

# **A basis for Better Decision making: Improvements to Quality Reviews and Reporting**

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## **Abstract**

The Office for National Statistics (ONS) publish Quality and Methodology Information (QMI) reports for every statistical bulletin which are designed to give users of statistics enough information to decide what the data is suitable to be used for. They also allow ONS to meet our obligations under the Code of Practice (specifically Principle 4 “Sound Methods and Assured Quality”) and to report on the European Statistical System Dimensions of Quality.

In light of recent User Persona work undertaken by ONS examining the characteristics of users and the need to update the report to be compatible with the forthcoming new ONS website, now is a good time to review current reports and investigate the possibility of making QMIs accessible to as many users of data as possible. We will also consider how these improvements could work for the Government Statistical Service (GSS) in the future.

This paper will briefly discuss why ONS reports on quality and how this is currently done. It will discuss some of the issues and constraints with our current system, where we would like to be and ideas for how we can achieve this. Finally, we will report on the first steps that we are taking towards the goal of making QMIs accessible to a wide range of ONS users.

In addition to the requirements for reporting on quality, there is a requirement under the Code of Practice for Official Statistics to ensure official statistics are produced to a level of quality that meets users' needs and to seek to achieve continuous improvement in statistical processes by undertaking regular reviews.

In January 2015 Quality Centre rolled out a new process for assessing the quality of an output within ONS. This new process is called a ‘Regular Quality Review (RQR)’ and replaces the use of a self assessment tool to carry out quality reviews. The decision to develop a new process was made based on feedback from statistical producers during a user engagement exercise.

The RQR process reduces the burden on the statistical producer, as instead of completing a large self assessment tool they discuss their output in the context of the five quality dimensions and the Generic Statistical Business Process Model (UNECE, 2013) with a methodologist. The process also results in recommendations tailored to improving the quality of the statistical output.

Statistical Producers feel the new process is proportionate and the recommendations useful. Currently RQRs have only been implemented within ONS, however this is a process that the GSS could adopt.

This paper explains these latest developments in quality reporting and quality reviews. It also describes how we are working towards a more holistic approach to quality, by making use of quality reports to inform quality reviews.

## **1. Developments in Quality Reporting**

### **1.1 The purpose of quality reporting**

ONS reports on the quality of data for a number of reasons:

- to give users of our data enough information on the strengths and limitations of the data so that they can make an informed judgement on what that data is suitable to be used for
- to meet our obligations under the Code of Practice for Official Statistics, (UK Statistics Authority, 2009) specifically Principle 4: Sound Methods and Assured Quality
- to meet requirements from the European Statistics Code of Practice (Eurostat, 2011) and report against the European Statistical System (ESS) dimensions of quality.

### **1.2 Quality and Methodology Information**

ONS communicates the quality of our data in a number of ways. Quality and Methodology Information (QMI) reports are the office standard for communicating static quality information to users of ONS Statistical Bulletins. Static quality information is information that does not change frequently such as statistical processes and sample size. QMIs are designed to give users enough information on the strengths and limitations of the data so that they can decide what that data is suitable to be used for. QMIs are expected to be updated on an annual basis, or when any major methodological change has affected the data.

QMIs are overview documents which provide information that describes the quality of the output and details any points that should be noted when using the statistics. Subjects covered within the QMI include a description of output quality and information on how the output is created. These subjects give statistical producers a structure to report in further detail on the 5 ESS dimensions of quality and other important quality characteristics. These are: Relevance; Timeliness and punctuality; Coherence and comparability; Accuracy; Output quality trade-offs, Assessment of user needs and perceptions and Accessibility and clarity.

Once the QMI is drafted by the statistical producer, it is sent to the central Quality Centre within ONS who co-ordinate the quality assurance and publication of the QMIs.

The current presentation format of the QMI is 5 years old so now is a good time to review whether changes or improvements are needed. The current work to produce a new website and recent work within Digital Publishing Division within ONS on developing User Personas for visitors to the ONS website affords the opportunity to investigate extending the reach of quality information and making it more accessible to users of the ONS website. The metrics for visitors to the QMI pages indicates that many users appear to be small business/individuals. This has also reinforced the need to consider how we present quality information going forward.

It is important to state here, that we are not expecting the content held within a QMI to change significantly, as this is designed to meet the obligations detailed above; the focus here is on improving the accessibility of the content.

### **1.3 Reviewing the presentation of Quality Information**

As mentioned above, the aim of this work is to investigate how both the reach and accessibility of quality information can be extended to sit alongside the current QMI.

A QMI holds a lot of information and links to many metadata documents and technical reports etc, allowing users to access a high level of detail on the production process and how the data performs against the ESS dimensions of quality. As such, the QMI can be a time consuming document to read.

This was taken into consideration when developing the project aims. It was decided to focus on a “back to basics” approach that is, what do we want the very first level of quality information to achieve for users? The answer to this was, to reduce the risk of misuse of the data. We then needed to discover the kinds of vital quality information needed by users of the data so that there was less chance of them misusing it in error. This information also needs to be concise, consistent with the message within the QMI and easily accessible from the data. Discussions on how the information will be presented on the website are in very early stages. Current thinking is that the vital quality information will take the form of bullet points at the top of a quality information page, which will then progressively disclose greater detail, ending with the QMI attached as a PDF. However, this may be subject to change depending on the results of user testing. To aid consistency in the presentation of quality information, we will also be reviewing the order of the current QMI template with a view to echoing the progressive disclosure of greater detail.

### **1.4 Internal consultation**

In order to understand what information might be most vital to reducing the risk of misuse, we set up a range of focus groups and individual meetings with statistical producers, methodologists and other stakeholders within ONS. Discussions centred on experiences with the current QMI, where there were gaps for our users and ideas for what kind of information would be the most vital for our users to know in order to reduce the risk of misusing the data.

Firstly, it became quickly apparent that different outputs would require different types of information; one size would not fit all. Therefore, a rigid template would not be appropriate. Rather, it would be more useful for guidance to include a “pool” of suggested pieces of information for statistical producers to consider and choose from.

Contributors to the internal consultations felt that 3 or 4 points at most would be needed, although fewer if appropriate in order for the messages contained to remain relevant and important and not be diluted. These messages may be different across periods for each output.

The internal consultation process is now complete, and we are about to analyse the responses, but some common themes have emerged and these will be explored further during analysis:

- whether the output is an estimate and what this means for the data, for example should small differences be discounted?
- what the data are and what they aren't
- coherence and comparability – where outputs are similar, where they are different and which output is suitable for what
- flagging common misuse and linking to the right data for that use (where appropriate)
- periodicity

It was interesting that producers of different types of data emphasised different quality characteristics as being important for reducing the risk of misuse to their data. For example, producers of statistics based on administrative data for population topics thought that a list of data sources and the accuracy of both the sources and the data were the first things a user needed to know about their data. Producers of survey based business statistics thought that coherence and comparability and flagging up known misuses along with the correct data for that use was most vital for their users.

## **1.5 Next steps**

The next steps for this project are:

- analysing the responses of the internal consultation
- producing a first draft “pool” of quality characteristics
- share the results of the consultation and discussing if/how this can fit on the new website
- user test and review the results
- propose a course of action
- draft guidance and run a pilot

## **2. Using quality reports to support continuous improvement through quality reviews**

The QMIs are an important tool used to inform users about what the data is suitable to be used for under the ESS 5 dimensions of quality. However, as part of a more holistic approach to quality, we have also considered how quality reports can be used to inform quality reviews. The QMI is a crucial part of Quality Centre's new Regular Quality Review process, which we describe below.

## **3. Regular Quality Reviews**

### **3.1 Introduction**

ONS is required to regularly review the quality of official statistics under the UK Code of Practice for Official Statistics (UK Statistics Authority, 2009) and the European Statistics Code of Practice (Eurostat, 2011).

In 2013, ONS rolled out the use of the Quality, Methods and Harmonisation Tool (QMHT) to carry out quality reviews of all statistical outputs on an annual basis. This is a self-assessment tool that asked questions about the output across all stages of the Generic Statistical Business Process Model (UNECE, 2013) and produces recommendations.

Once QMHT had been in use for a year, Quality Centre held focus groups with some ONS statistical producers to establish whether it was meeting their needs. It was highlighted that QMHT took a very long time to complete and it generated a large number of recommendations that were not always relevant to the statistical output. Quality Centre responded to the feedback and worked to develop a new approach to reviewing statistical outputs, which we have termed the "Regular Quality Review". QMHT did not suit the ONS review requirements, however various tailored versions of QMHT are used successfully across the GSS.

The overwhelming feeling from the focus groups was that producers of statistical outputs would like the opportunity to discuss their output with a methodologist. The Regular Quality Review (RQR) has therefore been built around this principle.

### **3.2 Regular Quality Review (RQR) Process**

An RQR consists of a facilitated meeting, lasting between 1.5 and 2 hours, between the producer of a statistical output, the Divisional Director, a senior methodologist and a representative from Quality Centre. Quality Centre sets up the meeting and collates existing documentation; QMI reports, Value Engineering<sup>1</sup> (Sharp, 2014), Desk Instructions, Quality Assurance Walkthroughs, Survey Questionnaires, Statistical Bulletin and UKSA assessments. This information is used to initiate a discussion of the methods and quality, led by the senior methodologist.

ONS has an existing quality initiative designed to ensure that effective quality assurance procedures are in place. This is termed the "quality assurance (QA)" or "Divisional Director

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<sup>1</sup> Value Engineering takes place annually at ONS to assess the level of risk associated with ten different dimensions of statistical outputs including systems, processes and methods.

(DD)” walkthrough. Quality Centre incorporated the DD walkthrough into the RQR. This means that there are two components to the RQR; the methods review carried out by the senior methodologist and the DD walkthrough, which is a review of process quality.

As the meeting is based on existing documentation and sharing knowledge the burden placed on the output manager is minimised.

A set of bespoke recommendations are made by the senior methodologist for that statistical output, which addresses one of the main concerns raised regarding the use of QMHT. The recommendations then feed into business plans or Survey Action Plans, which are used by some surveys to monitor any risks or issues.

### **3.3 Progress**

Once we had designed the review process, it was piloted on 3 statistical outputs before being launched in November 2015, and by July 2015 we have completed 18 additional reviews. We recognised the need for a slow start to ensure that the process was working as we had anticipated and to give some extra time and flexibility to smooth out any problems.

### **3.4 Recommendations**

One of the main features of the RQR is that it will provide bespoke recommendations for a statistical output which was highlighted in the focus groups, and a 3 yearly review cycle provides time between reviews for recommendations to be addressed.

We have a role in Quality Centre to monitor recommendations following RQRs. The recommendations themselves are owned by the relevant statistical output area, however Quality Centre will return periodically to check progress. Where recommendations require methodological support and advice, Quality Centre will help to facilitate this and will help to get the required work onto the relevant business plans. In addition, our role in Quality Centre is to ensure that recommendations are prioritised appropriately and that the description of recommendations as low, medium or high priority is applied consistently.

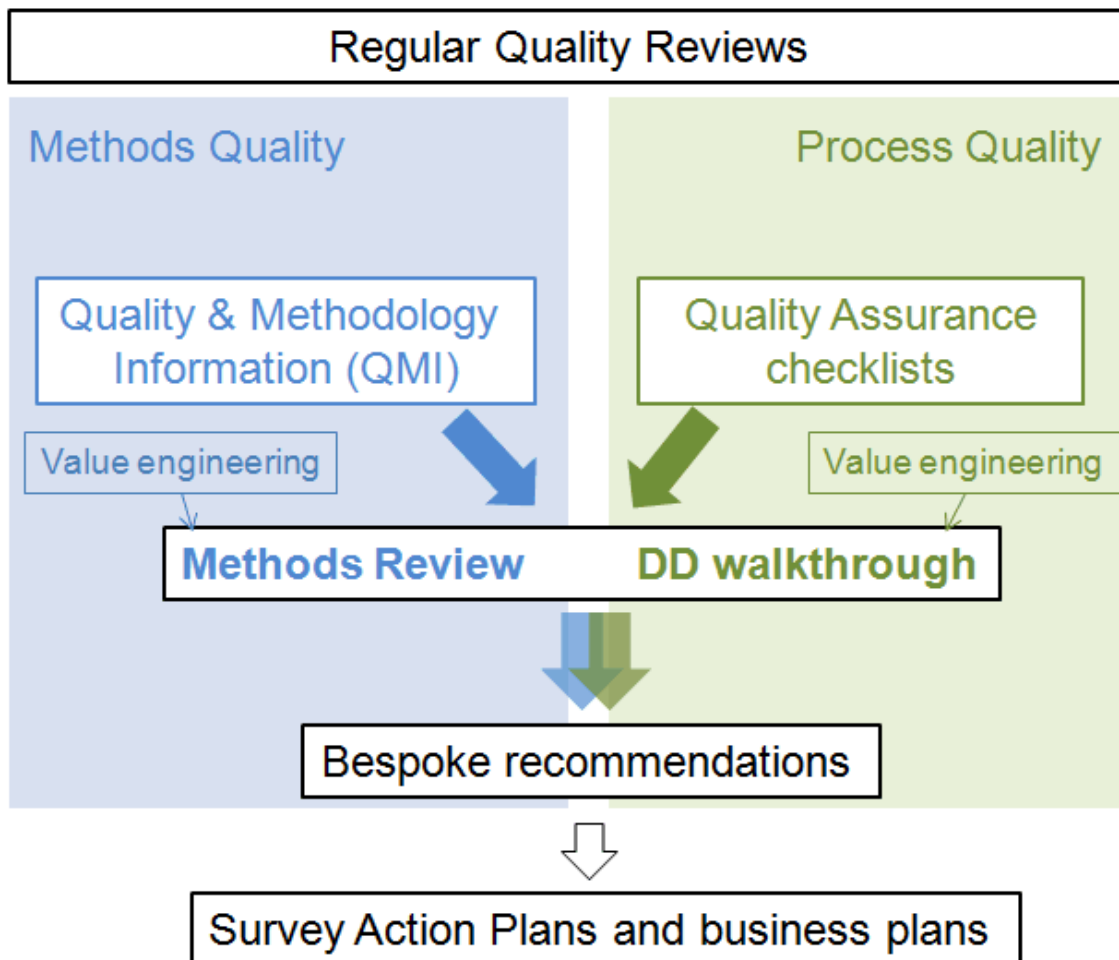
### **3.5 Relevance for GSS**

Over the last 6 months Quality Centre has presented RQRs at a number of cascades and seminars across the ONS and GSS. It offers a relatively light-touch approach to reviewing a statistical output. It is expected that where senior methodologists are not available, a senior statistician could carry out the review or support could be sought from the Methodology Advisory Service<sup>2</sup>. Business Innovation and Skills (BIS) recently attended an ONS RQR meeting as an observer. ONS and BIS are in discussions of how this could be implemented within BIS and across the GSS.

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<sup>2</sup> <https://gss.civilservice.gov.uk/courses-and-events/statistical-training-unit/methodology-advisory-service/>

**Figure 1. An overview of the Regular Quality Review and how it links with existing initiatives**



### 3.6 Next steps

The next steps for this project are:

- Continue rolling out the Regular Quality Reviews across the ONS.
- Communicate about RQRs.
- Further refine and improve the process through feedback from statistical producers and the methodologists involved.
- Monitor recommendations and implementation
- Assist with the implementation of RQRs across the GSS where required

## 4. Conclusion

The Quality and Methodology Information (QMI) has been well established for a number of years and allows us to meet our obligations under the Code of Practice for quality reporting and reporting against the ESS dimensions of quality. In light of the new website changes and

more knowledge about users, we decided to investigate the possibility of making QMIs accessible to as many users of data as possible.

The QMI has an important purpose in its own right, but in an effort to establish a more holistic approach to quality, we have ensured that the QMI is the key document used to carry out our programme of quality reviews at ONS.

This new Regular Quality Review (RQR) process has been developed at ONS in response to the requirements of the UK Code of Practice for Official Statistics. The Quality, Methods and Harmonisation Tool (QMHT) previously used for conducting reviews at ONS was not meeting the needs of statistical output managers.

This process offers a “light-touch” methodological review and complements the existing quality initiatives in place at ONS. It is a flexible model that can be used by official statistics producers; guidance has been developed for carrying out this approach in other statistical institutes and in other government departments.

## **5. References**

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