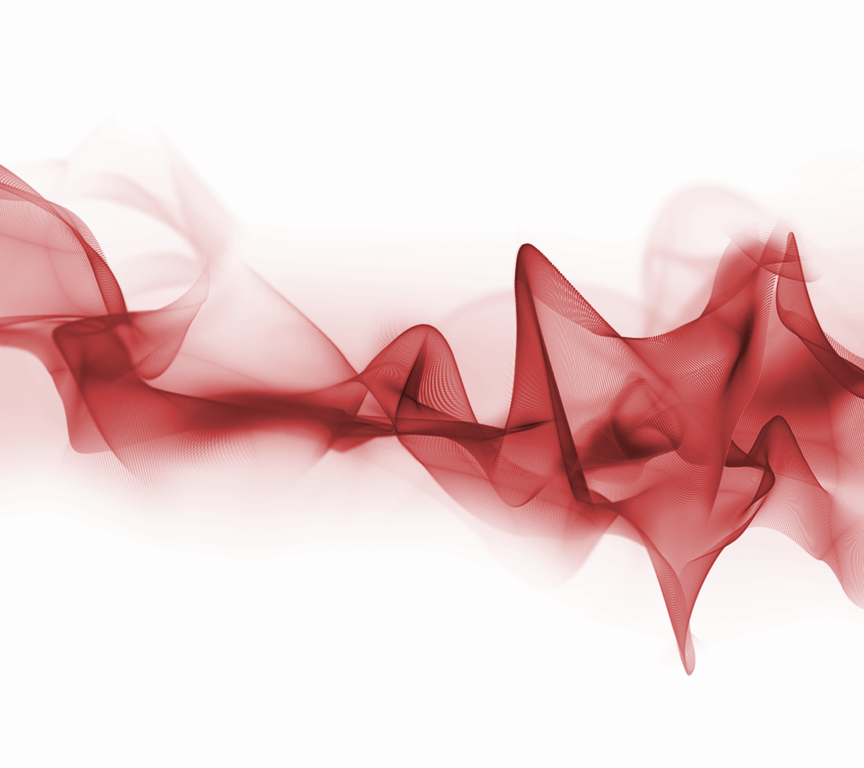
Data Quality & Data Warehouse Programme

Data Quality Strategy  
Executive Summary

“Better Data for Better Decisions”



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It is part of an open source library which can be found at <https://github.com/perspicacity-ltd/DataQualityReporting>

Perspicacity's other open source offerings can be found at <https://github.com/perspicacity-ltd>

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# Data Quality Strategy - Introduction

## Data Quality Strategy Series

This document is part of an open source series of documents to facilitate the establishment of a Data Quality strategy and function within an organisation. The full open source library can be found at <https://github.com/perspicacity-ltd/DataQualityReporting>

* The series presents a set of documents as a starter for ten
* It can be used by organisations starting on their data quality journey and those who already have a data quality function
* It contains the following components of a data quality strategy:
  + Strategy & Exec Summary
  + Policy & Standard Operating Procedures
  + Technical Specification (including link to reporting suite at <https://github.com/perspicacity-ltd/DataQualityReporting>)
  + Highlight Report Template
  + Training Materials
  + DQ KiteMark Images

## A little bit about Perspicacity Ltd

Perspicacity provides decision support consultancy, coaching, & development to the NHS. They are passionate about reducing the cost of software development to the NHS and aspire to create an active community of NHS and commercial organisations. They all share a common goal of improving the quality and efficiency of patient care through better, and more informed, decision making.

Open source helps the healthcare community to do this by sharing software development, learning from each other, and help software meet the needs of every organisation without being constrained to a single solution or paying for the same piece of work over and again across different organisations.

Although these Data Quality open source products are suitable for any organisation, healthcare or not, they are here as a result of wanting to freely share Perspicacity's collective products and ideas across the NHS and to widen the benefit of good, but usually locally isolated, projects further.

Perspicacity's open source offerings can be found at <https://github.com/perspicacity-ltd>

If you'd like to find out more, please contact Matthew Bishop on 07545 878906 or matthew.bishop@perspicacityltd.co.uk

# Foreword

## The growing use of data

Since the 1970’s, the use of computers and data have played an ever increasing part in the running of an organisation. Computer systems have gone from bringing marginal benefits in specific areas of a business to defining and controlling the core of business processes and management decision making.

In boardrooms and management offices, data and information have radically changed decision processes from gut-feeling and time-consuming manual counts to automated reporting and complex analyses, increasingly delivered by machine learning or artificial intelligence. In the perpetual search for efficiency, the large opportunities come increasingly from complex processes facilitated by real-time process reporting or delivered using robotic process automation. These opportunities have a critical feature in common – their use of data and their reliance upon its quality.

Although improvements in engineering have provided improved hardware at cheaper costs, allowing high quality automated data gathering to become ubiquitously available, the quality of data capture will always fall prey to one particular weakness – that to err is human. Until we are able to install better hardware into the humans in our data processes, there will be a perpetual need to go back and correct the mistakes humans make in their data. Without this, the efficacy of machine learning, artificial intelligence or robotic process automation will be limited by the very people they are designed to serve.

## Death by 1000 cuts

This limitation is not new to the world of analytics and management reporting – many organisations have already invested, and there continues to be a growing trend in investment, into highly-skilled analytics capabilities to bring together intelligence from different systems and data sources. However, these analysts are also limited by the quality of the information they use. Their work nearly always comes after computer system users have established data capture processes, along with creeping normality of mistakes and workarounds that leaves data in a sub-optimal state of quality. It is this creeping normality that can render decisions misguided or, even worse, counterproductive.

This document sets out our aspiration for data quality within the organisation; to transform the governance and the strategic objectives surrounding how decisions are made. An accompanying framework document supports this strategy by describing the plan for delivery in terms of the data assurance team establishment, the training development and the technical requirements. Similarly, a supporting Data Quality Policy details the core principles that underpin good data quality, the roles and responsibilities and the governance structure.

# Case for Change

Previous iterations of data quality work within the organisation have laid the ground work for this Data Quality strategy. Through this work, the organisation has defined its need for clearly defined principles of good data quality and for the roles, responsibilities and accountabilities to achieve them.   
There is a clear need for a data quality assurance review framework, education and training to improve data quality awareness, and a reporting system that can quickly respond to data quality errors and drive behavioural change.

# Strategic Objectives

There are 7 strategic objectives to be delivered, each designed to address a part of the case for change.

* + Establish a clear Data Quality policy
  + Establish a KPI Assurance Review Framework
  + Establish a Systematic Assurance Review Framework
  + Ensure there is a feedback mechanism for the Assurance Review Framework
  + Establish the Data Assurance Team
  + Ensure training and standard operating procedures for information systems is fit for purpose
  + Ensure education for data quality is fit for purpose

The strategic objectives will be delivered according to the data quality assurance implementation plan which accompanies this document. The objectives will be delivered by 4 work streams focused on the assurance review, the data quality team, the education and training, and the technical development.

# Governance

The structure of governance for Data Quality Assurance will place principal accountability for delivery of the data quality strategy with the assigned board subcommittee. Accountability for remediation of data quality will sit with individual directors, each taking ownership for their associated data issues. A core of the responsibilities will sit with the Executive Owner, the CIO, data issue owners, and the data assurance team.

The key roles within the structure are shown in the diagram below:

My Organisation’s Governance Structure

# Data Quality Policy – 6 Core Principles

When reviewing data quality, it is beneficial to use a pre-defined set of data quality characteristics to evaluate issues in order to more clearly articulate what the issue is and how it can be identified within the data.   
Drawing upon expertise from the Audit Commission, the proposal is to adopt their six characteristics of data quality.



By making our core focus to achieve the 6 core characteristics, we are seeking to ensure our data is recorded in sufficient detail; correctly recorded to reflect what it designed to record; consistent over time; recorded close to the event it represents, to avoid the degradation of validity; designed to serve a relevant purpose; and available when we need to use it.

We will further adopt as set of data quality feedback principles as a part of our data quality policy.

# Commitment to change

The executive leadership team are committed to meeting the 6 core principles of data quality, and transforming the quality of our data through this strategy, to ensure that the intelligence we use to help shape our service is indeed of a standard suitable for a world class service.

# Challenges

As noted in the strategic objectives, there will be limited capacity within the data assurance team for correction activity. This amount of resource will be insufficient to tackle some of the larger data quality issues within the organisation and it is likely there will always be a requirement for operational units to shoulder the resource implications of data correction within their own resource or to succeed a business case to deliver the resource needs.  
Whilst there will be a large, and at times daunting, amount of work to improve the organisation’s data quality, maintaining the structured and stable approach in this strategy will lead the organisation towards meeting the 6 core principles of data quality and transforming the quality of our data to ensure that the intelligence used to help shape our service is of a standard suitable for a world class service.