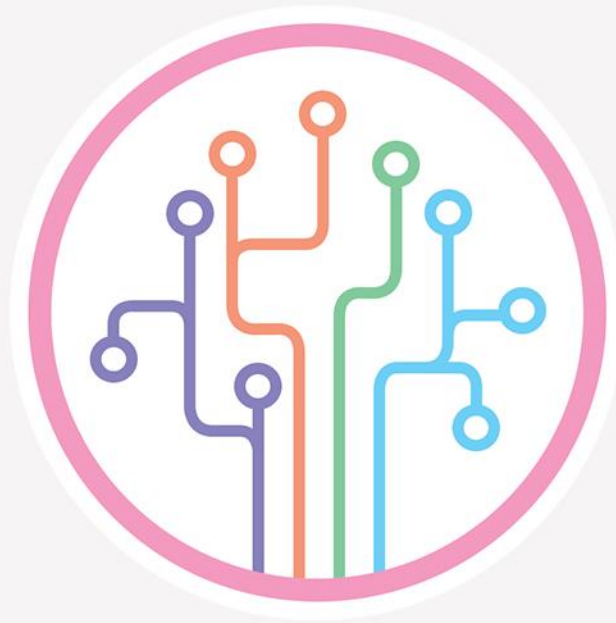




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Data Pathways

Sample Strategic Action Plan

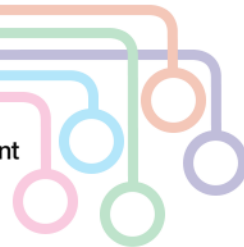


Introducing a comprehensive three-year strategic action plan aimed at optimising data management practices and fostering a culture of data-driven decision-making.



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Our Goal

By 2024 we will be a nationally recognised centre of excellence for pertinent, accessible educational data that changes the way that we work, live and learn, both within our organisation and nationally. We will use data and information to inform our effective, efficient and intelligent educational practices in the student interest.

The Challenge

Managing, using and sharing data will be crucial in coming years, but the organisation is not yet fully set up to treat data as a strategic asset for policy-making, project design or service delivery, or to create value for other public and research sectors.

By increasing their capacity to create, manage and use data, many academies are making better decisions, and ultimately, better serving their students. However, this is happening in a fragmented fashion, along the traditional business lines of the organisation (e.g. academic achievement, finance and HR). While decentralisation can create and support innovation and experimentation, an integrated, whole-of-organisation approach can enable synergies through sharing and interoperability; encourage openness and ongoing learning; and ensure commitment to some common standards and best practices while driving progress and results.

Across the organisation, data is created, used and stored within individual areas and are often limited to use for a single purpose. Access, use and re-use between and within academies are often difficult, in part because a lack of awareness that data could be useful to others and reticence to share information with others.

While some intra-organisational data sharing does occur, it is often via ad hoc technical solutions requiring burdensome administration.

Compounding these challenges is the absence of a governance structure or senior-level decision-making table charged with providing strategic direction on data issues and driving cultural change.

Both the organisation and individual academies struggle with the same issues:

- Absence of governance for strategic direction on data issues
- Lack of data literacy and cultural reticence to break silos
- Lack of adequate digital infrastructure
- Challenge of acquiring, governing and managing large volumes of disparate data

In this rapidly accelerating environment, data-driven innovation is increasingly critical to unlocking future outcomes. Advances in various digital technologies have the potential to greatly accelerate analytical power. While access to more data, along with technological advances, presents great opportunities for the trust and academies, this also elicits concerns and potentially increases risks from a privacy perspective.

It is clear that the trust is at an important point and should embrace significant new opportunities by better leveraging data.



The Opportunity

Working alongside the Digital, People and Operations strategies there is an opportunity for the organisation to position itself as a leading jurisdiction in the education sector by setting forward-thinking, recognised standards that act as a catalyst for intervention, a spur for innovation and create a positive impact on the lives of our students. It is an opportunity for the organisation to address several important issues:

- Leveraging data as a strategic asset for the benefit of our students
- Directing resources appropriately and harnessing opportunities to improve impact
- Helping employees adapt in a changing educational context
- Maintaining sound resource management

What will success look like?

From Current State

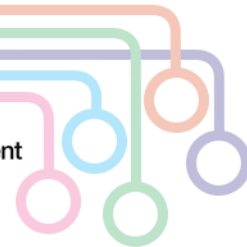
- Employees do not always have access to the data that they need
- Departments/Academies do not always know the data holdings of others that may be relevant to their work
- Departments/Academies do not consistently collaborate or share data
- There is no strategic oversight to the use of data
- Data is not being effectively leveraged for evidence-informed decision making
- Projects and services are not consistently improved using timely data and analytics
- Employees do not have the skills they need to use data effectively

Through

- Robust data governance, leadership and stewardship
- Increased availability and interoperability of data
- Increased data analytics capacity and broader data literacy
- Integration of data analysis into decision-making processes
- A culture of innovation and experimentation
- Robust data ecosystem
- Capacity building in data literacy and use

To New State

- Improved services
- Greater value from data
- Greater usability and availability of data
- Trusted and sound governance of data, which are treated as a valuable strategic asset
- Increased evidence-informed decision-making
- Better reporting on results
- Increased intra and inter-organisation collaboration
- Protection of individuals' information and privacy by design



Transformation Roadmap

The recommendations provided in this strategy seek to ignite change, demonstrate value, resolve barriers and help the trust make better use of data to improve the education, skills and life chances of our students, whilst continuing to safeguard their privacy in a modern data-driven environment. They are presented along a transformation roadmap consisting of two timeframes, designed to generate momentum, build collaboration, and develop strength over time.

The recommendations are at varying stages of development, with some still being conceptualised and requiring further work and analysis. As the data strategy is designed to be evergreen, the list is not exhaustive and will naturally evolve over time, with further work and strengthened data governance.



People and Culture

- Short term
 1. Assess the current state of data literacy as well as skills and competencies required
 2. Pilot and launch data community to develop digital and data skills of existing employees
 3. Explore and review proposals with regards to the development of cluster information owner positions to provide training, ensure standards and provide a better service
- Medium term
 4. Pilot and launch a digital academy to develop digital and data skills of existing employees
- Long term
 5. Embed data literacy programs and ongoing skill development initiatives as part of the organisation's culture.
 6. Establish a comprehensive training and certification programme for data workers to ensure continuous skill enhancement and adherence to standards.
 7. Implement a structured career path for data professionals, including cluster information owner roles, to provide leadership and mentorship opportunities.

Environment and Data Ecosystem

- Short term
 8. Accelerate work to assess and map the existing data ecosystem so that the development of frameworks and standards match the needs of all stakeholders



- Leverage work underway to support and build a consistent ecosystem centred around the key trust data stores
- 9. Accelerate work to assess the policy framework and practices to support greater strategic work of data while ensuring the protection of personal information
- Medium term
 - 10. Work with academies and departments to establish a common set of data needs and establish a process for easy adoption of data tools
 - 11. Assess required digital/data infrastructure needs
- Long term
 - 12. Integrate data policy frameworks with strategic planning processes to ensure alignment and compliance.
 - 13. Develop and promote a centralised repository of data tools and resources, with guidance on adoption and integration.

Data as an Asset

- Short term
 - 14. Foster innovation within the trust and leverage the outcomes of existing dashboard projects
 - 15. Leverage and expand secure, user-friendly environments to facilitate access to trust-held data for decision-makers and academies
- Medium term
 - 16. Establish a centralised view of trust-held data, develop a trust data quality framework and develop guidance for the long-term management of digital trust assets
 - 17. Enhance the rigour of analysis of data and increase the generation of new data to assess outcomes and strengthen performance measurement, project evaluation and policy development
 - 18. Develop an approach to increase access to public and private sector data to drive insights for enhanced impact
- Long term
 - 19. Implement advanced analytics capabilities to support evidence-based decision-making and performance evaluation.
 - 20. Foster partnerships with external organisations to access additional datasets for enriched insights and impact assessment.

Governance

- Short term
 - 21. Develop and implement new frameworks and standards for the requirements for the adoption of data systems within the trust
 - 22. Establish a trust level decision making body for the rationalisation of existing data systems and adoption of new systems within the ecosystem based on framework and standards
 - 23. Strengthen and clarify roles and responsibilities around data leadership within academies
 - 24. Require all academies and departments to develop data policies that are relevant, scaled and customised to their needs and aligned with the data strategy
 - 25. Develop and implement new frameworks and standards with respect to the ethical and secure use of data



26. Require all academies and departments to ensure proper accountabilities, roles and responsibilities with respect to data
27. Convene a central trust-led working groups to evaluate and make recommendations to the way that data is considered in the decision-making process
- Medium term
 28. Provide regular updates on data to the trust and academies, and encourage academies and departments to pursue collaboration on specific issues or needs
- Long term
 29. Define and communicate clear roles and responsibilities for data leadership positions within academies.
 30. Embed data policy development and alignment processes, with regular audits to ensure compliance and effectiveness.
 31. Integrate ethical and secure data practices into organisational policies, with ongoing training and awareness programmes.
 32. Regularly evaluate and refine decision-making processes to incorporate data-driven insights and feedback loops.



Theme Action Plan :: People and Culture

Objective: The trust has the talent and capacity needed to manage, interpret, use and understand data

Why is this important?

- To enable a data-driven culture that is open and shares by default
- To recognise all employees as data agents
- To hire, retain, cultivate and empower the right talent and capacity
- To grow data literacy in existing and new employees

Support ongoing learning and development

Goal: Develop and retain talent by increasing data literacy and providing more professional development opportunities

Action 1

Assess the current state of data literacy as well as skills and competencies required

Action 2

Pilot and launch data community to develop digital and data skills of existing employees

Action 4

Pilot and launch a digital academy to develop digital and data skills of existing employees

Action 5

Embed data literacy programs and ongoing skill development initiatives as part of the organisation's culture

Action 6

Establish a comprehensive training and certification programme for data workers to ensure continuous skill enhancement and adherence to standards

The varying levels of digital and data literacy across the trust, along with the evolving context, requires a multi-pronged and agile approach to the upskilling of employees. First, the trust must establish a baseline measurement of the current state of literacy, and assess the skills and competencies required to build a skilled data manager workforce. Second, renewed professional development strategies must leverage best practices, accelerate capacity building and increase levels of digital and data literacy within the academies. It will be especially important to develop the data and digital literacy of academy leadership, which will be critical to widespread cultural change.

Immediate next steps

- Identify needs, required skills and competencies, in collaboration with academies, related to digital/data literacy
- Create a community of data specialists



- Data team to actively engage with academies on the changing nature of data work within the trust
- Sharing of vision for data within the organisation to garner support for the change
- Principals to ensure that employees have access to training to increase their digital literacy

Promote and support the data ecosystem

Goal: Create a team of data and digital experts to provide improved service and quality data analysis across the trust

Action 3

Explore and review proposals with regards to the development of cluster information owner positions to provide training, ensure standards and provide a better service

Action 7

Implement a structured career path for data professionals, including cluster information owner roles, to provide leadership and mentorship opportunities

The trust needs academies to move away from disparate, unconnected data silos that prevent informed, accurate and effective decisions to be made. For the development of our data ecosystem, we also need to provide the trust and academies with enabling environments consisting of the support, technology and expertise that they need to do innovative work.

Immediate next steps

- Pilot a data skills benchmarking exercise with academies to highlight areas of expertise and inform the development of the regional data manager positions and better match potential candidate skillsets to regional needs
- Pilot new assessment methods for academies seeking potential appointments within data management



Theme Action Plan :: Environment and Digital Ecosystem

Objective: Processes and infrastructure are aligned to turn data and analysis into action

Why is this important?

- To encourage coherence across a breadth of different yet complementary systems
- To provide supporting architecture to facilitate data management and analytics
- To ensure appropriate tools, infrastructure and processes are available
- To protect data and privacy of information
- To keep pace with and fully harness technological opportunities

Strengthen a modern and enabling ecosystem

Goal: Ensure that the trust is prepared to meet its digital/data ecosystem needs and streamline access to required data tools

Action 8

Accelerate work to assess and map the existing data ecosystem so that the development of frameworks and standards match the needs of all stakeholders

Action 10

Work with academies and departments to establish a common set of data needs and establish a process for easy adoption of data tools

Action 11

Assess required digital/data infrastructure needs

Action 13

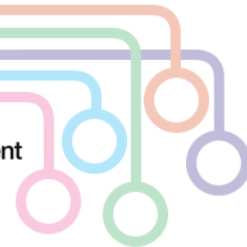
Develop and promote a centralised repository of data tools and resources, with guidance on adoption and integration.

The need for tools to collect, store, analyse, manage, share and visualise data is increasing within all academies and departments. Enabling open standards, interoperability and the sharing of expertise requires access to a common set of data tools commensurate with common data needs. At the same time, academies and departments need a flexible framework to explore new tools and more advanced options, that are both interoperable and secure.

The trust's IT infrastructure must be able to support the ambitious agenda of its data systems and it is important that the trust takes a proactive approach to addressing its future data requirements.

Immediate next steps

- Data team to work with academies and departments to identify common business requirements, develop a catalogue of recommended and pre-approved tools, and establish updated guidelines and processes for their implementation
- Assess the required infrastructure needs over the short and medium terms to inform strategic IT planning



Align foundational support

Goal: Protect employee and student rights and privacy and support the greater use of data in the digital environment

Action 9

Accelerate work to assess the policy framework and practices to support greater strategic work of data while ensuring the protection of personal information

To continue to safeguard data and privacy and support faith in the trust as a data steward, whilst enabling the opportunities offered by a greater use of data, we need to ensure that legislation and policy frameworks are fully implemented and reviewed.

Next steps

- Assess requirements for more efficient, secure information sharing and develop UK GDPR compliant practices for implementation across the academies

Work with our partners to create change

Goal: To support inter- and intra-trust data sharing

Action 6

Leverage work underway to support and build a consistent ecosystem centred around the key trust data stores

Action 12

Integrate data policy frameworks with strategic planning processes to ensure alignment and compliance.

The trust is working to develop a trust-wide approach to key data stores and systems. This will allow individuals to access its data safely and securely, using the method of their choice, regardless of channel. This will reduce costs by implementing a standards-based solution, rather than propriety, and provide the trust and academies with the flexibility to develop their own solutions with the certainty that data remains secure and authoritative within key data stores such as SIMS, Hoge, CPOMS and EPM.

Immediate next steps

- Engage academies to work towards the cleansing and archiving of existing data stores
- Continue to work with departments and teams to link existing data stores and headlines into dashboard ecosystem



Theme Action Plan :: Data as an Asset

Objective: The trust has the data it needs, which is fit for use, discoverable and available. Its use is appropriate, ethical and generates value for our students.

Why is this important?

- To ensure the trust has the data it needs
- To support and inspire greater use and availability of data
- To ensure data use is appropriate, student- and business-centric and ethical
- To ensure data is well managed, secure and fit for use
- To ensure that trust-held data can be combined with data from other sources so decision-makers can unlock its value

Better understand the information we hold

Goal: Know what data we hold and ensure its quality and maintenance

Action 16

Establish a centralised view of trust-held data, develop a trust data quality framework and develop guidance for the long-term management of digital trust assets

Know what data the trust holds

To increase the use and access to data and reduce duplication, we must first have a complete view of the data that we hold, along with an understanding of its quality, location and format. This exercise will create an interface or tool to view all trust data assets and will support interoperability so that academies and departments can share, combine and make optimal use of data. The work involves attaining a common vision for governance and stewardship and the development of a data reference model, privacy protection, security protocols and a maintenance plan. This will leverage existing work, including the Operation Model's data systems survey. Experience gained will inform standards and inform a data reference model for a whole-of-trust approach.

Next steps

- Establish an enterprise data reference model, as well as establish trust-wide data standards, including metadata, reference data and master data.
- Work towards the creation of an ecosystem map to provide an authoritative, evergreen and accessible view of trust data holdings
- Update the Operations Model data systems survey work for all academies with increased clarity and support

Ensure the quality and maintenance of data

To maximise the value and strategic use of data, dimensions of quality such as accuracy, timeliness, relevance, accessibility, interoperability and coherence to intended use must be applied. In coordination with the academies and departments, we will develop, implement and support data quality management strategies, policies and practices for a comprehensive data quality framework.



The proposed framework will be adaptable across the trust whilst establishing common trust-wide standards to ensure interoperability.

Digital assets have a longer life cycle than their supporting technologies. A framework will be developed to facilitate the long-term retention of digital assets including guidance, best practices and standards.

Next steps

- Setup inter-academy working group, initially focused on assessment, attendance and safeguarding data to define data quality practices
- Analyse current data quality practices within academies and define best practices
- Draft proposed quality approach/framework
- Develop strategies and guidelines for data management

Strengthen analysis and experimentation

Goal: Leverage the powerful synergies from the creation and integration of data for development and evaluation

Action 17

Enhance the rigour of analysis of data and increase the generation of new data to assess outcomes and strengthen performance measurement, project evaluation and policy development

Action 19

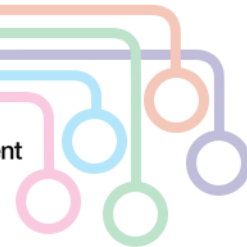
Implement advanced analytics capabilities to support evidence-based decision-making and performance evaluation.

Business innovations and educational research has demonstrated the powerful synergies possible when data is brought together to help answer key questions. Rapid results are achieved by leveraging existing data holdings and analytical capacity across academies and departments. To build on this, the trust will develop common approaches to collect and analyse data, focusing first on academic achievement and financial planning in academies. Going forward this work will include horizontal analysis to support and strengthen decision making across all areas of the trust.

With the incorporation of interoperability standards in key data systems, action in the experimentation with emerging technologies and approaches can be facilitated. A trust-wide initiative to strengthen experimentation and rigorous data analysis and ensure that the trust has the conditions, capacity and experimental design capabilities to turn data into better information on which its interventions work most effectively.

Next steps

- Continue pilot programmes to centralise key data headlines within our intranet
- Building on industry standard best practices, develop tools that can ensure that data can be interrogated with rigour, by all.



Be bold and innovate

Goal: Leverage the results of projects to inform future directions

Action 14

Foster innovation within the trust and leverage the outcomes of existing dashboard pilot projects

Action 20

Foster partnerships with external organisations to access additional datasets for enriched insights and impact assessment.

Enabling the more strategic use of data requires its greater and more widespread use, including through analytics and innovation to transform data into new knowledge and insights. A number of projects are planned or underway to increase access to data and derive new insights to benefit our students, including:

- Provision of dashboards for the safeguarding team to identify patterns and trends in and across academies
- Central provision of academy student census and attendance data with a view to gather early intelligence about the student population and characteristics of the academies
- A pilot project aimed at providing information about the financial planning implemented within academies regarding its current curriculum provision

Despite the natural reflex of wanting to undertake additional pilots, it is recommended that the trust focuses primarily on implementing existing pilots, and that a comprehensive review and analysis of these pilots be undertaken, with the results shared across the trust.

Next steps

- As pilot data projects conclude, conduct a comprehensive review and analysis to assess for scalability, automation and impact, reporting on lessons learned.

Make trust data more open and transparent

Goal: Drive new insights through greater access to data

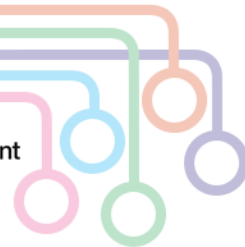
Action 15

Leverage and expand secure, user-friendly environments to facilitate access to trust-held data for decision-makers and academies

While the trust already houses and provides access to data through different routes, these can be improved and better leveraged:

Increasing access to data through an open trust portal

While work is underway to improve the intranet, there are future opportunities to integrate new elements, including infrastructure for data management, data visualisation, advanced searching and improved data quality.



Increasing access to data through a virtual data lab

A cloud-based solution to facilitate greater access to more organisation data for research and analysis. This will reduce duplicative collection, provide the opportunities for new insights and increase the good that can be enabled with existing data. The medium-term goal is to build the lab on automated, scalable cloud infrastructure, with data discovery tools and a fully range of data files appropriately treated to ensure confidentiality and privacy.

Next steps

- Introduce a dataset quality rating system to benchmark data sources and drive improvement
- Pilot data dashboards using data visualisations to increase understanding and remove common barriers to the use of data in decision making
- Develop a prototype of the virtual data lab for broader testing

Support data innovation in the trust

Goal: Support a culture of creative use of data, utilising both internal and external data, to provide the big picture

Action 18

Develop an approach to increase access to public and private sector data to drive insights for enhanced impact

Data-driven innovation is an increasingly important source of educational growth and is critical to improving the life chances of our students. The trust can better leverage both internal and external data, which can be used to derive important insights to drive innovation. The trust can use public and private sector data to improve understanding of project impacts on elements such as educational outcomes, enrichment opportunities, life skills and in the preparation of students for higher education.

The significant pooled data source of private-sector resource data (such as Experian), coupled with publicly derived and publicly funded data (such as the National Pupil Database) can be leveraged by the trust and academies to improve decision-making and accelerate innovation.

Next steps

- Work with departments and academies to increase the availability of data to empower innovation
- Pursue options to create a cloud-based, linked pool of data



Foundation Action Plan :: Governance

Objective: Governance exists at the right levels to ensure that data is managed holistically as a strategic asset

Why is this important?

- To provide coherent direction on strategic and technical data issues
- To model and support cultural change
- To ensure balance between coherence and flexibility
- To provide standardisation and prioritisation to extract maximum value from data

Greater oversight to better leverage data

Goal: Strengthen data leadership, drive change and support the strategic use of data

Action 21

Develop and implement new frameworks and standards for the requirements for the adoption of data systems within the trust

Action 22

Establish a trust level decision making body for the rationalisation of existing data systems and adoption of new systems within the ecosystem based on framework and standards

Action 23

Strengthen and clarify roles and responsibilities around data leadership within academies

Action 25

Develop and implement new frameworks and standards with respect to the ethical and secure use of data

Action 29

Define and communicate clear roles and responsibilities for data leadership positions within academies

Action 30

Embed data policy development and alignment processes, with regular audits to ensure compliance and effectiveness.

Action 31

Integrate ethical and secure data practices into organisational policies, with ongoing training and awareness programmes.

The disparate nature of the data ecosystems in the academies has fostered a culture of creativity in their efforts to adapt to digital and data developments. Whilst academies have tackled many important issues, there is a need for increased coordination of effort toward greater cohesion and coherence so that key data systems can be used, across the trust, to inform effective decision making. Analysis and consultations have demonstrated the need for a single body to provide horizontal oversight of strategic and technical uses of data and to make decisions on data management issues spanning the whole of the trust. The creation of such a body, representing all elements of the trust, would allow the body to:



- Provide strategic direction
- Drive cultural change
- Encourage greater data and analytics use
- Align and prioritise data-related investments or gaps
- Drive progress on data strategies
- Ensure open by default and sharing by default
- Compel data decisions to be holistic

Next steps

- Consult on mandate, authorities, membership, governance and support for a trust level body to oversee the governance of data within the trust
- Work with Human Resources and academies to clarify roles and responsibilities around data leadership
- Develop frameworks, principles, protocols and guidance with respect to the ethical and secure use of data

Build data and analytics capability and culture

Goal: Ensure that data is at the heart of decision-making and are strategically managed and leveraged to improve projects and services

Action 24

Require all academies and departments to develop data policies that are relevant, scaled and customised to their needs and aligned with the data strategy

Action 26

Require all academies and departments to ensure proper accountabilities, roles and responsibilities with respect to data

Action 27

Convene a central trust-led working groups to evaluate and make recommendations to the way that data is considered in the decision-making process

Action 32

Regularly evaluate and refine decision-making processes to incorporate data-driven insights and feedback loops

The growth in volume and strategic importance of data assets requires the development of organisational data strategies as well as the assignment of specific responsibility for data. This will help align strategy, processes and structures around data, support the transition to a digital trust and help ensure the trust is agile, properly equipped and inclusive. To ensure that essential elements are in place and support an integrated perspective on data, strategies will be built around a foundation of governance and the three pillars in alignment with this strategy.

In liaison with academies, it appears that many academies have not mandated that a senior leader for data (opposed to Student Outcomes) and the picture across the trust provides a diverse range of



mandates, hierarchical positions and structures. However, all organisations must clearly identify who is responsible for fulfilling data functions and it would be expected that most will choose to have a senior leader to achieve the appropriate balance between data management, privacy, governance and analytics. The assignment of functions to positions should be articulated in academy data strategies.

Work will also explore how to consider data earlier in the decision-making process when adopting new data systems. This would include assessing the needs of others when planning new data activities. An assessment will be conducted of the necessity of data management plans aligned to the principles of scalability, accessibility, interoperability and reusability. This will support data stewardship and increase access to data that could be repurposed by others.

Next steps

- Develop guidance/training on data strategies for all academies
- All departments and academies to develop data strategies

Accelerate collaboration

Goal: Drive intra- and inter-trust and department collaboration and alignment of efforts on data.

Action 28

Provide regular updates on data to the trust and academies, and encourage academies and departments to pursue collaboration on specific issues or needs

All students and employees will ultimately benefit from greater collaboration and data sharing between different areas of the trust and academies. The trust needs to take a leadership role in the area of data to create platforms and opportunities that will enable all areas of the trust to create value from data.

Existing infrastructures will be leveraged to provide regular updates and drive progress on specific data issues or needs with academies to allow us to continue to work together to replicate our successes across the other aspects of the trust and to create more value for the organisation.

Next steps

- Publish a report on progress at least twice a year
- Issue a statement encouraging the pursuit of collaboration with other academies
- Use data community meetings to share progress and updates