)	<input type="checkbox"/>
g. Figures in the commentary are consistent with the tables	<input type="checkbox"/>
h. Font type and size is consistent throughout	<input type="checkbox"/>
i. Terminology is consistent throughout e.g. no interchange between 'achievements' and 'completions'	<input type="checkbox"/>
j. The reference number and contact details on the front page are correct	<input type="checkbox"/>
k. Tables are clearly presented, in accordance with style guide	<input type="checkbox"/>

<b>Final Checks</b>	
a. PDF version of SFR matches Excel files for tables and Word document for commentary	<input type="checkbox"/>
b. Filenames for PDF document and Excel files are consistent and match	<input type="checkbox"/>
c. Quality Statement provided by all data suppliers (Data Service, LFS team, VQ team) – see Annex D for example of quality statement	<input type="checkbox"/>

### **v. Sign-off** – this should be completed **once per SFR**

SFR: <i>Dec 09</i>	Date: <i>10/12/09</i>
Producer: <i>Joe Bloggs</i>	First QA:
Second QA/Sign off:	Table:

<b>Sign-off</b>	
a. Final syntax is signed-off by the Data Service syntax producer, Definitions Manager and BIS before the SFR is published	<input type="checkbox"/>
b. Prior to sending to BIS, each table has a completed checklist which is signed and dated by the first quality assurer	<input type="checkbox"/>
c. Prior to sending to BIS, each table has a completed checklist which is signed and dated by the second quality assurer	<input type="checkbox"/>
d. Prior to publishing the SFR, each table is signed-off by the SFR project	<input type="checkbox"/>

## Annex A: Quality Assurance Checklist

	manager, who completes sections 2.3 - 2.5 of the checklist.	
e.	The PDF version of the SFR is signed off by the project manager prior to publication.	<input type="checkbox"/>
f.	Quality Statement provided by all data suppliers (Data Service, LFS team, VQ team) – see Annex D for example of quality statement	<input type="checkbox"/>

## Annex B

### List of files used in SFR

This table should include all data files used in the SFR, an example given below.

Type/source	Year	Version	Filename	Updated for new SFR?
FE	2007/08	F05		
FE	2006/07	F05		
ACL	2007/08	A05		
.....	.....			

## Annex C

### List of files used for each table

This table should include all data files used for each SFR table, an example given below.

<b>Table Number</b>	<b>Table title</b>	<b>Year</b>	<b>Version</b>
2	Adult FE and Skills	2005/06	FE
			ACL
			UFI
			WBL
			TTG
			ETP
			NES
		2006/07	FE
			ACL
.....	.....	.....	.....

## Annex D

### List of files to be published

This table should include details of the final filenames to be used for published versions of documents and the 'link' which is displayed on the website, an example given below.

<b>Table Number/ Description of File</b>	<b>Filename (to be used for published file)</b>	<b>Link (to be used on website)</b>
PDF of main SFR	nat_SFR_Post16_Education_and_Skills_July09	Post 16 Education: July 2009
All tables	nat_SFR_Post16_Education_and_Skills_Tables_July09	Download all SFR tables
S1.1 and S1.2	nat_Table_S1_1_and_S1_2_Young_People_FE_and_Apprenticeships_by_Provision_Type	Table S1.1 and S1.2 Young People FE and Apprenticeships Participation and Achievement (2002/03 to 2007/08) – provision type breakdowns