Part 4: Quality assurance and audit arrangements evaluation guide

4.1 In Part 3 we set out our practice model that describes the four areas of practice for producers using administrative data for statistical purposes. In Part 4 we present a maturity matrix, grounded in the practice model, to help statistical producers determine the scale of investigation and documentation required to be assured that the quality of the data is suitable, and to provide informed assurance to users.

4.2 The approach that we propose here has two parts:

a) *Data Quality Concern and Public Interest Profile Matrix* – producers can use this matrix to decide the characteristics of their statistics, and make decisions that are pragmatic and proportionate.

b) *Quality Assurance Matrix* – producers can use this maturity matrix to identify the appropriate level of assurance to be undertaken and documentation to be published.

Data quality concern and public interest profile matrix

4.3 Judgments about the quality of the data for use in official statistics should be pragmatic and proportionate, made in the light of an evaluation of the degree of concern about the quality of the data and the public interest profile of the statistics. We have summarised the relationship between these two dimensions in the quality concern and profile matrix (Table 4.1) below. It may be the case that the circumstances surrounding the statistics change which, in turn, may require this evaluation to be repeated.

Table 4.1: Data quality concern and public interest profile matrix

Level of concern over data quality	Public interest profile: importance for informing decisions		
	Lower	Medium	Higher
Lower level ('low')	Statistics of lower data quality concern and lower public interest [M1]	Statistics of lower data quality concern and moderate public interest [M1/M2]	Statistics of lower data quality concern and high public interest [M1/M2]
Medium ('medium')	Statistics of moderate data quality concern and lower public interest [M2]	Statistics of moderate data quality concern and moderate public interest [M2]	Statistics of moderate data quality concern and high public interest [M2/M3]
Higher level ('High')	Statistics of high data quality concern and lower public interest [M3]	Statistics of high data quality concern and moderate public interest [M3]	Statistics of high data quality concern and high public interest [M3]

M1 to M3 = the three maturity levels in the QA Matrix

4.4 Data quality concerns may be magnified when there is a greater likelihood of error occurring in the recording of data and of increased difficulties in identifying inaccuracies. For example, when there are many data collector bodies, such as schools or hospital trusts, there is an increased risk of differing local practices – these can lead to inconsistent definitions and codes being used to measure the same concept. The use of targets and performance management regimes can also lead to a distortive effect on the data – whether through deliberate actions, to improve the apparent performance of the organisation, or indirectly, as a result of the local interpretation of target definitions. Concerns about data quality will be lower for a well-defined system with built-in data entry and validation checks, few data suppliers and well-established arrangements for internal audit of the data. Table 4.2 below provides further examples of the criteria for judging the degree of concern with data quality.

4.5 The public interest profile reflects the importance of the decisions informed by the statistics. Higher public interest will occur, for example, where the use of the statistics is required by legislation or informs resource planning and allocation by government or businesses. A lower public interest may arise where the statistics have a narrower relevance and attract little public debate.

4.6 The two dimensions are described below in Tables 4.2 and 4.3, with reference to example case studies for illustrative purposes.

Table 4.2: Level of concern over the accuracy of the data

Examples of the criteria for considering degree of concern over data quality

Level of concern about data quality	Criterion
Lower	Single data supplier
	Simple data collection process
	Well-defined classifications
	Clear coding frame
	Clear instructions for recording
	Validation checks built into data collection system
	Validation checks built into statistical producer's system
	Internal or financial audit part of operational checks
	Well defined roles and responsibilities
	No performance management regime or use of targets
	International standards for measurement
	External oversight/audit (e.g. by regulators such as NAO, Ofqual, CQC)
	Case study example: ISD's prescription statistics - single provider (Prescribing Services Division) who has built-in validation system checks and financial audit into the operational process, with clearly defined roles and data management arrangements
Medium	Combination of factors from lower and higher levels with safeguards to moderate the concerns
	Case study example: DWP's Work Programme statistics - multiple providers, payment by results offset by integrated financial audit and operational checks
Higher	Multiple data supply and/or data collection bodies
	Complex data collection
	Subjective recording of variables
	Lack of consistency in coding
	Lack of clarity in classification systems
	No audit of administrative data within operational processes
	Over-reliance on system checks for checking accuracy of data
	Poorly defined roles and responsibilities
	Performance management regime
	Use of targets – possibility of distortive effects on the statistics
	Lack of external oversight
	Case study example: ONS's police recorded crime statistics - multiple data suppliers with variable recording practices, subjective interpretation of information, use of local targets to drive performance, lack of external scrutiny, indirect relationship between statistical producer and data suppliers with intermediary statistical producer (Home Office) receiving and processing administrative data

Table 4.3: Public interest profile of the statistics

Examples of the criteria for considering the degree of public interest and use in informing decision making

Profile level	Criterion
Lower	Always likely to be a politically neutral subject
	Interest limited to niche user base
	Not economically sensitive
	Limited media interest
Medium	Wider user interest
	Moderate economic and/or political sensitivity
	Case study example: HSCIC's adult social services activity statistics - public interest in adequacies of social care services
Higher	Legal requirement, for example, for Eurostat
	Economically important, reflected in market sensitivity
	Substantial level of resource and key to that allocation
	High political sensitivity, reflected by Select Committee hearings
	Substantial media coverage of policies and statistics
	Public health issue
	Case study example: ONS's police recorded crime statistics - strong public interest in crime, fear of crime, effectiveness of police and holding Government to account, strong public concern in mis-recording of crime by police forces, investigation by Public Administration Select Committee

Quality Assurance Matrix

4.7 Having assessed the levels of data quality concern and public interest, statistical producers can use the maturity matrix, called the **Quality Assurance (QA) Matrix**, to determine the appropriate scale of assurance and documentation required to inform themselves and users about the quality assurance and audit arrangements for the administrative data. This will support the basis of their judgment of the suitability for the use of the data for statistical purposes.

4.8 The **maturity levels diagram** (Figure 4.2 below) explains the different levels of assurance that are used in the QA Matrix – the requirement for investigation and documentation increases at each level from 'basic' (M1) to 'enhanced' (M2) to 'comprehensive' (M3).

4.9 The QA Matrix (Table 4.4 below), outlines the types of practices that can be undertaken to provide assurance of each aspect of the quality assurance and audit arrangements and to document the judgment. Producers should decide which of the maturity levels is appropriate for the administrative data under consideration for the four practices. Producers must explain the basis of their judgments of the level of assurance.

4.10 The Authority does not regard 'No assurance' (M0) as compliant with the *Code*.

4.11 During the Authority's Assessment of official or National Statistics based on administrative data (of compliance with the *Code*), the assessors will also make an evaluation of what they regard as the appropriate maturity levels for the administrative data. The Authority may consider that, given the level of concern over data quality and the public interest profile of the statistics, a higher level of maturity (M2 or M3) is appropriate than that judged by the statistical producer. In these cases, applying the measure associate with either M1 or M2 may be viewed as not compliant with the *Code*.

Figure 4.2: Maturity levels: degree of scrutiny and documentation to be carried out by statistical producers

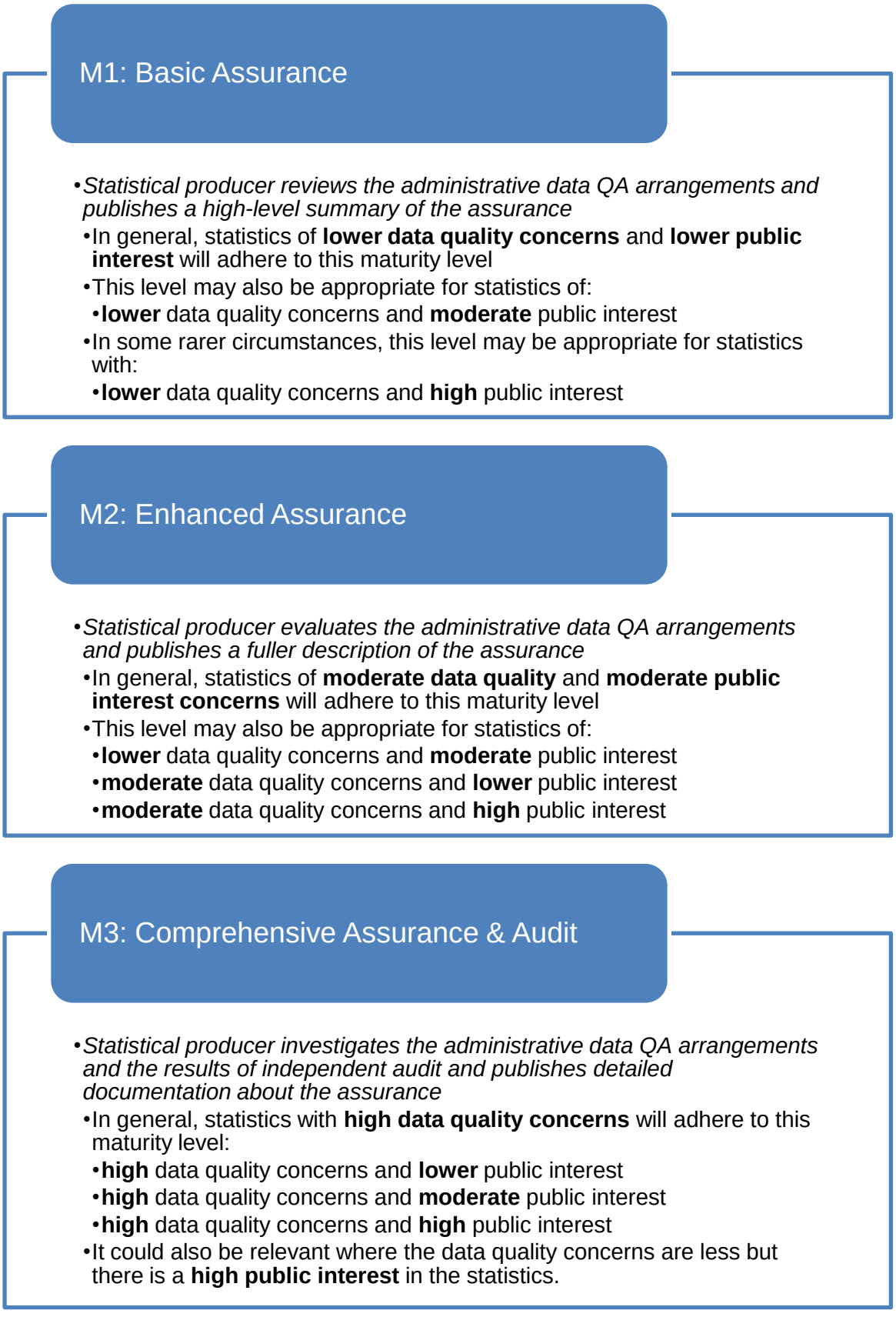

Table 4.4: Quality Assurance Matrix

Maturity level	Areas of practice related to quality assurance and audit	
	A: Operational context and administrative data collection	*B: Communication with data suppliers*
M0: No assurance *Not compliant with the Code of Practice*	• No documentation of operational context and administrative data collection by supplier	• No documentation of data supply agreement, roles and responsibilities
M1: Basic assurance *Statistical producer reviews the administrative data QA arrangements and publishes a high-level summary of the assurance*	• Outline administrative data collection process • Process map of the administrative data collection • Outline operational context • Identify and summarise the implications for accuracy and quality of data • Identify safeguards taken to minimise risks to data quality	• Basic communication, such as: ▪ annual statement of needs ▪ timing and format of data supply ▪ coordination of data sign off from data suppliers • agreed feedback process of identified errors to data suppliers and recording of data supplier response
M2: Enhanced assurance *Statistical producer evaluates the administrative data QA arrangements and publishes a fuller description of the assurance*	• Fuller description of operational context and administrative data collection, such as: ▪ more detailed process map explaining data collection processes, ▪ explanations for classifications, • Identify and summarise potential sources of bias and error in administrative system • Identify and describe safeguards taken to minimise risks to data quality • More detailed description of the implications for accuracy and quality of data	• Clear mode of communication • Specify timing, form and content for data supply • Security and confidentiality protection • Regular engagement with suppliers: ▪ assign Single Point of Contact role for both producers and data suppliers
M3: Comprehensive assurance & audit *Statistical producer investigates the administrative data QA arrangements and the results of independent audit, and publishes detailed documentation about the assurance and audit*	• Detailed description of administrative system and operational context: ▪ explain why the data are collected, who by and how ▪ identify differences across areas in collection and recording of the data, ▪ identify issues for individual data items - whether objective or based on subjective recording, ▪ identify issues in design, definition of targets • Detailed and specific description of the implications for accuracy and quality of the data, • Identify and explain any safeguards used to minimise the risks to data quality	• Establish/maintain cooperative relationship, • Written agreement specifying: ▪ roles and responsibilities, ▪ data supply process, ▪ schedule, ▪ content specification; • Establish change management process; • Communicate regularly, e.g. through meetings, newsletters, conferences • Attend data supplier group meetings • Secondments

Table 4.4 (continued): Quality Assurance Matrix

Areas of practice related to quality assurance and audit		Maturity level
C: Suppliers' QA principles, standards and checks	*D: Producer's QA investigations and documentation*	
• No description of suppliers' QA procedures and standards	• No description of own QA checks	**M0: No assurance** *Not compliant with the Code of Practice*
• Some knowledge of suppliers' QA checks with brief description, • Identify whether audits are conducted on the admin data, • Describe the implications for the statistics	• Some description of own QA checks on the admin data, • Outline general approach and overall findings, • Identify the strengths and limitations of the admin data, • Explain the likely degree of risk to the quality of the admin data provided by the operational context and data collection approach	**M1: Basic assurance** *Statistical producer reviews the administrative data QA arrangements and publishes a high-level summary of the assurance*
• Description of suppliers' QA principles, standards (quality indicators), and checks; • Identify and describe the audit of admin data, • Describe the implications for the statistics	• Provide a fuller description of own QA checks on the admin data, • Detail the general approach and findings for specific quality indicators; • Identify the strengths and limitations of the admin data; • Explain the likely degree of risk to the quality of the admin data provided by the operational context and data collection approach	**M2: Enhanced assurance** *Statistical producer evaluates the administrative data QA arrangements and publishes a fuller description of the assurance*
• Describe the data suppliers' principles, standards (quality indicators) and quality checks; • Identify and review quality reports for the data; • Identify and document the findings of investigations and audits conducted on the admin data and associated targets • Describe the implications for the statistics	• Provide a detailed description of own QA checks on the admin data, • Give quantitative (and where appropriate qualitative) findings for specific quality indicators; • Undertake comparisons with other relevant data sources (such as survey or other admin data); • Identify possible distortive effects of targets • Identify the strengths and limitations of the admin data and any constraints on use for producing statistics; • Explain the likely degree of risk to the quality of the admin data provided by the operational context and data collection approach	**M3: Comprehensive assurance & audit** *Statistical producer investigates the administrative data QA arrangements and the results of independent audit, and publishes detailed documentation about the assurance and audit*