City of York Council

Draft Data Quality Policy

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1   Introduction

Purpose

1.1   This Data Quality Policy is intended to help the City of York Council and its staff to improve the quality of the information used to plan and monitor service delivery and improvement. The main purpose is to:

- clarify what data quality is and why it's important.

- set out the 4 standards of good data quality to ensure they influence the Corporate Business Model.

- ensure these standards are delivered in the context of a 3 stage data quality process.

- clarify roles and responsibilities for data quality throughout the organisation

- provide a framework to assess, review and improve the quality of performance indicators and decision-making across the council.

1.2   The primarily focus is on the data underpinning performance indicators. However, the principles can also be applied to 'management information' used more widely, both at service and corporate levels of the organisation.

What is data quality & why is it important?

1.3   Data quality relates to the accuracy of data used to judge performance or inform business decisions.   This can include information collected from processes or systems, performance indicator results, information about key actions and projects, or high level collective results about an organisation (e.g. the council's CPA/CAA scores).

1.4   Producing information that is fit for purpose should not be an end in itself, but an integral part of an organisation's operational, performance management, and governance arrangements. Producing reliable data is at the heart of the council's performance management arrangements by actively managing data quality in all aspects of day-to-day business, in a way that is proportionate to the cost of collection, and turning the data into reliable information for decision making.

1.5   The council is committed to excellent data quality in all of the information used to assess performance. This is particularly important because:

- it supports continuous improvement and more effective use of resources.

- good data quality is crucial to support effective decision-making – not just in terms of performance management, but also business and strategic planning.

- it contributes to the provision of high quality information to the public, government departments, auditors, and partners.

- it allows councillors, partners and service users to make objective judgements about the quality of the services the council delivers and can aid effective benchmarking.

<u>Who needs to read this policy?</u>

1.6 This document is aimed principally at those officers who collect, analyse and report performance data (e.g. service managers, directorate performance officers, etc). However, this policy is also useful for those at the very front and end of the reporting process, namely:

- the staff who complete forms or enter data into business systems.

- those who receive the data via management information (e.g. CMT, Executive members, assistant directors and service managers).

1.7 This document should also guide the council's LSP partners who regularly submit and receive performance data to the council that supports joint service delivery, the Sustainable Community Strategy and the Local Area Agreement.

2 Data Quality – national and local context

2.1 The council needs to be accountable for the public money spent and the information produced about performance and improvement must therefore be accurate, reliable and timely. As a result, data quality arrangements are audited annually to check:

- performance results are calculated accurately, given that the council's performance is compared to other unitary authorities (e.g. quartiles) and large amounts of government funding is now linked to performance;
- adequate arrangements are in place to manage the council effectively and to make key decisions.

2.2 To help do this effectively, the Audit Commission has developed a framework to help improve data quality in local government. This framework provides the basis of the Key Lines of Enquiry (KLOEs) that are used by external auditors to assess the effectiveness the council's data quality arrangements. The overall corporate scores that the council receives for data quality feed into the government's Comprehensive Area Assessment (CAA) process - previously CPA.

2.3 Data quality forms an integral part of the council's broader corporate performance management framework. In the past, the quality of performance information was seen as a compliance event, once a year, when the year-end outturns get produced. This policy builds on current arrangements to make data quality an integral part of the way data is used throughout the year (e.g. for monthly and quarterly reporting and other reports to CMT, Executive, the LSP (WoW) Executive Delivery Board, etc).

3 The City of York Council's commitment to data quality

3.1 To make data quality sustainable and consistent throughout the council, it must become an integral part of the business culture. The council has established a clear vision of what this will mean in practice:

- there is a strong demand for high quality performance and management information from officers and members to inform and improve decision-making. Data quality will not be seen solely as a compliance issue.

- robust and timely evidence is available to demonstrate the accuracy of the data produced. This is mainly produced for the council's own business purposes, but can also be used by auditors as a by-product.

- efficient processes and procedures are in place to produce performance information – which happens naturally, rather than in addition to normal working practise. The council continually seeks to improve these processes whilst ensuring that efforts to improve data quality are proportionate to the benefits.

3.2 The council is committed to becoming an organisation that puts data quality at the heart of performance management to help actively managing data in all aspects of day-to-day business.

4 The 4 standards of data quality

4.1 There is no designated process or standard procedure that can easily be applied across the council to ensure consistency of data quality. Every directorate, service area or corporate forum has different information requirements to one degree or another.

4.2 However, although the information requirements may vary, the need to receive good quality data remains. It is therefore important to consider 4 key standards (or characteristics) of good data quality.

The 4 standards of good data quality	
1. Accuracy	Data should be sufficiently accurate for its intended purposes and presented clearly in the appropriate level of detail. Ideally, data should only be captured once, although it may have multiple uses (COUNT – Collect Once Use Numerous Times). Accuracy is most likely to be achieved if data is captured as close to the point of service delivery as possible. Information that is based on accurate data provides a fair picture of performance and should enable more effective decision-making and resource allocation at all levels of CYC. The need for accuracy however, must be balanced with the importance of the uses for the data, and the costs and effort 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, this should be made clear to those who receive or use it.
2. Validity	Certain data may need to be recorded and reported using a set of compliance requirements (e.g. to specific calculation rules or definitions). This will ensure consistency between the period covered and when performance is compared with similar councils (e.g. Unitary quartiles). It's also important to source data/information where possible, to show that it has come from a formal document, report, website or system.
3. Timeliness	Data should be captured as quickly as possible to ensure it is available for review within a reasonable time period. Data must be available quickly and frequently enough to support effective performance management and to allow corrective action to be taken before a financial period ends.
4. Accessibility	All relevant data and information should be accessible to users via on-line information systems – and as soon as it becomes available. It should be presented under simple definitions that are proven to be understandable to the layperson. Data/info that shows poor performance should not be hidden or be inaccessible, whilst the issue is reviewed.

4.3 In practice, these standards need to be applied as consistently as possible depending on the importance and intended use of the data being provided.

4.4 A self-assessment matrix is available to help officers review current data quality arrangements (see section 10 of this policy – 'tools & templates'). Depending on the result, actions to improve one or more of the 4 areas may need to be delivered. All directorates should continue to make improvements until they are scoring 4 or 5 across the matrix.

5 The 3 stages of data quality improvement

5.1 To help understand how to practically apply data quality standards within performance reporting procedures, a 3-stage checking process has been developed (see table below). This starts with initial data collection and ends with analysis and reporting.

5.2 This 3-stage process has successfully been used to improve data quality for the collection of year-end performance outturns. However, it can be applied to any performance indicators or key actions/projects.

Stage 1: data collection and input
This stage covers: • initial data generation (i.e. physical recording of info/data), often done by front line services through filling forms or simply recording results. • inputting data into a document, spreadsheet or system. • a survey or review of a particular issue or area. • gathering feedback from someone or a group, on progress of a particular project or action. Please note that in terms of key systems, this stage just covers raw data, not the calculation formula for an indicator (accepting that some systems do simple automatic calculations to work out duration times). Key areas of quality assurance checks are: ✓ Collection and recording procedures (including forms or templates). ✓ Regular integrity checks on key systems (i.e. do the print outs/reports tally back to what really happened? Are procedures in place to check post collection/input changes? (see section 6 of this policy for more details). ✓ Checking that project or action plans have been developed to support delivery. These could include original milestones or deadlines that are important for reporting progress. *Note: To help with this process toolkits and templates have been developed further, see section 10*
Stage 2: calculation & evidence gathering
This stage involves gathering information to help calculate a performance result or set a target. It's probably easier thinking about this in terms of filling in year end proforma statutory indicators (e.g. NPIs). However, directorates should also introduce more simplistic checking procedures to check that data is being calculated correctly and consistently throughout the year. In many cases, this may only need to be a series of sample checks throughout the year. The first step is to gather information from a series of documents, a system or spreadsheet and use this to help calculate an answer. Of course the information used also plays a vital role as working papers or audit trail evidence. Key areas of quality assurance checks are: ✓ Making sure staff involved in data calculation and evidence gathering have access to the most up-to-date guidance and regulations?   Click here for current government guidance - National Guidance ✓ The completion of the year-end data quality and target setting proforma. ✓ The collection and storage of data quality evidence (e.g. source information, working papers, reports printed from systems). Making sure officers regularly source and gather evidence for the data and information produced will improve the 'accuracy' and 'validity' of data (see section 7 of this policy).

Stage 3: analysis & reporting

Once the data has been collected and performance has been calculated, it will be necessary to review and analyse the results prior to reporting. This is actually the most difficult part of the 3 stage process to check as it relies on the interpretation of the people doing the reporting.
 	
It is commonplace for the same piece of data to be reported completely differently, depending on the way you look at the available data. The audience, or the sensitivity of the issue being reported, can often influence this. **However, the most accurate and realistic position on an area of performance and service delivery must always be reported.**
 	
Effective performance management is reliant on this. Its main purpose is to identify areas that need to be addressed to ensure the improvement promised in strategies and plans is delivered. Hiding or putting a positive slant on questionable performance improvement will eventually be uncovered at the end of the year - when it's too late to take corrective action or gather corporate support.
 	
Key areas of quality assurance checks are:
  ✓ Continuing to make improvements to score a 4 or 5 under the 'accuracy' and 'validity' standards. If achieved, this will improve the quality and consistency of analysis for reporting.
  ✓ Year-end templates and proformas (which require 'significant variance' and 'continuous improvement' analysis).
  ✓ Regularly sourcing data and information within reports.

5.3 The 3-stage process highlights the importance of considering data quality early on. If there are problems at the collection and input point, any further use of the data will be compromised (this is supported by the GIGO principle - garbage in, garbage out).

Evidence and records

5.4 Clear and concise evidence to demonstrate that data assurance procedures are in place for all 3 stages is required. These will also be useful in terms of demonstrating improvement for the standard's self-assessment matrix. They will also be crucial for the annual data quality inspection process, carried out by the Audit Commission (see section 9 of this policy).

5.5 A shared area has been set up on the council's V:drive to act as a central reference point for data quality proformas, templates, evidence and records. For further information on how to use the matrix, or any part of this policy then please contact the relevant directorate performance officer.

Applying risk to data quality

5.6 Risks should be identified when looking at data quality. It is important to know what the potential problems might be with data collection and what can be put in place to reduce these risks. Some examples include:

- small cohorts, which are not statistically viable enough to represent a larger population or can cause significant variances that don't represent real improvement or decline in performance.

- technically complex PI definition/guidance.

- statutory indicators that have been qualified or regularly recalculated in previous data quality audits.

- inexperienced staff involved in data processing/PI production.

- establishing a measurement process or system for a new indicator.

- projects or actions that have no deadlines or milestones.

6 Checking system integrity

6.1 The vast majority of the data the council uses comes from a number of key systems across the organisation (e.g. Dephi, EXOR, SERVITOR, FMS, SX3, RAISE, etc). An effective way of improving data quality at stages 1 and 2 of the process is to carry out 'systems integrity checks' on these systems at specific intervals throughout the year.

6.2 This involves carrying out 2 to 3 in-year sample audits (see section 10 for the systems integrity toolkit) of key data system, by conducting a thorough examination of a system output, such as a report. For example, quality checks can be carried out by tracking records or data from a report back to the source documents, originally inputted into the system. Any errors can be rectified and audit trails kept for reference. These files can then be presented to auditors if particular indicators that use the system are inspected. This type of procedure can yield significant data quality rewards for a modest effort.

6.3 Regular systems integrity checks are also crucial where information is produced to support high-risk data, such as adult/children social services and benefit payments.

7 Sharing and sourcing data

<u>Sharing data with and obtaining data from partners</u>

7.1 Under the government's new framework of National Performance Indicators (NPIs), local authorities are required to collect, analyse and report performance in partnership. The council may also need to report progress on joint projects or actions as the Local Strategic Partnership becomes more established.

7.2 This will require data to be shared with key partners and other contractors. The Executive Delivery Board could apply these standards to the data produced providing a more consistent approach to data quality.

<u>Sourcing data</u>

7.3 A significant amount of data used for calculating and reporting performance and/or to support key business decisions in other reports, comes from other sources. These could include:

- data from official government websites (e.g. NOMIS, IMD, CIPFA, DEFRA, ONS, etc).
- regional statistics documentation (e.g. Yorkshire Futures).
- surveys or research (e.g. MORI statistics, The Resident's Opinion Survey, Talkabout).

A full list of popular data/information source references are shown in Annex 2 of this policy.

7.4 When reporting this type of data or when completing data quality templates and proformas, the data source should be referenced. This not only places the data into context, it also shows that it has come from a reputable or reliable source.

Data security

7.5 Security is a key consideration for certain types of data when it is inputted, reported and shared. The Data Protection Act and other key government legislation (e.g. Freedom of Information Act, Children's Act 2004) should be referred to and complied with at all times. Where data is confidential, but is still required by users, this should be made clear in the report and as a caveat for sharing the report with other stakeholders.

7.6 There is also a council policy on record management, which will also influence the reporting and sharing of data, and this can be viewed by clicking the following link. <record management policy>

8 Roles & responsibilities

8.1 It is important that all stakeholders have clearly assigned and understood roles and responsibilities for data quality within the council if this policy is to have an impact.

8.2 The table below provides headline information about these roles and responsibilities. However, these will need to be disseminated and delivered by directorates using an approach that suits the way the service operates.

Stakeholder	Roles and Responsibilities
Executive and CMT data quality champions	• Developing and driving forward the data quality improvement action plan. • Promoting the importance of data quality in performance management and decision-making when opportunities arise. • Provide a clear understanding of the data quality issues facing the council and regularly review progress.
Staff & service managers	• Application of data quality standards to performance indicators and projects/actions. • Regular review of performance guidance and other government department information. • Check accuracy of service level information and ensure compliance with internal / external definitions (e.g. National Indicator Set definitions) • Carrying out system integrity checks. • Take steps to minimise stage 1 errors (collection and input). • Report inconsistencies and problems to Managers or directorate performance officers
Directorate Performance officers / teams	• Act as Data Quality champions within directorates – providing guidance and support to services. • Identify performance data and actions, which are deemed to be strategically important – so the data quality standards can be applied more rigorously. • Ensure systems integrity checks are regularly carried out within directorates. • Promote the use of the data quality self-assessment matrix at service level. • Maintain and review data quality evidence, templates and proformas across directorates and within the council's shared v:drive.
Directors and Assistant Directors	• Ensure that performance indicators used to assess performance are of sufficient quality. Many of the problems experienced with data quality often start with poorly defined performance indicators and/or projects/actions. • Ensure key management information systems are reviewed regularly though systems integrity checking. • Provide visible leadership within a directorate on the need to continually improve data quality - driving forward improvement strategies on data quality and providing additional resource support where required.

Performance and Business Assurance Team	• Manage the council relationship with external audit and work with internal audit to review progress on this data quality policy. • Produce and co-ordinate corporate proformas and templates, which support data quality. • Work closely with the council's data quality champion to improve and maintain the corporate framework for data quality.
Internal Audit	• Carry out regular audits of data quality across the council – working with the Performance and Business Assurance Team to review the quality of data produced on high-risk performance indicators and actions. • Liaise with the Audit Commission to support the annual data quality audit process (pre – year end performance publication).
Councillors	• Portfolio holders need to reassure themselves that services have sufficiently robust systems in place to ensure good data quality for key management information.
Partners	• Consider the data quality standards within the Council, and provide support to improve these standards (as set out in Section 7). • Develop data sharing protocols as appropriate to ensure the timeliness and accessibility of data. • Improve the data quality of information used for reporting to the WoW Executive Delivery Board.

9 Data quality audits

9.1 Although the standards set out in this policy are needed to improve the way the council manages performance and makes key decisions, these standards also need to be delivered to help us demonstrate to external auditors that the council has robust and effective data quality procedures in place.

9.2 Every year, between June and August, the Audit Commission carries out a formal audit of these arrangements. The standards, proformas, templates and supporting evidence mentioned in this policy will be used by the auditors to assess how good the data quality arrangements are and what improvements have made since the last visit. The results of this audit influence the Comprehensive Area Assessment (through the Use of Resources Assessment) and the council's Annual Audit Letter.

9.3 Only statutory and local indicators reported throughout the year (e.g. National Performance Indicators) will a require year-end data quality and target proforma to be completed. Audit trail evidence to support calculations and any significant variances in performance between previous years will also need to be produced. For more information about this audit, contact the relevant directorate performance officer.

10 Tools and templates for data quality

10.1 To help support this data quality policy, a number of tools and templates are available to help deliver improvements or support compliance arrangements. These are all available online in the 'performance management and guidance' section of the council's intranet. Clickable references are set out below for those who are reading this policy in electronic format.

Proformas and templates

10.2 The self assessment matrix is set out in Annex 1 of this policy. Alternatively, you can click the following link to use the matrix online through completion of an indicator self assessment form. <Data quality standards self-assessment matrix>

10.3 Year-end data quality and target setting proformas, together with completed examples can be accessed by clicking here. <year end data quality and target setting proforma >

10.4 Systems Integrity toolkit guides officers and managers through a series of questions to help assess the quality of data held within data systems across the council. <systems integrity toolkit>

10.5 These may be reviewed by Internal Audit and the Audit Commission as part of the annual data quality audit process. Further templates may be added to this area as the improvements on corporate standards are made.

Statutory guidance

10.6 Government bodies such as the Audit Commission, DEFRA, DfEE and CSCI regularly produce guidance for statutory performance indicators. This can include:

- performance definitions and reporting parameters.
- methodologies for measuring and calculating performance.
- timescales for when measurement or surveys need to take place.
- references to other supporting guidance.

10.7 Contact the relevant directorate performance officer for a list of all the suitable guidance available for each directorate. All statutory guidance is available online by clicking the following link:
http://www.communities.gov.uk/publications/localgovernment/updatednidefinitions

Key information about York and CYC

10.8 A significant amount of information used in performance management and other reports uses key local data. This includes:

• The population of York	• The number of disabled people who live in York
• The BME population of York	• The number of households in York
• York's population by age group	• York's geographic area in KM2
• The number of children in York's schools	• Staff numbers in directorates (FTE & headcount)
• The number of council house tenants in York	• The number of staff employed by the council (FTE & headcount)

10.9 This can change from year to year and it's therefore important that the same figures are used to calculate and report performance, or used as contextual data for other reports. To make this easier this data will be available on the council's intranet.

Further information & support

10.10 If you have any queries relating to this policy or other areas of data quality, please contact one of the following officers from the Performance and Business Assurance Team:

Peter Lowe, Tel: 552033, e-mail peter.lowe@york.gov.uk.
Nigel Batey, Tel: 552047, e-mail nigel.batey@york.gov.uk.

Self-assessment Matrix   **Annex 1**

Score	Accuracy	Validity	Timeliness	Accessibility
4 - 5	Data is of sufficient accuracy to meet the needs of all users. Any reported changes over a period of time are within statistical confidence intervals for the data set being reported. If a change in performance is due to special circumstances, this is clearly stated when the data or information is reported	Data is recorded and reported consistently under specific calculation rules or definitions. Comparative information is also shown, where available and results are compared with similar councils or organisations, where possible. The source of data and information is referred to where available. The data/information is recognised by users as a *strong* measure of success for the area being reported.	The data and information is available quickly and frequently enough to allow rapid intervention or corrective action to take place by key staff and management. The data and information also refers to a period of time close to the date it is reported (e.g. performance for April to September is reported in early October).	The data and information is accessible to users via on-line information systems quickly and simultaneously. It is presented under simple definitions or descriptions that are proven to be understandable to the layperson. More data and information is available and accessible if stakeholders want to get behind the performance headlines.
2 - 3	The accuracy of the data is sufficient to provide an 'indicative view' of whether performance is improving, but there are still data gaps or statistical viability areas that need to be addressed.	Data is reported under a specific theme, but there is no formal guidance on definition or calculation. Comparative performance is only provided where the government provide it (e.g. quartiles) and data sources are inconsistently applied. The data is recognised by some stakeholders as a *useful* indication of improvement.	The data is produced in enough time to allow management to respond to problems, but delays to releases sometimes reduce the usefulness of the data or information. The data and information refers to data that is more than one month old (e.g. performance for April to September is reported in November or later).	The data is accessible to some stakeholders straight away, but there are delays before others can access it around the organisation. It's often presented in a format that requires further analysis to understand improvement in more depth and this is only available by request. The indicator definition is understandable to most lay persons with support
1	The data is mainly considered inaccurate and is not trusted by the Council or its partners.	There is no formal guidance on definition or calculation for this data and comparative information is not used and sources are rarely referenced. The data is not really valued by most stakeholders as an indication of improvement.	The data is released so late after the period it represents that it is useless for anything other than looking back at what actually happened.	The data is difficult to get hold of outside formal reporting periods and suffers from a complex definitions or the inability of stakeholders to relate it to areas of improvement or delivery.

NOTE: Assessments should be aimed at themed areas of improvement (e.g. Educational attainment, Street cleanliness, Housing repairs and maintenance, etc). These should be assessed in the context of how data or management information is used to assess progress or improvement. For example, assessing GCSE results would be done in the context of improving the attainment level of children at 16 years old.

Useful data sources   Annex 2

Office for National Statistics (ONS)	Yorkshire Futures
CIPFA IPF	Yorkshire Forward
Index of Deprivation (IMD)	Yorkshire Tourist Board
NOMIS	Yorkshire & Humber Assembly
Ordnance Survey	Regional Climate Change Action Plan
Sport England	Joseph Rowntree Foundation
Audit Commission	Learning Skills Council
Land Registry	Higher Education Statistics Agency
Highways Agency	Health Development Agency