

## Data Quality Strategy

### For completion by Author

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# Document Statement

## 1. Introduction

In 2007 the Audit Commission stated that “good quality data are the essential ingredient for reliable performance and financial information. The data must be fit for purpose, representing in an accurate and timely manner an organisation’s activity”. The risk of not identifying and addressing weaknesses in data quality or the arrangements supporting data collection “is that information may be misleading, decision making may be flawed, resources may be wasted, poor services may not be improved, and policy may be ill founded” (Audit Commission, 2007, p.5).

Placed into a healthcare environment, the implication of poor data quality is significant. Patients’ care may be compromised, clinical risk may be increased and limited financial resources misdirected away from where they would be most beneficial.

The Francis Report (2013) provides evidence to demonstrate how risks appertaining to information and data quality highlighted by the Audit Commission can become issues. The Report (2013) makes 290 recommendations and whilst the focus of the investigation into Mid Staffordshire NHS Foundation Trust is clinical, 28 recommendations were made regarding “Information” (Francis, 2013, p.111). Information related issues are considered to be of such importance that the power to create an accreditation system for healthcare-relevant statistical methodologies has been included in the Health and Social Care Act 2012 (Francis, 2013, p.114).

The Francis report (2013) contains a number of recommendations where the use of high quality information is crucial. Some of the key recommendations are included below, however the full report should be referred to in order to gain the full context:

- The regulator should have a duty to monitor the accuracy of information disseminated by providers and commissioners
- A coordinated collection of accurate information about the performance of organisations must be available to providers, commissioners, regulators and the public, in as near real time as possible
- Executive Boards should provide, through quality accounts, and in a nationally consistent format, full and accurate information about their compliance with each standard which applies to them
- Commissioners must have the capacity to monitor the performance of every commissioning contract.

Data and management information is also associated within a legislative framework. Poor data quality could result in the Organisation or individuals working within the Organisation being prosecuted.

There are also financial implications of poor data quality. Working on the principle that “efficient use of resources and good quality services go hand in hand” (Audit Commission, 2009b, p.10) the Audit Commission confirms that good quality patient services can only be secured if the money available to the NHS is used well. Payment by Results, for example, “requires good quality data on costs and clinical activity to be available. Organisations and FTs use activity data for billing purposes (every recorded patient admission will lead to the commissioning CCG being charged according to the treatment carried out)” (Audit Commission, 2009b, p.17).

Without a data quality strategy, the Organisation risks clinical and financial shortfalls.

The purpose of this strategy is to set out the approach of the Organisation for managing and improving data quality within the organisation. The strategy will derive its objectives from best practice (the Audit Commission) and determine its objectives from a risk mitigation perspective (The Francis Report 2013) and from a legal perspective (The Data Protection Act 2018)

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## 2. Scope

The principles outlined in this strategy are applicable to all data held on all electronic patient systems, and will cover all staff, all clinical areas and all patient information. It is intended to target all data collection systems and routines, where applicable.

Whilst electronic systems are the primary target of this strategy, manual collection systems aligned with key, qualitative strategic initiatives are also considered to be in-scope. This specifically applies to information and data in support of the Advancing Quality and the Organisation Quality Accounts which by its very nature requires a bespoke assurance strategy, as qualitative data does not readily reside within electronic solutions.

The aims and objectives outlined below form the basis of best practice for all new and current routines, drawing upon best practice guidelines and requiring operational commitment, corrective work and related action plans to attain compliance and secure assurance.

## 3. Aims & Objectives

This strategy recognises that data needs to be collected, managed and used in accordance with tried and tested principles. The use of standards provides a benchmark by which data within the Organisation can be measured by both internal and external agencies to ensure that the data can be recognised as 'quality' data. As a result the strategy is committed to the six basic data quality characteristics (dimensions) as defined by the Audit Commission (2009a).

These characteristics are that data must be accurate, valid, reliable, timely, relevant and complete and these characteristics determine the objectives of the Data Quality Strategy. The objectives are:-

- **Objective 1:** Ensuring that data is Accurate, captured only once and precisely recorded at the point of activity
- **Objective 2:** Ensuring that data is Valid and consistent in terms of definitions, rules, systems, and data collection procedures and processes
- **Objective 3:** Ensuring that data is Reliable, drawn from stable and consistent data collection processes, whether using manual or computer based systems
- **Objective 4:** Ensuring that data is Timely, captured as quickly as possible after the event or activity and becoming available quickly enough to support the information needs of users
- **Objective 5:** Ensuring that data is Relevant and 'fit for purpose', meeting the needs of the organisation and users
- **Objective 6:** Ensuring that data is Complete and meets formally defined data requirements of the Organisation

## 4. Attaining the Objectives

The Audit Commission suggests a number of standards to support the Organisation in delivering its data quality aims and in improving its data quality. The standards define a framework of management arrangements that the Organisation should consider to secure the quality of the data it uses and report on its activities. The standards are considered to be good practice and provide high-level descriptions, permitting the Organisation the flexibility it needs to determine the detail of their implementation (Audit Commission, 2009a, p.23).

- **Governance and leadership**  
The Organisation has put in place a corporate framework for information governance which includes data quality. The Organisation promotes a culture of good data quality throughout the organisation.
- **Policies**

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The Organisation has put in place appropriate policies or procedures to secure the quality of the data it records and uses for reporting.

- **Systems and processes**

The Organisation has put in place systems and processes which secure the quality of data as part of the normal business activity of the body.

- **People and skills**

The Organisation have a Data Quality function. Staff in this team have the knowledge, competencies and capacity for their roles in relation to data quality.

- **Data use and reporting**

The Organisation has put in place arrangements that are focused on ensuring that data supporting reported information are actively used in the decision-making process and are subject to a system of internal control and validation.

Aims and objectives can only be delivered through a structured approach to data quality ensuring that the data flows within each specialty are robust and assured and can be baselined. This requires commitment to a series of actions.

- **Action 1:** Procedural guides are required from each department for all Systems in support of their operational procedures to assist with quality assurance of data flows and with both internal and external audits. Procedural guides will support the data flow in the absence of key stakeholders, providing assurance of business and data continuity. Processes need to be standardised and procedures kept up to date.
- **Action 2:** Annotated Data Flows are required from each department in support of their data use to assist with quality assurance of data flows and with both internal and external audits. Data Flow Diagrams (DFDs) will support the identification of the critical path for a data flow, providing assurance of business and data continuity. Data flows need to be standardised and DFDs kept up to date.
- **Action 3:** Local assurance of data quality needs to be planned and the responsibility of a named manager at an appropriate level as close to the source of data entry as is possible. This would prevent inappropriate users taking on additional assurance responsibilities. Assurance of data along the flow cannot be assumed (i.e. that it was quality assured by a previous colleague/postholder).
- **Action 4:** Corporate assurance of data quality needs to be planned and the responsibility of a manager at an appropriate level with sufficient authority to identify data quality trends and secure commitment for corrective action. Planned data quality audits should be implemented to provide internal assurance that data quality dimensions are being adhered to specialty by specialty.
- **Action 5:** Operational responsibility within each division needs to be established to ensure that data quality is taken seriously at an operational level and as close to the source of data entry as is possible. Each specialty should nominate a Data Quality Steward responsible for the day to day oversight of each division's ability to meet its data quality dimensions. This person is the first port of call for data quality issues.
- **Action 6:** Divisions, supported by the BI Business Partner are tasked with generating a planned approach, identifying data risks and issues and incorporating these into their solution to support a timely and seamless flow of data. Silo working should be phased out and a whole systems approach considered and attempts to resolve data quality issues must not be taken in isolation.
- **Action 7:** Databases are joined up and each silo made aware of the impact that its data has on other parts of the process.

- **Action 8:** Mandatory training is required for each staff member within the Organisation. This program supports the Information Governance training requirements in respect to data quality and staff members will be required to take annual reaccreditation.
- **Action 9:** Executive and Board assurance of data quality is secured from external audits to ensure that self-assessments to NHS Improvement around key targets and mandated indicators conform to the data quality characteristics.

## 5. Achieving the Aims and Objectives

**Objective 1:** Ensuring that data is Accurate, captured only once and precisely recorded at the point of activity

Legal Precedence: Data Protection Act 2018 Principle (d): Accuracy

Risk Mitigation: Francis Report 2013 recommendation 244, 250, 251, 269

Data should be sufficiently accurate for its intended purposes, representing clearly and in sufficient detail the interaction provided at the point of activity. Data should be captured only once, although it may have multiple uses.

Accuracy is most likely to be secured if data is captured as close to the point of activity as possible. Reported information that is based on accurate data provides a fair picture of performance and should enable decision making at all levels. The need for accuracy must be balanced with the importance of the uses of the data, and the costs and efforts of collection. For example, it may be appropriate to accept some degree of inaccuracy where timeliness is important.

Where compromises have to be made on accuracy, the resulting limitations of the data should be clear to its users and where errors are identified they are rectified at source

This will be primarily delivered by: **Action 3, Action 7, Action 9, Action 10, Action 11**

**Objective 2:** Ensuring that data is Valid and consistent in terms of definitions, rules, systems, and data collection procedures and processes

Legal Precedence: Data Protection Act 2018 Principle (b): Purpose limitation, (e): Storage limitation & (f): Integrity and confidentiality (security)

Risk Mitigation: Francis Report 2013 recommendation 244, 246, 254, 258

Data should be recorded and used in compliance with relevant requirements, including correct application of any rules or definitions. This will ensure consistency between periods and with similar organisations. Where proxy data is used for an absence of actual data, organisations must consider how well this data is able to satisfy the intended purpose.

This will be primarily delivered by: **Action 1, Action 2, Action 4**

**Objective 3:** Ensuring that data is Reliable, drawn from stable and consistent data collection processes, whether using manual or computer based systems

Legal Precedence: Data Protection Act 2018 Principle (f): Integrity and confidentiality (security)

Risk Mitigation: Francis Report 2013 recommendation 246, 248, 254, 260

Data should reflect stable and consistent data collection processes across collection points and over time, whether using manual or computer based systems or a combination. Managers and stakeholders should be confident that progress toward performance targets reflects real changes rather than variations in data collection approaches or methods. Key corporate systems must be used effectively to collect, store and report upon the data

This will be primarily delivered by: **Action 1, Action 3, Action 7, Action 11**

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**Objective 4:** Ensuring that data is Timely, captured as quickly as possible after the event or activity and becoming available quickly enough to support the information needs of users

Legal Precedence: Data Protection Act 2018 Principle (d): Accuracy

Risk Mitigation: Francis Report 2013 recommendation 255, 262

Data should be captured as quickly as possible after the event or activity and must be available for the intended use within a reasonable time period. Data must be available quickly and frequently enough to support information needs and to influence the appropriate level of service or management decisions.

Those who need to use the data and reports must be able to access them efficiently and in an understandable format.

This will be primarily delivered by: **Action 5, Action 6, Action 8**

**Objective 5:** Ensuring that data is Relevant and 'fit for purpose', meeting the needs of the organisation and users

Legal Precedence: Data Protection Act 2018 Principle (c): Data minimisation

Risk Mitigation: Francis Report 2013 recommendation 244, 248, 266, 268

Data captured should be relevant to the purposes for which it is used. This entails periodic review of requirements to reflect changing needs. It may be necessary to capture data at the point of activity which is relevant only for other purposes, rather than current intervention. Quality assurance and feedback processes are intended to ensure the quality of such data

This will be primarily delivered by: **Action 2, Action 3, Action 4**

**Objective 6:** Ensuring that data is Complete and meets formally defined data requirements of the Organisation

Legal Precedence: Data Protection Act 2018 Principles (b): Purpose limitation & 5(e): Storage limitation

Risk Mitigation: Francis Report 2013 recommendation 244, 263, 264, 270

Data requirements should be clearly specified based on the information needs of the organisation and data collection processes matched to those requirements. Monitoring missing, incomplete, or invalid records can provide an indication of data quality and can also point to problems in the recording of certain data items.

This will be primarily delivered by: **Action 1, Action 3, Action 5**

## 6. Use NHS Number

In March 2004 the Information Standards Board approved the NHS Number as the unique identifier of patients within the NHS IT system. This Strategy endorses the need to mandate the use of the NHS Number on all patient records.

All clinical systems support the use of the NHS number for identifying patients

## 7. Monitoring

The Data Quality Policy will be developed in accordance with this strategy and overseen by the Chief Information Officer. This plan will contain key performance indicators, identify proposed governance structures and assign responsibilities and actions.

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Data quality assurance is overseen by the Audit Committee on behalf of the Board of Directors and as such they will receive regular updates against plans and performance against KPI's.

## 8. Training and Guidance

All organisation staff responsible for collecting and managing patient data are required to undergo system specific training. The need for access must be authorised by the individual's line manager, and user accounts will only be allocated once the individual has completed training and can demonstrate their competence in the use of the system.

Refresher courses should be provided where skills need to be updated. Where individual audit trails identify recurring errors, the user will be required to attend remedial training to resolve the problem. Where a member of staff moves to a new role, a reassessment of their training needs will be undertaken to ensure that upgrade training is given as appropriate.

Staff responsible for Data Quality are given training and provided with guidance on following procedures.

The process for how the organisation records that all permanent staff complete relevant training in accordance with the Training Needs Analysis.

## 9. Awareness

The Organisation has a responsibility to instil in all staff an awareness of the vital importance of the accuracy and completeness of patient information. By placing patient care at the heart of the information quality agenda, all staff should recognise that poor information quality can jeopardise the quality of care offered to patients, and can ultimately be a matter of life and death. It is the intention that regular KPIs will be visible through Dashboard reporting to divisional teams on a regular basis. In addition, the Business Intelligence team will make reports available to a variety of audiences for action and information. Key to embedding a Data Quality culture will be, where possible, adding context to the data issues and expressing their impact in operational terms.

**Induction:** Awareness of information quality issues needs to be an integral part of the induction of any staff dealing with patient information. A checklist of data quality principles should be included in induction training, and details provided of the data quality strategy, policy, website and contacts.

**Feedback:** In an effort to reinforce the importance of complete and accurate information, departments will ensure that staff receive feedback on local data quality issues and that data quality responsibilities are included in the PDR/appraisal process.

**Monitoring and Feedback:** In line with the Information Quality Assurance requirements of Information Governance, the Organisation has a responsibility to monitor the completeness, validity and accuracy of the information held in its systems. In order to comply with these requirements, a routine monitoring schedule will ensure that these checks are routinely undertaken and reported on to the Information Governance and Cyber Security Steering Group.

As part of this monitoring approach, external data quality reports and feedback from our commissioners will be investigated and responded to in a timely fashion. Any recurring errors identified will be subject to thorough investigation and corrective action taken.

**Executive Feedback:** The principal reporting mechanism for data quality issues is through the Data Quality Group. High level KPIs and exceptions will be reported to the Organisational Board. The audit committee will manage and monitor audit reports and action plans, and will report to the Board of Directors.

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Organisation Wide Feedback: An intranet website will provide the means for reporting on data quality issues to all staff within the Organisation. This website contains:

- Links to all relevant Policies and Procedures
- Results of clinic, ward and waiting list audits Monitoring data for key data quality issues  
Links to national audit results
- Helpful hints for achieving data quality
- Links to useful websites dealing with data quality issues

This website will be subject to ongoing development to ensure that it provides up-to-date and easily accessible information on data quality issues.

**Individual Feedback:** The audit trails within Organisation systems will be used to identify the source of recurring errors.

Monitoring of these audit trails will be used to support organisational learning and support individuals to identify areas of improvement, and discuss retraining where appropriate.

## 10. Related Policies

The Data Quality Strategy is supported by a number of Policies and Procedures providing detailed instructions on the management of a variety of information capture and management issues. These are all published on the Organisation's intranet. Each of these documents, and any new ones that might be required, will have a named ratification body, document owner and review date, to ensure that they continue to meet current practice requirements.

The Data Quality Policy should be read not only in conjunction with this overarching Data Quality Strategy, but also with reference to.

- IG Policy
- Health Records and Case Note Management Policy
- Clinical Record Keeping Policy
- Corporate Records Management Policy
- Information Asset Management Procedures

## 11. References

- Audit Commission (2007) Improving Information to support Decision Making: Standards for better Quality Data, London: Audit Commission Publishing Team
- Audit Commission (2009a) Figures you can trust: A briefing on data quality in the NHS, London: Capita Audit Commission (2009b) A Guide to finance for Hospital Doctors, London: Audit Commission Publishing Team
- Francis, R (2013) Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry: Executive Summary 6 February 2013, London: The Stationery Office. Retrieved 7th February 2013 from [www.midstaffspublicinquiry.com/](http://www.midstaffspublicinquiry.com/)
- ICO (2012) The Guide to Data Protection, Wilmslow: Information Commissioner's Office  
The Data Protection Act 2018
- The Enterprise Act 2002
- The Health and Social Care Act 2012

## 12. Glossary of Terms

### **Data Steward**

Nominated individuals responsible for the day-to-day oversight of data in their division. Someone with an interest in data who understands the way things work in their teams

### **DFD – (Data Flow Diagram)**

A diagram showing what kinds of information goes into and out from a system, where the data comes from and goes to and where the data is stored.

### **CCG – (Clinical Commissioning Groups)**

Commissioners of primary, community and secondary health services from providers.

## 8. Endorsed By:

| Name of Lead Clinician / Manager or Committee Chair | Position of Endorser or Name of Endorsing Committee | Date |
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## 9. Record of Changes

| Section No | Version No | Date of Change | Description of Amendment | Description of Deletion | Description of Addition | Reason |
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