

Data and Insight Strategy

2023/24 - 2025/26



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Introduction

In 2017, The Economist published a story titled, “The World’s most valuable resource is no longer oil but data.” It has since become a common refrain that data is the oil of the digital age. There are certain parallels: data, like oil, is not useful in its raw state - it needs to be refined, processed, and turned into something useable; its value lies in its potential.

The most successful organisations are now those that recognise data as an asset and know how to mine and refine it to drive business outcomes. Some of the fastest growing careers in the UK economy are those in data science.

In the public sector, the use of data is playing an increasing role in the design, delivery, and transformation of public services, improving outcomes and driving efficiencies within financial constraints. Increasingly, councils are being judged on how effectively they use data. The Local Government Association has worked to help councils get a better understanding about the value of data in public services and has encouraged local authorities to open up, share and better use data to design services around user needs; drive efficiencies and public service transformation whilst being more transparent and accountable.

An external and independent corporate diagnostic called a corporate business intelligence review (CBIR) of the council was carried out in 2021. One of the themes of this assessment was how effectively we use data as an organisation. This highlighted that:

- we could use data more effectively to manage demand and plan preventative interventions;
- more effective use of data could allow us to design new services to generate additional revenue;
- inefficient use of data is leading to sub-optimal decision-making;
- the majority of employee resource is spent extracting and transforming data rather than on analysing and understanding it;
- lack of data sharing within the council is problematic;
- customers are managed in departmental silos and in ways to suit our structures and systems;
- data is not recognised as a strategic asset.

Our response to these findings is set out below:

- we will implement a corporate data and analytics platform as a secure single version of the truth;
- we need to bring together the people and process change elements to support this corporate platform;
- we can accelerate the delivery of meaningful insights across priority areas and ensuring knowledge transfer is complete to create a self-sustained and resilient model as a building block for further development.

Purpose

This purpose of this strategy is to set out the future direction and strategic goals of the council regarding data and insight. Its aim is to mobilise and focus resources towards achieving these goals. It forms the base on which a more detailed action plan will be built. The primary audience for the strategy is therefore internal and encompasses all services and officers of the council.

Vision Statement

We have a vision to become a **data-driven organisation**.

This means that we want to have a **data-driven culture** where having good data is seen as everyone's job and where data is used to support outcomes at all levels.

We also want to treat all data we use as a **strategic asset** and look towards matching it and using it in new ways

We will continue to use all data **safely, securely, and appropriately**.

This new approach will demand us taking a more **efficient and effective approach**, automating much of the manually intensive work we currently do to extract and transform data into presentable formats.

We will deliver this through a **business partnering model** where we will bring together service specialisms and expertise in using data to **provide greater insight to support decision-making**.

Data Driven Organisation

Being a data driven organisation means treating data as a strategic asset and then building both technological and employee capabilities to put that asset to use to support both key policy decisions but also everyday action on the front line.

Striving to become a data-driven organisation is now recognised across all sectors as an ambition to achieve in the digital age. Data maturity refers to where an organisation is in terms of its journey towards achieving this goal. There are many different data maturity frameworks in existence

The Local Government Association, together with Nesta has developed the only data maturity framework specifically for the local government sector

Councils can use this model to self-assess where they are in their aspirations against a spectrum of five possible scores from nascent to expert (see Appendix Two).

Durham County Council's overall level of data maturity in the council is low and was assessed within the CBIR as aligning with a "nascent" level of maturity against this framework.

Objective One

We will have a data-driven culture in Durham

What does this mean?

It was recognised in the UK National Data Strategy that too often data is not seen as a key priority in the public sector. The National Audit Office highlighted that the quality of data is not well understood and there is a culture of tolerating and working around poor-quality data. Inefficiency and cost can arise from poor-quality data.

Despite the many benefits that can be derived from data, an institutionalised data culture where data is recognised as everyone's jobs was reported to be lacking in the CBIR.

Data also needs to support outcomes at all levels. In the future, the use of data in our work must become the norm, rather than be the exclusive domain of specialists.

The first step in achieving this sort of data-driven culture must be to collectively take all necessary steps to eliminate poor data quality in all datasets we use, whether these are internally generated or received from external sources.

Why?

Poor quality data leads to failings in services provided to our residents and customers, poor decision-making and an inability to understand how to improve.

The CBIR highlighted that levels of data quality across the council is varied and while there are pockets of good practice, there are no clear corporate data standards or commitments.

The model that we have in place for the provision of management information from our business systems whereby teams whose expertise and experience lies in fixing incorrect, incomplete, duplicate or otherwise erroneous data before presenting it to users such as managers and councillors needs to change.

As data changes hands, visibility of data quality issues become more difficult to spot. It has become the norm to work around poor quality and disorganised data.

Currently, there is no strategic approach to eliminating poor data quality in our systems, despite these responsibilities being contained within many people's job descriptions.

We want to move to a reporting environment consisting of fully automated data and reporting processes and insight provision, so we need to become obsessive in eliminating poor quality data from our systems and take steps at every stage of the data cycle (see below) to proactively improve data quality when issues arise.

The CBIR recommended that visibility of data quality issues must be established and aligned to analytic outputs and resources allocated to improving processes, procedures and architecture to highlight and minimise data quality issues at source.

How? (Actions)

1. Roll out an e-learning package on data quality to the whole workforce.
2. Implement formal data stewardship within the council whereby subject matter experts support the improvement of data quality issues. (This is not a new role but a set of responsibilities that should be added to selected systems users. (see Appendix 1)
3. Incorporate data quality measurement and reporting into data analytics products.

4. Develop a data quality training programme for data stewards and other key data roles within the organisation such as those involved in data management and analytics development to raise awareness of data quality, how to identify the root cause of poor data quality and take steps to eliminate it.
5. Establish routine data quality checks and a regular schedule of data quality auditing across the council.

Data Cycle

The data cycle is a way of describing the different stages the data will go through from design and collection to processing, publication and archival or destruction. Quality assurance should take place across the entire data lifecycle. Data quality issues can occur at any stage and can have knock-on effects for the rest of the lifecycle.

Plan

This involves determining business needs, identifying what data we already have and what needs to be collected or acquired. It will involve designing how the data will be collected and managed. E.g., what data is required to administer children's social care?

Collect, Acquire, Ingest

Here, data is acquired through collection from users completing forms or ingestion of the data from another source. e.g., in children's social care, uploading referrals data from police systems, gathering information on children and families through forms, interviews and assessments.

Prepare, Store, Maintain

Data is prepared for storage by formatting it for use at further stages. E.g., entering collected data into databases including details about the child's demographics, family background and case history. Storing the data securely with access controls to protect sensitive information.

Use and Process

At this stage, data is processed and used for specified business needs for which it was collected. This may involve analysis of the data as well as production of outputs. e.g., analysing collected data to identify trends, risk factors and areas of where intervention is required.

Share and Publish

Data is shared for processing for secondary purposes. E.g., sharing relevant data with other agencies, professions and stakeholders involved in a child's welfare to ensure coordinated care and support.

Archive or Destroy

Once data is no longer in active use then the data owner should determine whether it should be archived or destroyed, e.g., archiving historical children's social care data in compliance with retention policies or destroying data that is no longer needed.

There are potential points of failure at each stage of the cycle.

Plan

- poor design of data collection
- lack of data validation rules
- failure to specify use of master or reference data
- lack of data standards
- design does not consider 'upstream' data use

Collect, Acquire, Ingest

- errors in manual data entry
- incomplete data
- duplicated data
- inconsistent formats
- insufficient or poor-quality metadata
- no verification of the data collected or ingested/imported

Prepare, Store, Maintain

- lack of adequate data preparation
- inaccuracies or corruption during data integration
- lack of informative metadata
- lack of documentation
- incorrect data linking
- inconsistent standards applied to the data
- data accuracy decaying over time
- system changes causing inconsistencies
- data not being actively managed

Use and Process

- failure to adhere to organisational data management practices and principles
- failure to identify and log errors
- failure to understand and address known quality issues
- failure to conduct risk-based assessment on whether to use data due to poor understanding of data quality
- human error in manual production of analysis and output

Share and Publish

- unidentified errors in the shared or published data due to poor quality assurance
- publication of low-quality data due to poor understanding of its timeliness and relevance
- lack of documentation and informative metadata to allow risk-based decisions on whether to use data

Archive or Destroy

- integrity of data compromised by changes made to it after it is archived
- loss of organisational knowledge about the data and its quality

Objective Two

We will treat data as a strategic asset

What does this mean?

Our experience in responding to the coronavirus pandemic has demonstrated that we can make huge improvements when we treat data as a strategic asset and improve coordination between services within the council and between organisations. This improves the delivery of services so that we can be more agile, innovative, efficient, and effective.

The [UK National Data Strategy](#) has reinforced the need for the public sector to move away from a culture of risk aversion towards a joined-up approach, where the presumption is that, with appropriate safeguards, data should be shared to drive better outcomes.

Using data more intelligently will drive of data-driven decisions to make people's lives better, be they customers, employees, suppliers, shareholders, local communities, or future generations to get best return from our data assets.

Why?

Although there are some exceptions, residents and customers of the council are generally managed in departmental silos and to suit our own structures and systems. Current reporting and investment focus is operational and is service or system centric in nature.

This is partly driven by the council not having the capability to systematically match data from disparate systems and external sources and partly by a lack of willingness to share data within the council.

This limits our ability to maximise the use of data to effectively support decision-making. It also means that we have an insufficient understanding of customer behaviour and how this drives future demand.

The data held by the local government sector and partners such as police and health is a potential goldmine of insights into how to improve people's lives and make our communities better. However, a fragmented view of our data with no recognition of it as a single Durham data asset prevents us from recognising and delivering these benefits.

No one person has responsibility for continuously looking for new applications for data, insight, and analytical best practice to maximise benefits gained from our data asset. New technology projects are largely service, and system based.

Management of our data in system-based silos also prohibits achievement of ambitions we may have in the future around further health and social care integration, public service reform, smart cities, the internet of things, machine learning and artificial intelligence.

How? (Actions)

1. Implement a secure enterprise-wide data and analytics platform within Microsoft Azure.
2. Implementation of automated secure data loads from our business systems into the platform.
3. Accelerate delivery of meaningful insights across priority areas through the implementation of accelerator BI reports and dashboards.
4. Develop a process for the rollout of BI reports and dashboards to the relevant users with the relevant communications and training.

5. Implement a standardised toolset for data management and analytics across the platform that automate extraction of data and enable provision of insight that can be securely distributed to provide a single version of the truth.
6. Establish a Chief Data Officer role within the council with formal responsibility for ensuring that the Durham data asset is used to its maximum potential, that the investment in doing so is reasonable and that risk is managed appropriately.
7. Develop a governance and assurance process to evaluate and prioritise future data projects and deliver legal and ethical compliance around the use of data.

Objective Three

Data is used safely, securely, and appropriately

What does this mean?

All organisations must comply with several legal requirements regarding protecting personal data and making sure that it is used appropriately. The General Data Protection Regulation (GDPR) sets out the standards that the council must follow for protecting the personal information it holds and how we can legitimately use this data.

The council and its partners must also identify the lawful basis for sharing any personal data, have undertaken an appropriate assessment and have considered having a data sharing agreement.

There are also additional laws in respect of confidential information that we must follow as a provider of health and social care services (the Caldicott principles).

Much of the personal data we hold about our residents, clients and employees is in digital form and there are cyber-security standards that we are expected to follow.

Being compliant with regulations and standards is not just a legal requirement but also helps us maintain the trust of the people who have provided us with their data and expect us to protect it and use it ethically and appropriately.

Additional considerations will need to be applied in the future if we start to look at more advanced technologies involving the use of machine learning and artificial intelligence to support or to make decisions about individuals.

Why?

The CBIR reported that barriers to effective data sharing to provide meaningful insight within the council are not just technological. Information governance concerns are also impacting the ability to formally share and match datasets.

Concerns over a GDPR breach through inadvertently exposing sensitive information are cited for either not requesting or declining formal requests to share data across services. There is a real fear of falling foul of GDPR and other privacy legislation which has inadvertently led to restriction in the use of data, and consequential loss of associated benefits of joining up data the council holds on the same subjects.

GDPR rules can be seen as technical and complex with the risks being high as councils hold lots of sensitive data. This is compounded by other privacy legislation such as the Caldicott principles which apply to the use of confidential information within health and social care.

Good information sharing is essential for providing safe and effective care but there are different approaches under the two frameworks, for example, relating to consent.

Data sharing can often be justified through the application of relevant legislation and appropriate controls. GDPR is not an immediate barrier to sharing personal and special category data. In fact, the GDPR contains provisions that enable public authorities to use personal data for specific purposes providing it is done in a fair, lawful and transparent way.

The CBIR reported that concerns about GDPR breach was cited as the reason for either not requesting or declining formal request to share data across services. Often requests are valid and could be supported through the application of relevant legislation but information governance officers are not being consulted on requests to share data because the assumption is often that regulations will prohibit the council from using data in this way.

There are technical challenges around anonymising data which often means producing multiple datasets to satisfy different audiences with one requiring personally identifiable data and another being able to use anonymised data for trend analysis. This creates an obvious risk of individuals receiving the wrong dataset and there are no robust controls regarding access to data once it has been extracted from a system. For instance, there is no controlled and auditable process in place to track the flow of a spreadsheet containing personal information around the organisation and beyond. This exposes the council to a risk of data breach.

Many of the improvements in our communities are delivered by the council together with other organisations and partnership working in areas like community safety and health and wellbeing actually require data sharing which adds another layer of complexity when it comes to compliance.

How? (Actions)

1. Build data governance capacity.
2. Undertake a data governance audit using the ICO assurance framework and deliver a risk based action plan.
3. Regularly update the Data Protection Impact Assessment for the BI programme.
4. Data Governance should be considered within the wider organisational design to ensure there is corporate support with clear responsibilities and processes for new developments.
5. The implementation of any processes involving new use of data involving matching should include the completion of privacy impact assessments with analytical teams with information governance teams supporting and educating each other and seeking solutions to achieve the best outcomes.
6. Implement the data and analytics platform with the capability to monitor and secure data access across the council.
7. Classify data being ingested from source systems onto the platform as personal or non-personal and tag accordingly.
8. Configure Azure Active Directory to secure identity and access management based on job role.

Objective Four

Develop a more efficient and effective process for the management of data and provision of information

What does this mean?

Much of the production of management information can be automated which will eliminate potential for manual error, single points of failure and allow employee resource expended on this work to be redeployed on analysis and improvement activity.

Investment in skills development is needed to realise the benefits of the data and analytics platform and provide a sustainable model for support and future development.

Why?

The CBIR reported that the current model for management information reporting presents multiple challenges.

Reports are mainly produced through manually intensive processes involving the extraction, transformation, and presentation of data. The time and employee resource consumed in these processes results in timeliness issues and in some cases, single points of failure where there are examples of individuals with unique expertise in critical tasks.

Sometimes, different teams using the same datasets carry out different operations in transforming the data resulting in conflicting views.

Information is often highly summarised and presented in static formats which prevents further interrogation and analysis. As data is transformed and summarised, its composition and the possibility of corroboration becomes less transparent.

This operating model also means that the skillsets of our staff are geared towards data extraction, cleansing and presentation. Much of this work could be automated allowing resources to be redirected into analysis and further development of the platform to maximise the return on investment.

There are pockets of good practice throughout the council with some proficient use of tools such as Microsoft Power BI and some employees undertaking data analyst apprenticeships but there are no clear corporate standards or approach. This compromises capacity, capability, and organisational resilience.

There is also no clear delineation of responsibility with several services throughout the council having an involvement in data, sometimes resulting in duplication of effort.

Services have made their own investment decisions to support their own reporting needs with either reporting modules purchased or aligned to core line of business applications e.g., data warehouse/data mart reporting environments. Maintaining these environments perpetuates the silo-based approach, incurs additional costs and will result in inefficient double handling of data once the data and analytics platform is implemented.

There are a wide range of tools that are used to interrogate and present data across different services and systems which impacts on organisational resilience, prohibits inter-service collaboration and the ability to deploy data management and analytic resource flexibly across services.

How? (Actions)

1. Implementation of automated accelerators to provide a dynamic set of Power BI reports and dashboards to users for strategic and operational insight, performance management and an understanding of our customers using the following programme phasing:

Programme Phase One: Work with data and analytics consultants

Services and Systems

CYPS: LiquidLogic, ContrOCC, CACI Child View, Serverlec Core+IYSS, Serverlec Synergy

AHS: Azeuscare, Theseus

REG: Abritas, Flexiroute, IDOX

NCC: OrcumaFIRsT, Civica APP

Resources: Civica Open Revenues, Oracle EBS, ResourceLink

Programme Phase Two: Self-sufficient

Services and Systems

NCC: Symology, Bartec, IRIS, Routesmart

REG: Metastreet, Pinacl, ExcelPoint, Spektrix, XN Dimension, Tunstall

General: External datasets e.g. ONS, NHS, gov.uk

Programme Phase Three: Each system examined on a case-by-case basis

Services and Systems

CYPS: Care Works Care Director Youth, Cognissoft YETI, Clear Care, LRS

REG: Kinetics, Halcyon, Icon, Collection HQ, Liquid Voice

NACC: Geo Environ, Isys

Resources: Talkative, Vantage Point EWM, DataTracks, Mitel, Avanti Helpdesk, Iizuka ICM, Learning & Development, Vantage Link WFM

2. Establish a corporate data management function within the council.
3. Establish an analytics development team within the council within a corporate data and insight function aligned to performance management and research and intelligence.
4. Review approach to performance management, research and intelligence and information governance to accommodate the changing landscape of data management and analysis
5. Undertake skills transfer pathway training to become self-sufficient in the management and development of the data and analytics platform.
6. Establish a plan for the provision of current and future insight needs for the council from the data and analytics platform with decommissioning of legacy reporting arrangements.
7. Address the gap between information provided through current reporting environments and the suite of Pre-designed analytics accelerators through the development of additional data analytics products.
8. Agree governance arrangements for the prioritisation, approval and management of new development requests.

Future Functional Operating Model Roles

Chief Data Officer

A designation assigning complete ownership of all data related dependencies across the council.

Insight manager

Someone designated with management responsibility for the assured delivery of all centralised data functions.

Research Function

Low level and in-depth analysis of strategic issues affecting the local authority.

Analytics Development Function

Development of insight using Power BI to provide new or improved strategic, operational performance management and customer analytics.

Performance Management Function

Working with the Analytic Development Function to design a suite of performance management reports. Investigating performance issues.

Data Management Function

Supporting and managing data, security and access to data for the whole of the council. Maintaining standards for data quality management through the council.

Data Stewardship

Operational business support for the use of data. Responsible for data quality for their allocated department. Data flow experts for their allocated department. Data flow experts for their allocated departments.

Objective Five

Management and use of data will be through a business partnering model

What does this mean?

A business partnering model is a way of organising commitment to a common purpose through the provision of complementary capabilities. For instance, say we have an idea for a novel way to link data from a number of our systems.

Why?

Establishing corporate functions for data management and analytics development will create the critical mass to provide a corporate insight and business intelligence service which will standardise future developments and provide organisational resilience by having consistent methods and common standards avoiding single points of failure. Close links between services and corporate functions are required as foundational building blocks to future success. Corporate teams around data engineering/management and analytics development will have to work together with data stewardship functions in services to ensure data quality.

However, this issue is not new for the council. Several specialisms which were previously decentralised such as HR and finance have been 'unitised.' The adoption of a business partnering model was key to the success of these changes. For data roles, this would involve a close relationship being established between insight teams and business stakeholders within services so that data professionals can understand the service, its data requirements and develop products with business relevance. It will also help improve data quality and governance as it will help the insight team develop a deeper understanding of data sources, definitions and quality requirements by working with data stewards. The relationship should also work both ways helping to achieve improved data literacy among service professionals helping to achieve a data-driven culture.

How? (Actions)

1. Build business partnering principles into organisational design.
2. Establish governance arrangements for any new data project involving representation from data management, insight services, information governance and the relevant service to develop optimal solutions for the whole organisation which help us to achieve our objectives.
3. Establish regular communication channels including meetings, workshops, training programmes and collaboration platforms.

Objective Six

We will use data to provide greater insight to support better decisions and improved outcomes for people

What does this mean?

Being able to provide timely information is crucial to being able to make informed decisions. It is anticipated that the evolution of data insight within the council will follow a staged approach:

Stage 1

Ensure that real time reporting is always available so that we are making decisions on the most up to date data available. Insight is all about gaining a better understanding of all the data available and this can be provided by integrated datasets.

Stage 2

Match data to provide the opportunity to look at service delivery across functions within the council e.g. single view of the service user, family etc.

Stage 3

Use data from partners, police and health for example, to provide integrated views of place. Joint inspections of local service areas by Ofsted, the Care Quality Commission, HM Inspectorate of Constabulary and Fire Services and HM Inspectorate of Probation are now the norm. Inspectors will judge how effective we and partners are using our data to provide a multi-agency response to the identification of need and risk and delivery of appropriate interventions.

Stage 4

Use the data to provide better forecasting and demand management modelling to enable us to confidently predict trends and model multi-disciplinary preventative interventions.

The Data Information Knowledge Insight Pyramid

Insights

The ability to connect the dots between disparate information sources or systems to gain a new understanding of residents', communities', or customers' needs, wants, desires or behaviours.

Knowledge

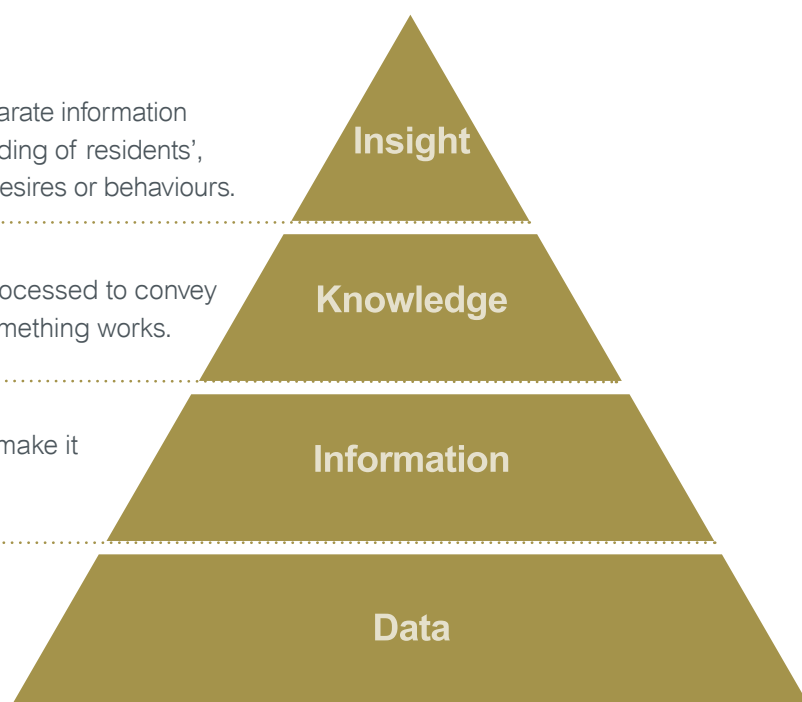
Information that has been organised and processed to convey comprehension and expertise as to how something works.

Information

Data that has had some context applied to make it meaningful and useful.

Data

Raw text, numbers and symbols. It has no meaning or value as it lacks context and interpretation.



Why?

Our ambition is to become a data-driven organisation, which means being able to deliver accurate and usable insight to the right people and at the right time to enable effective decision-making. This will require data sharing to enable proactive and preventative action in public service networks. The lack of data sharing within the council is a barrier to providing meaningful insight.

Our current system/silo-based views of data limit the opportunity to maximise the value of data at a corporate or cross-service level. The CBIR found that most reporting is static and descriptive in nature, providing a retrospective view of what has happened.

Data Analytics Maturity Levels



Reporting does not provide the rich insight that the services have articulated they require which currently cannot be met. This can only be provided from bringing data together from multiple systems to show activity and outcomes related to individuals and families. This is currently near impossible with matching being a resource-heavy and time-consuming process. This prevents us being able to easily see the correlations and interrelationships between different data and identify cause and effect. We are often reliant on the gut feeling of service professionals in providing reasons for trend. We need to build beyond the anecdote and move from a position of 'I think' to 'I know' to support decision making and continuous improvement. The ability to routinely match data and create citizen-indexed views across multiple datasets will support the production of sophisticated insight and provide the opportunity for diagnostic analysis and understand the 'why' of metrics under scrutiny. This is a central component of performance management, key in supporting better decision making and provides a platform for the development of predictive analytics.

Steps to introduce common identifiers across a number of systems are acknowledged as not being able to fully meet service need as it does not provide the ability to link to systems outside of our control. It also offers limited corporate benefit as it does not provide the capability to provide things like a view of family composition or single view of debt.

How? (Actions)

1. Installation and configuration of a master data management solution as a data matching engine to enable the provision of complex analytics across multiple systems.
2. Target sophisticated citizen-index-based activity such as a single view of debt, a single view of a child and a single view of the family.

Review

The time frame for this strategy is 2023/24 - 2025/26. The strategy will be reviewed during 2025/26 with the aim of evaluating how far we have come on our journey to becoming a data-driven organisation and to set out the next stage of development.

Appendix One

Information Governance Roles in the Council

Data Protection Officer

The UK General Data Protection Regulation (GDPR) requires the council to appoint a data protection officer to:

- inform and advise the council and its employees about their obligations to comply with the GDPR and other data protection laws;
- monitor compliance with the GDPR and other data protection laws, including managing internal data protection activities, advise on data protection impact assessments; train staff and conduct internal audits;
- be the first point of contact for supervisory authorities and for individuals whose data is processed (employees, residents etc).

Kevin Edworthy is the council's nominated data protection officer.

kevin.edworthy@durham.gov.uk

Caldicott Guardian

A Caldicott Guardian is a senior person responsible for protecting the confidentiality of people's health and care information and making sure that it is used properly. All health and social care bodies such as NHS trusts and local authorities with social services responsibilities are required to appoint a Caldicott Guardian.

The role of the Caldicott Guardian is to:

- make sure that confidential information about those who use social care services is used ethically, legally and appropriately and that confidentiality is maintained;
- provide leadership and informed guidance on complex matters involving confidentiality and sharing confidential information;
- play a key role in ensuring the council satisfies the highest ethical and legal standards for handling confidential information;
- play a key role in upholding the Caldicott Principles.

Keith Forster is the council's nominated Caldicott Guardian.

keith.forster@durham.gov.uk

Senior Information Risk Owner (SIRO)

The SIRO is a senior manager who is familiar with the strategic business goals of the council and those of other organisations which may be impacted by information risks, and how those risks may be managed.

The key responsibilities of the SIRO are:

- to oversee the development of information risk policies and a strategy for implementing those policies;
- ensure the council's approach to information risk is effective in terms of resource, commitment, execution and being appropriately communicated to all staff;
- Taking ownership of the processes for assessment of information risk.

Paul Darby is the council's nominated senior information risk owner.

paul.darby@durham.gov.uk

Appendix Two

LGA/Nesta Data Maturity Framework

Project	Nascent	Basic	Intermediate	Advanced	Expert
Data Management Collection	Data collection is a by-product of operational service delivery and driven by central government and key performance indicators.	Collection goes beyond operational use and mandatory reporting requirements but there is little strategic purpose behind collection or use.	Data is used well in operational settings and data is sometimes collected for strategic purposes but predominantly there is little strategic rationale for collection and use.	Data is used well in operational settings and other data is collected in line with broader organisational strategies and decision-making.	Data is collected extensively across all services and in-line with Organisational strategy. Data can provide a holistic view but data is not collected where the immediate use is not apparent (avoiding data exhaust). Data is seen as an organisational asset.
Data Management Organisation	Data is organised in silos with limited ability to share across the council.	Some data can be more widely published or shared and integrated manually.	Lots of data are exported and shared across the council, but mostly it requires manual integration.	Most data can be shared and integrated, some of it automatically through data warehouses or federated approaches.	Lots of data are exported and shared across the council, but mostly it requires manual integration.
Data Management Quality	Data quality is patchy but is not addressed	Data quality is low but can be addressed on an ad hoc basis when basic analysis is undertaken.	Most data that is exported from IT systems is of useable standard but errors remain and are not addressed comprehensively. Data quality is maintained and improved by staff involved in line of business data collection	Data is generally of useable quality, and most staff understand the need for accuracy in inputting data.	All data is of useable quality and data quality issues understood and managed by all staff proactively. All staff take responsibility for the quality of the data they collect.

Appendix Two

LGA/Nesta Data Maturity Framework

Project	Nascent	Basic	Intermediate	Advanced	Expert
Data Governance Governance	Data protection is a major reason not to share data and undertake analysis.	Information governance concerns prohibit most sharing of data for analysis purposes. Assigned senior level data owners responsible for specific data sets and accountable for agreeing new uses and access to data is done on an ad hoc basis.	Data sharing does occur but not extensively, and there is limited consistency in decisions made about sharing. The organisation has assigned senior level data owners for specific data sets accountable for agreeing new uses and access to data.	There are some information sharing protocols and data can be shared internally and externally to undertake analysis.	Information governance protocols based on specific use cases have been embedded in IT systems to enable responsible data sharing. A Corporate Management team member proactively drives information/ data integration internally and with partners to secure new insights, joined up services and savings. Information sharing and data sharing decisions are based on a balanced risk assessment that weighs privacy concerns against the risk to the organisation or individual of not sharing.
Data Governance Openness	Data is not made available to the public in machine readable formats. No public message about how the council uses data.	Data is made available on an ad hoc basis. Data is in a mixture of machine readable and non-machine readable. Public message about data use is technical/legal in nature	There is an ambition to make more data available and some data sets are updated at regular frequencies, but is done mostly manually. Data is mainly in machine readable formats.	There is a single open data portal and most data is machine readable. Most data have a scheduled frequency for updating, and some of this is done automatically.	Data is used to support service delivery in real-time, is used to understand in granular detail issues of performance, and can be used to understand the effectiveness of services and individual interventions.

Appendix Two

LGA/Nesta Data Maturity Framework

Project	Nascent	Basic	Intermediate	Advanced	Expert
Data Use Decision Making	Rich in data, poor in intelligence. Data is not a key part of decision-making processes.	Data is used in reports but usually in a cursory way and with little reference to decisions which have to be made.	Data analysis is usually requested for decision making, but can be inadequate because analysis is not of high quality, targeted at the decision to be made or the right data is not available.	Some decisions are informed by data on both the frontline and at senior levels, but it is not consistent across the organisation.	Rich in data intelligence and insight. Data is analysed on specifically for the purposes of key decisions which have to be made, consistently across the organisation. Data is available in a timely fashion to support decision making.
Data Use Performance and evaluation	Services and performance are not evaluated using the data available.	Data are used to look retrospectively at performance, often in static formats such as a spreadsheet. Data offers little insight into why events or performance variations occur.	Data is sometimes used to understand why events or levels of performance have occurred. Performance management using data is of limited value.	Data is sometimes sought to conduct evaluations of services and interventions but mainly on an ad hoc basis. Data can be used to usefully performance manage staff and services and there is scope for it to trigger changes.	Data is used to support service delivery in real-time, is used to understand in granular detail issues of performance and can be used to understand the effectiveness of services and individual interventions. Relevant data is collected to monitor outcomes and historic data sets that are no longer relevant are retired.
Data Use Optimisation and automation processes	No processes have been automated or improved using data.	Efforts to use data to improve services tend to involve very basic analysis and is ad hoc across the organisation.	In some services, data is used as part of efforts to improve processes, but data dashboards are not routinely available, and no processes have been automated.	Data dashboards are used to optimise processes. Data are used to manage services and processes, and some are automated.	Data are used in real time where possible. Processes which require little or no human judgement have been automated and optimised using data such as detecting fraud and error.

Appendix Two

LGA/Nesta Data Maturity Framework

Project	Nascent	Basic	Intermediate	Advanced	Expert
Data Skills Capability	<p>Skills and capacity are limited to IT system managers and basic software use.</p> <p>Most staff lack basic data literacy and skills.</p>	<p>Some staff are able to use basic software for simple analysis.</p> <p>Data literacy is patchy.</p>	<p>Data integration and analysis can be performed by some staff but is not highly sophisticated.</p> <p>Most staff have basic levels of data literacy.</p>	<p>Sophisticated analysis can be undertaken but not consistently across the organisation.</p> <p>Some staff have good data literacy, but it is not uniform.</p>	<p>Data analysts are highly skilled and can work with multiple software packages. Sophisticated data science can be undertaken routinely across the organisation.</p> <p>All staff have a level of data literacy appropriate to their role.</p>
Data Awareness and Culture	<p>There is limited awareness of how data can be used to improve services and outcomes.</p>	<p>Data is seen as having some value in niche uses but most staff do not routinely try to use data to help them with their work.</p>	<p>Data integration and analysis can be performance by some staff but is not highly sophisticated,</p> <p>Most staff have a basic level of data literacy.</p>	<p>There are some highly data-literate staff, and the culture of the organisation expects data to be used in decision-making and service delivery.</p>	<p>The organisation has timely access to all its data from line of business systems whether held internally or on cloud-based platforms.</p> <p>All staff see data as a tool which they can and do use to support them and make their jobs better.</p>