

Data strategy 2024-2029

To empower our people and partners to unlock the potential of our data to make better decisions for a better health and care system.

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Introduction

The NHS Business Services Authority (NHSBSA) is a forward thinking, innovative organisation. We help the NHS to run efficiently by providing platforms, and delivering services that support the priorities of the NHS, government, and local health economies.

Through our service portfolio we generate a wealth of invaluable NHS data. This data has many potential uses including enhancing our service design and delivery and informing policy and practice across the wider health and care system. As such, it is paramount that we enable the value of our data to be realised.

This strategy sets out our vision and principles for data across our organisation. It then details where we are currently, and the commitments we've made which will enable us to optimise and leverage our invaluable data in alignment with our organisational goals.

What it means for the NHSBSA to be a data-driven organisation



Place data at the heart of the NHSBSA



Use data effectively and generate insights



Drive change, innovate new products and services

NHSBSA strategy

Delivering against our data strategy and continuing our journey to being data driven will support delivery of our overall business strategy by:

- supporting continuous improvement in delivering business service excellence and customer experience across our services
- facilitating the identification and measurement of efficiencies and taxpayer value
- actively using our service data and insights to have a positive impact on health outcomes
- providing high quality and easily accessible data and insight, as well as Official Statistics, which improve the health and wellbeing of patients and people across the UK through better decision making

This data strategy also aligns to our strategic goals placing a focus on our people, our customers, value and efficiency and environmental, social and governance.

External influences

In developing a comprehensive data strategy, it is essential to acknowledge and account for the diverse external factors that influence our data environment and the broader landscape within which we operate. We have considered the National Data Strategy, Data Saves Lives, and the NHS Long Term Plan. Moving forward, we will maintain collaboration with our stakeholders throughout the health and care sector to ensure our approaches remain up-to-date and provide value without duplication.



Our data vision

To empower our people and partners to unlock the potential of our data to make better decisions for a better health and care system.

We will achieve our vision by delivering the following outcomes:





1. colleagues have the right capabilities, opportunities, and tools to enable data-informed decision making across the NHSBSA and health system
2. colleagues and customers collaborate to meet end users' needs by using data to ask the right questions and solve the right problems
3. internal and external customers confidently use NHSBSA's high quality data and insight to make informed decisions that drive policy, decision making and innovation across the NHSBSA and health and social care system
4. NHSBSA's timely provision of trusted data enables greater democratic accountability of the government for the state of the health and care system through public and parliamentary scrutiny



Our data principles

To be successful on our data journey we have six data principles which are instrumental to creating the necessary conditions to deliver this data strategy effectively and support us in maximising the value of our data.

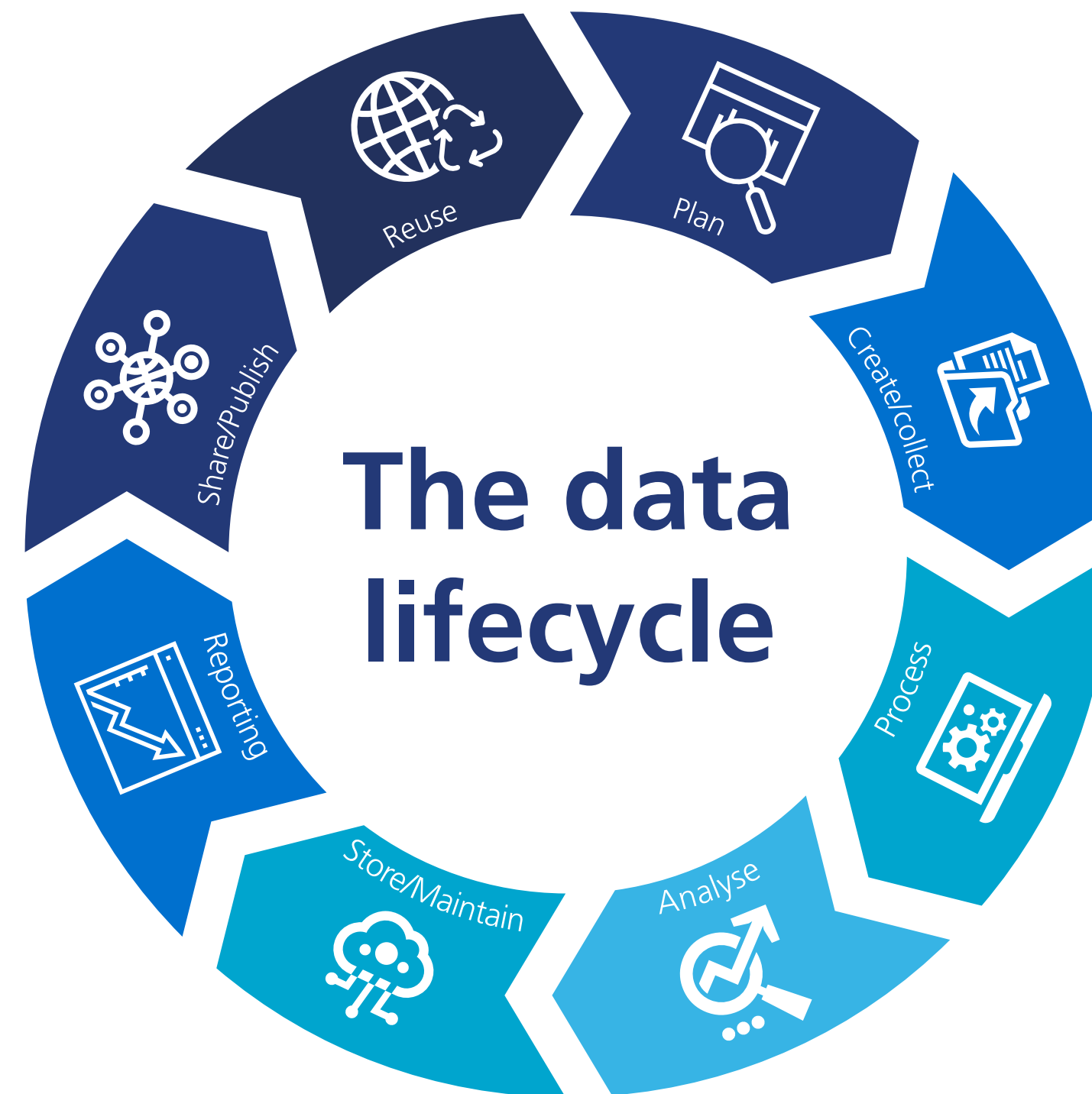
We explore each of our data principles, including current position and commitments, in more detail in the sections below.

					
<p>Manage data as an asset</p> <p>We manage data as an asset across the data lifecycle ensuring stable foundations for everything else we do with data</p>	<p>People</p> <p>We enable our people to be their best by providing the conditions, opportunities and tools they need</p>	<p>Efficiency</p> <p>We embed efficient processes focusing on standardisation, automation and reuse. We use our data to identify efficiencies internally and across the wider system</p>	<p>Collaboration</p> <p>We collaborate and share, reducing duplication to ensure we deliver value</p>	<p>Innovation</p> <p>We use innovative approaches and technologies to continuously improve what we do</p>	<p>Open and transparent</p> <p>We make our data, analysis, and reporting available wherever possible, communicating our plans and sharing our work to increase value</p>

Manage data as an asset

Managing data as an asset is our first principle for a reason. If we manage our data as an asset across the data lifecycle this will ensure a strong and stable foundation to support everything we do with data. Managing our data well will support us in:

- ensuring data quality and accuracy to support and maintain trust in our data and decisions we make with it
- enhancing decision making by ensuring that decision-makers have access to the data they need when they need it
- complying with legal and regulatory requirements related to data protection and security
- providing efficiencies in delivery and storage thus minimising costs and environmental impact



Managing data as an asset isn't the responsibility of a single team, it's a collaborative effort that requires input and involvement from across the organisation. In recent years we have invested in improving data management beginning with introducing a data governance framework including roles and responsibilities for data governance across the organisation. This was followed by the implementation of a data asset register where critical data assets are identified, and associated improvement plans are put in place. More recently we have established a data profiling capability and a data architecture function and published our first data standards. The benefits of investing in good data management across the data lifecycle can be seen in the high quality, curated data sets which underpin our external reporting.

We also adhere to the Caldicott Principles which provide a framework for responsible data management in healthcare, emphasising the importance of privacy, confidentiality, security, and compliance with legal and ethical standards.

Whilst we celebrate our successes, we also recognise the challenges we face and remaining gaps which we are dedicated to addressing.

While the introduction of our data architecture function and publication of our data standards are a step in the right

direction, we now need to ensure that data architecture becomes embedded within our delivery and operational practice and that the data standards are implemented across the data lifecycle. This includes the use of unique identifiers, the standards for which are set out in our data standards but are not yet fully adopted across our services. Inconsistent capturing of unique identifiers across our services has a direct impact on our Master Data Management (MDM) practices. We have areas of good practice of MDM such as in Primary Care Services but inconsistencies in others including challenges in our citizen customer data where the use of different identifiers across services and systems present difficulties for interoperability and MDM.

To date, our data management practice has tended to focus on structured data. However, like many organisations, we also hold a large volume of unstructured data, some of which is critical for the delivery of our services. We therefore need to ensure our data management approach is adopted across all data, adapting where necessary.

We have also identified limitations in our current data storage and retention practices with particular challenges relating to unstructured data. To support us in addressing this, we have developed a specific data retention and storage strategy which we commit to delivering.

Ensuring we have a comprehensive approach to data management which accounts for all data and services and is

embedded into our delivery practices will support consistency across our systems, contribute to improving data quality, and facilitate interoperability and integration.

Data access is a crucial component of data management as it enables the use and reuse of data without which we cannot hope to derive value from it. However, our data is captured in disparate systems which presents data access challenges. We introduced our Data Ingestion Service (DIS) with the goal of providing a timely solution for moving data from operational systems to data storage and access solutions. Although the service has brought some improvements, we recognise that it can be enhanced.

Historically, efforts have focused on enabling access for external users of our Primary Care Services data. As a result, our current data platform and operating model are designed primarily to support external facing data products. They lack the agility to meet more diverse user needs and struggle to meet the growing demand for data access across the organisation in a cost effective, efficient manner.

To address both these issues, we have started planning for the introduction of a Modern Data Platform (MDP) and Data Operating Model (DOM), with project completion expected by the end of 2025. This will enhance how we move data around the organisation, provide improved and efficient data access for both internal and external users, greater flexibility to meet varied user needs and reduce the time taken to gain insights.

By shifting to a more flexible, modular, data platform, with a focus on interoperability, we will be able to adapt more easily, capitalise on the best tools available for different purposes and contribute to the reduction of our technical debt. Overall, it will give us a stronger foundation for creating our data products. The technical solution will be complemented by enhancements to our ways of working including further development of our data policies, standards and playbooks supporting the standardisation of approaches allowing colleagues to efficiently produce outputs with consistent quality, look and feel which enable users to move swiftly between our data products.

We aspire to provide enhanced data and reporting for both internal and external users of our data. This includes greater focus on the use of anonymised and pseudonymised data, enabling us to do more while reducing the risk to the data subjects. We also believe we could deliver greater value and enhanced insight to the wider health sector by being able to link data sets across different services and with external data. However, our existing governance documents are largely silent with regards to data, meaning we are limited in what we can legally do with the data we hold and how we can share it.

Finally, we do not have a comprehensive view of our data maturity (including data literacy) across our organisation. Understanding our data maturity is key in directing and prioritising our data management activities moving forwards.

Commitment

1 | Enhance our data management by...

- working with DHSC to attain appropriate legal powers for further added value use of our data
- ensuring compliance, security and efficient storage utilisation for documents and unstructured data
- embedding data related policies and standards across DDaT and the broader organisation and determine the approach for legacy systems
- undertaking and publishing a data maturity assessment to identify further improvements
- improving data access and discoverability
- reviewing and updating our approach to MDM across our estate

Case study

Enhanced data quality: Building foundations with our data profiling capability and operating model

Effective data management is critical to achieving our ambitions of becoming a data driven organisation and a key part of data management is data quality.

In line with the Government Data Quality Framework, we aspire to have robust, consistent and objective approaches to document, understand and improve data quality both proactively and retroactively.

To address the proactive aspect, we established a data profiling capability and operating model within the business which utilises a combination of technology, enhanced processes, and skilled colleagues to deliver successfully.

As a new capability, we typically emphasise putting a scale to known business issues, but we have also taken a risk-based approach where we seek to identify unknown data quality issues that may be lurking.

Since establishing the team and embedding the technology we have created over 700 customised rules, conducted data profiling on 14 of our critical data assets and identified more than 150 improvement actions.

Several key factors have contributed to the success of this initiative:

- focus on striking a balance between people, processes and technology to ensure an effective end-to-end data profiling process
- a strong emphasis on collaborative working with stakeholders from across the business and beyond including the creation of safe, supportive relationships which enable colleagues to openly share known issues and data quality concerns
- the adoption of a low code tool enables us to recruit colleagues who are passionate about data and have the softer skills needed to be great collaborators then quickly up skill them to utilise the technical solution
- embracing a continuous improvement culture in which all team members are empowered to identify areas for improvement and suggest solutions which help enhance the effectiveness and efficiency of our work

There is an inescapable irony in measuring success by finding, scaling, and addressing failure, so our greater ambition is to ensure that good data governance is factored into new services and system replacements to help reduce the risk of future data quality issues occurring. We are also working on the creation of a data model and dashboard that will allow us to showcase the holistic impact of our data profiling projects so far.

People

Our NHSBSA strategy recognises that our people are crucial to our overall success and this is equally true when it comes to data. Our people are central to the successful delivery of our data strategy. Their knowledge, skills, and collaboration play a pivotal role in interpreting, analysing, and leveraging data effectively. This doesn't happen by accident, and we need to continue to nurture, invest in and support our people so that they have the right capabilities, opportunities, and tools to enable data-informed decision making across the NHSBSA and health system.

We experience challenges in attracting candidates with the right data knowledge and skills when recruiting to certain technical data roles. In 2022 we welcomed our first data apprentices to the NHSBSA, a key investment in growing our own talent for the future and a small way of giving back to our local communities. There are lessons we can learn to enhance this experience and ensure apprenticeships deliver maximum value without placing undue demands on our existing colleagues.

Recruitment challenges have been exacerbated by the coding language used within our current enterprise data warehouse, delivering our MDP should address this.

Having the right operating model in place enables the coordination of people, tools, and processes to deliver efficiently and effectively. As our data capacity has grown organically, several operating models have emerged across the organisation and there is a lack of clarity in some areas. This can cause confusion and generate inefficiencies. In conjunction with the technical solution, we are also designing the future DOM to support our MDP and deliver for our customers. Through this work we will look to establish a clear approach which enables colleagues to self-serve from our data platform and visualisation tools with trusted data management and data modelling practices in place and guidance available from subject matter experts (SMEs). We will also ensure we have the right leadership roles and the right guidance in place to support data colleagues regardless of where they sit within the organisation. Additionally, we will establish a training and engagement plan for colleagues to smoothly integrate the new technology into our operational framework.

Competency frameworks are a useful tool to support the development of career pathways. In 2022 we took part in the beta testing and were one of the early adopters for the National Competency Framework (NCF) for Data Professionals across health and care. NCF is an NHS focussed framework

that provides key building blocks for the professionalisation of the data and analytical workforce. This is a key enabler for the development of career pathways and continuing professional development for data professionals across our organisation and beyond.

In the past, our development offering for data professionals has been inconsistent, driven by team or project priorities or motivated individuals. By utilising frameworks such as the NCF, aligning with business need and drawing on capabilities already available within the organisation and across the wider system we have begun to adopt a more standardised approach to development which delivers for our people as well as our organisation.

Professional registration provides many benefits for colleagues including the opportunity to validate their skills and knowledge, demonstrate their commitment to their profession and help guide career planning. While professional registration is an emerging area in data, there are a number of existing routes for data colleagues. We are committed to supporting our data professionals to gain and maintain professional registration by promoting opportunities and providing advice and guidance.

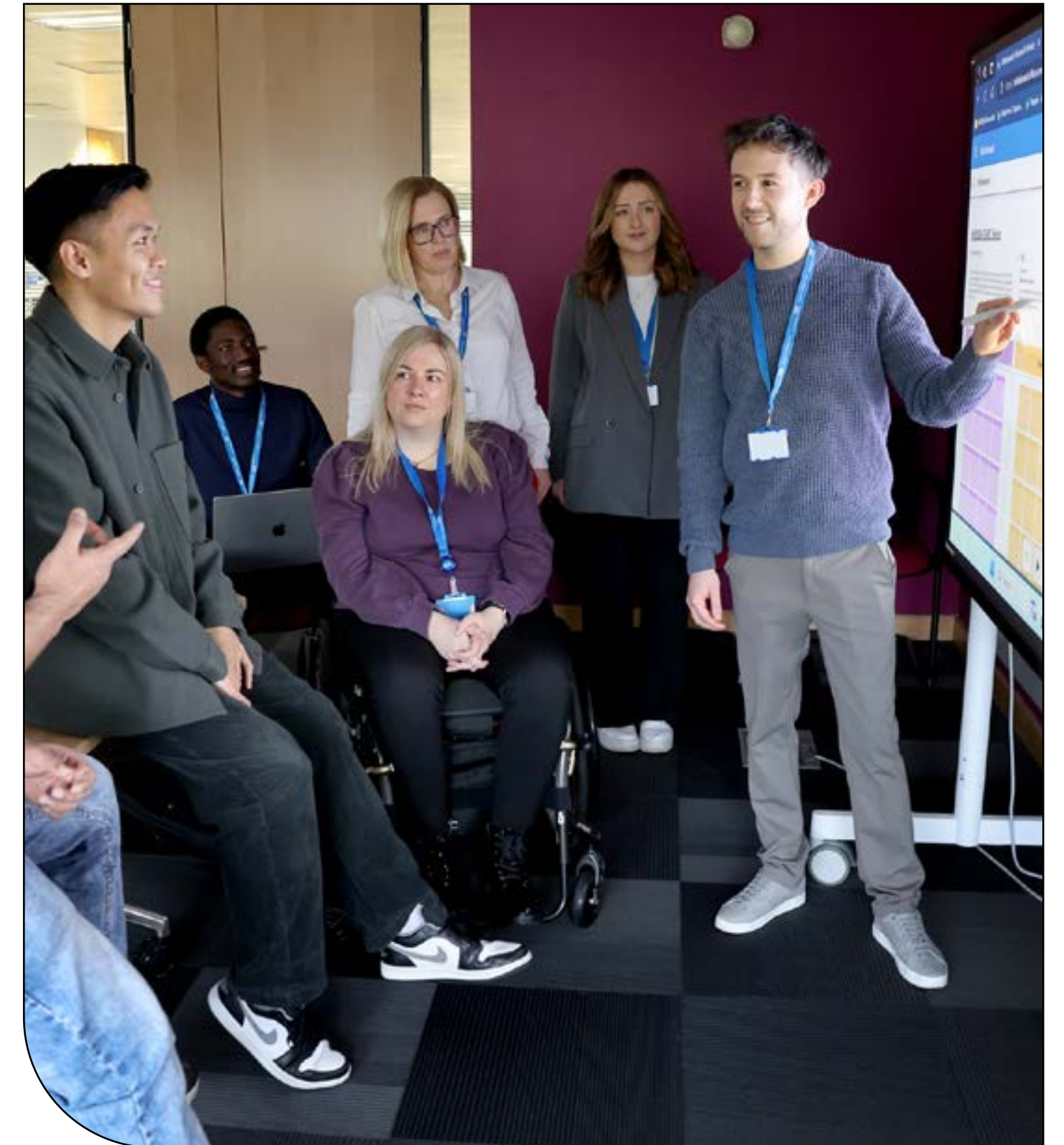
Certification can also be used by data professionals to gain recognition of skills, to embed, and enhance knowledge and to enhance credibility and stakeholder confidence. We currently support colleagues to gain certification with Microsoft for Power BI and badging through the Government Statisticians Group (GSG), promoting these opportunities, and providing advice and guidance.

We will continue to refine our development offering ensuring we have career pathways in place for all our data professions, clear development paths they can follow and aligning to the GROW approach to performance to ensure they have regular performance, wellbeing and development conversations and have personal development plans in place.

Several communities have been established to support all colleagues who use data and bring them together to share knowledge, promote standardised approaches and provide opportunities for professional development. These communities are thriving, with over 250 members, they convene regularly and are further enriched by our Viva Engage community, ensuring the free flow of knowledge and ideas. We have however, identified a gap in formal training and development pathways for data users who are not necessarily

data professionals and therefore fall outside professional frameworks, certifications, and professional registrations. We will address this by broadening the training and development offering and continuing to develop our approach to data literacy. Similarly, there are limitations to the support and training for the data tools we have adopted. This results in duplication of effort and inefficiencies across the organisation. We will overcome this by establishing service support wrappers and training for each of our data tools.

“In a data driven organisation, data is not something done by a single team within the organisation, nor is it only the remit of data professionals, everyone across the organisation is involved in generating data and we should all be able to use it to help manage and improve our day-to-day work.”



Commitment

2 | Continue to support our people by...

- driving forward the professionalisation of data across the NHSBSA and beyond
- delivering a programme to improve data literacy across the NHSBSA, including enhancing our data communities
- providing our people with the training, tools and frameworks to achieve their best
- continuing to welcome data apprentices to our organisation, growing talent for the future

Case study

Building a diverse and skilled workforce: The benefits of data apprenticeships

At the NHSBSA, we recognise that the opportunities derived from apprenticeships are considerable. Apprenticeships offer highly accessible employment opportunities, enabling more inclusive recruitment and supporting the growth of a more diverse workforce.

From the apprentice's perspective, as well as being able to earn while they learn, structured learning, and guidance from experienced mentors enable their skills to grow quickly and they gain experience in the workplace while working towards a valuable industry recognised qualification.

Benefits of apprenticeships to the business can be underestimated but they are often significant. Strategic planning allows apprentices to fill anticipated workforce gaps with colleagues that are already trained and integrated into our ways of working. As they continue their career journey with us, we can plan learning and development that will maximise their potential and ensure that they will become assets to the business. Taking on apprentices also offers the opportunity for existing colleagues to upskill to become mentors and develop their leadership skills.

The hard work and dedication from the 2023/2024 cohort of data apprentices was recognised at the annual DDaT We CARE Awards, where they were nominated and highly commended for the Rising Star Award. This was the first cohort of apprentices for the data teams, and they worked across four areas of data (analysis, data science/statistics, engineering, and governance) in their 18 months with us. They demonstrated a strong ability to pick up a range of skills from data manipulation to data visualisation and technologies. Together, they contributed to several projects across the business, including automating manual reporting, delivering business insights using data, and developing dashboards.

Efficiency

As a publicly funded organisation, delivering efficiently is crucial to providing value to the taxpayer. For this reason, it is one of our organisational strategic goals, one of our DDaT priorities and also one of our data principles. Our data is a powerful tool which enables us to benchmark, identify and monitor efficiencies across our services. We sometimes face difficulties in accessing the key data which will enable us to do this, and we commit to addressing this. However, we recognise that using our data to support efficiencies goes beyond just optimising our internal processes. How we manage and make our data available can deliver efficiencies for the individuals and organisations who use our data and can identify and inform efficiencies across the wider health and care system.

We have already demonstrated commitment to delivering efficiencies by optimising processes, deploying automation tools, and leveraging new technologies to drive operational efficiencies. This includes the use of Robotic Process Automation (RPA), Reproducible Analytical Pipelines (RAPs), a comprehensive platform for automating end-to-end data and analytics processes. To date these efforts have removed thousands of hours of manual effort, however manual processes persist in other areas, reducing efficiency and increasing the risk of errors.

Moving forwards, we will continue to identify and address opportunities for operational efficiencies including continued deployment of automation tools and new technologies maintaining a consistent focus on balancing the potential efficiencies against the costs of automation to ensure each case delivers value. This will be supported by ensuring each tool has a comprehensive service wrapper in place offering clarity on when and how each can be deployed to ensure the most appropriate tool is used for each use case.

We recognise that easy and quick access to crucial data for informing and monitoring operational efficiencies, such as cost per transaction, can be a challenge. We are currently collaborating with finance colleagues to automate processes to produce unit cost reports across our operational services. This work will enable us to baseline our current level of efficiency and support the identification of areas for further efficiency. By automating the reporting aspect, we will ensure such data can be made available on a regular basis supporting continuous improvement and monitoring.

As we establish our MDP and DOM, we will focus on ensuring clear, efficient processes are in place for meeting our customers' needs including deploying common data terms.

We will continue to support interoperability within our organisation and across the health and care sector, including embedding common data standards, to reduce data burden and ensuring data minimisation to support efficient delivery.

Our drive for efficiency extends beyond our own organisation, we regularly use our data and expertise to identify potential efficiencies for the wider health and care system. This includes supporting the identification of fraud and error and the identification of time efficiencies such as our work with the Wessex Academic Health Science Network during the COVID-19 pandemic which identified patients suitable for electronic repeat dispensing and is estimated to have saved 90,000 hours of GP time. Another example is our National Medicines Optimisation Opportunities Dashboard which seeks to support Integrated Care Boards not only to deliver value for money in prescribing but also tackle health inequalities and improve outcomes in population health. We have committed to continue this type of work including contributing to the DHSC Efficiency and Reform Program.

Commitment

3 | Continue to improve our efficiency by...

- delivering a Modern Data Platform (MDP) and Data Operating Model (DOM), which will improve efficiency, and minimise impact on the environment
- continuing to use our data to identify opportunities for wider system efficiencies
- re-designing systems and processes, with a focus on automation and interoperability

Case study

Driving value and efficiency through automation

NHSBSA data services provides accurate and timely data internally, to the wider NHS, and other stakeholders who rely on our information. The data supports effective decision making on finances, patient safety and patient outcomes which are vital in supporting the NHS.

Demand for NHSBSA data, outside of pre-built data products, has grown in volume and complexity in recent years. This has required a new approach to build faster automation solutions to free up internal capacity to respond to user needs.

We introduced a code free and code friendly solution to enable colleagues, with a range of skills, to build end to end analytical workflows. It has already removed over 2,000 hours of manual effort.

As an example, twice a year, letters are created for 6,500 dental contracts. It is an important service which ensures dental providers are informed of their performance and supports them to meet expectations throughout the year.

The previous, largely manual, process took 10 days to generate the letters and further time to quality assure the activities. Now the process takes 10 minutes.

Over 50 processes have already been automated to enhance productivity, but this is only the start. The capabilities also provide exciting opportunities to collaborate, add value and improve taxpayer value across the organisation.

Collaboration

As an organisation, we place a strong emphasis on collaboration and seek to collaborate not just between our own teams but with our customers and external stakeholders. We design our data products and services with our customers in mind, regularly conducting user research, capturing feedback, and running user groups to ensure they meet customers' needs throughout their lifecycle. Through our partnerships we aim to identify and mutually agree on approaches, encouraging alignment of priorities across various stakeholders and ensuring that our work adds value while avoiding duplication of effort. This includes being active members of the Health Statistics Leadership Forum, where we work alongside statistical leaders from across health statistics in England to ensure collaboration across all our statistical work, providing a clear, joined up narrative for health statistics in the public domain.

Where appropriate, we collaborate with other organisations to facilitate streamlined access to data including making some of our primary care data available through the NHS England Data Access Request Service (DARS) process and sharing NHS Workforce data to contribute to Official Statistics publications produced by NHS England. Ongoing projects such as the NHS England Federated Data Platform may offer further similar

opportunities. We are committed to actively engaging with relevant stakeholders to gain further insights into how we can best support and benefit from such solutions.

We are also active members of several national and regional networks including the Association of Professional Healthcare Analysts (AphA), the Government Data Quality Community, AnalystX, the NHS R Network, and the Government Statisticians Group (GSG). These networks provide opportunities for shared learning, enabling us to work more efficiently. Our teams also regularly showcase their work at conferences, opening opportunities for further networking and collaboration and championing the great work we do. We recognise the value of these activities, and this is something we will continue to promote and support moving forwards. We also look to provide users of our data with similar opportunities through online communities and by offering the opportunity to 'comment on data' made available on our Open Data Portal.

To support our collaborative efforts, we endeavour to improve understanding of the data we process and hold. We have created a data catalogue and committed to publishing this to support external stakeholders in understanding the data we

hold and enable the identification of further opportunities through which it can deliver value. We have also identified a need to document the external data sets we depend on to deliver our services. By doing this we will have a centralised record of the data we access and the delivery mechanism we have used to ensure consistent approaches are adopted across the organisation potentially delivering efficiencies of scale.

Commitment

4 | Continue to collaborate by...

- supporting the NHSBSA and sponsors to use data to inform policy decisions, design, deliver and manage services
- sharing best practice, ensuring coherence and exploring where our data further supports the wider NHS
- working more closely with our customers, so that we solve problems together and co-create solutions that meet user needs and benefit the wider health system

Case study

National Medicines Optimisation Opportunities Dashboard (ePACT2)

The NHS England (NHSE) Medicines Optimisation Executive Group identified and agreed 16 national medicines optimisation opportunities for the NHS to deliver on integrated care boards' (ICBs) four key objectives.

ICBs were advised to choose at least five medicines optimisation opportunities to focus on and deliver alongside their local medicines optimisation priorities.

The challenge was that the opportunities were spread across diverse areas of the NHS including primary care, secondary care and generalist and specialist areas. Data and tools to monitor these areas were also spread across a variety of organisations and platforms with different methods to access data, analysis, and reports.

This often resulted in a "siloes" approach with areas of activity concentrated in a single area, or a single convenient data source.

NHSE commissioned the NHSBSA to help tackle this problem by creating a single "page" for NHS organisations to see metrics that describe their situation in respect of national priority areas with the objectives to:

- enable local prioritisation decisions between different national priority areas

- make already existing information more accessible
- highlight how NHS organisations compare to one another across multiple topics

Working in collaboration with NHSE, who led on a "metric stocktake" with engagement from key stakeholder groups, the NHSBSA created a single ePACT2 dashboard that addressed the objectives.

This required the deployment of different technical approaches to onboard and use external data. In addition to the collaboration with NHSE we also worked closely with a range of users. We led user workshops with Regional Chief Pharmacists, ICB Medicines Optimisation leads and the wider ePACT2 user base to elicit feedback which informed the development of the ePACT2 dashboard.

NHSE and NHSBSA jointly tested the dashboard and produced supporting documentation and continue to scope and add new metrics when required.

This collaboration has resulted in an improved output, as evidenced by ePACT2 usage which has remained high since the launch even when compared with other popular dashboards.

Innovation

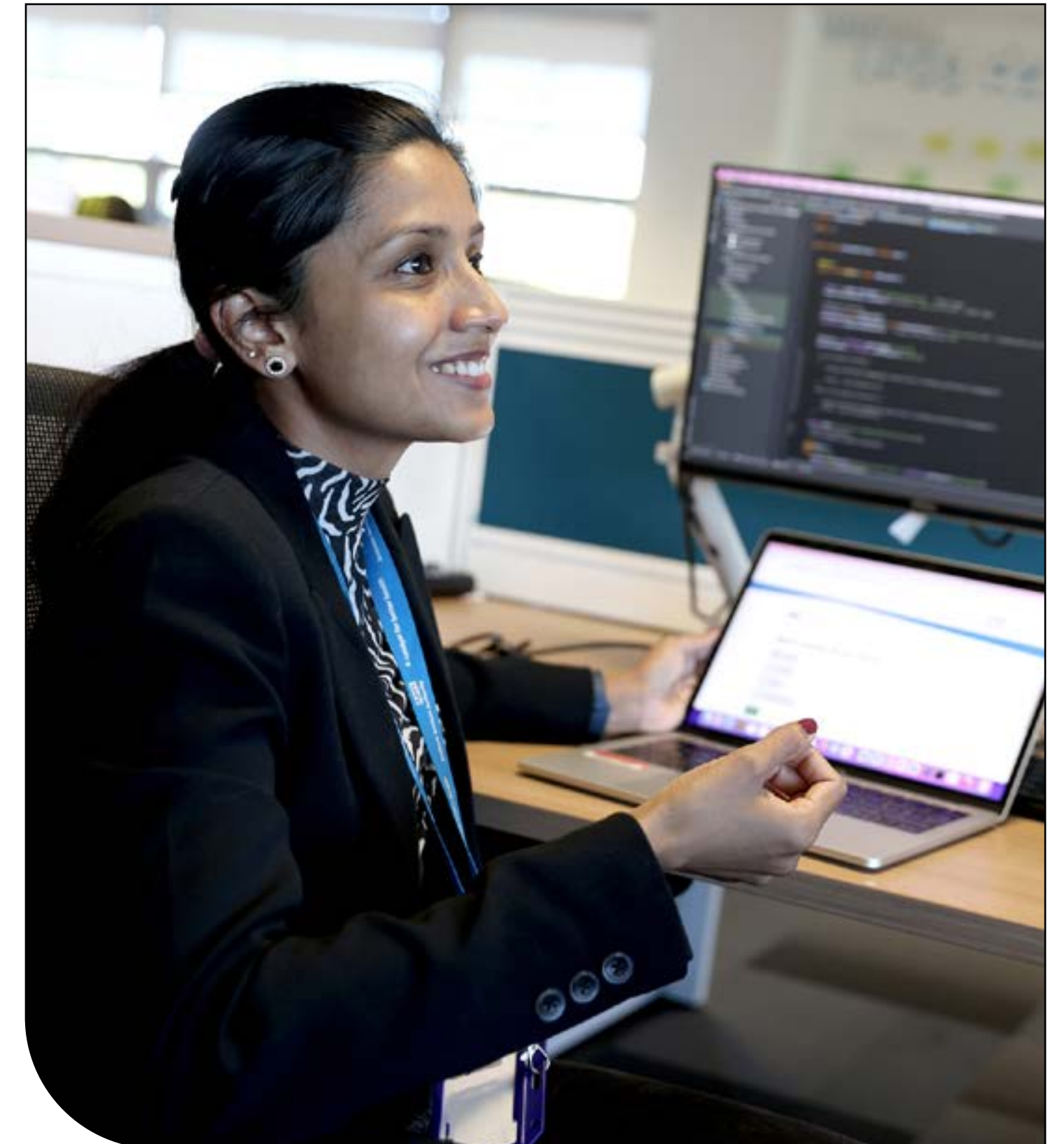
In pursuit of becoming a data-driven organisation, we aim to fuel innovation by leveraging insights derived from our data. We are committed to continuously seeking creative solutions and improvements to better serve our customers, stakeholders, and the wider NHS. It's important to understand that innovation is not the sole responsibility of a specific team; rather it should be ingrained in the collective mindset of our organisation.

By fostering a culture where everyone can contribute to and value innovation, we empower our people to contribute their perspective and expertise and nurture a dynamic and forward-thinking environment. Our Data Science team plays a pivotal role in delivering actionable insights through the strategic application of data science and advanced analytics. Here, the realm of experimentation is not just a concept but a reality. This endeavour culminates in the creation of comprehensive data products.

Our commitment to innovation extends to the development of cutting-edge reporting methodologies, as we collaborate closely with both internal colleagues and external partners. The collective goal is to unearth innovative insights that stand to enhance the outcomes for patients and customers and deliver them to individuals and decision makers who can act on them.

Historically, our innovation with data has been limited by the dispersion of data across our organisation with key data sets 'locked up' in operational systems. The implementation of the proposed MDP aims to resolve this issue. Further to this, there can be a significant time lag between experimentation and adoption of proven insights delaying benefits realisation.

We have also recently established an Artificial Intelligence (AI) advisory group and a program to conduct a discovery and several proofs of concept (PoC) exploring the potential of Generative AI (Gen AI). The aim is to rapidly test assumptions that Gen AI can deliver efficiencies and enable us to direct future investments to areas that will deliver the most value. In addition, our Data Science team will be testing the use of large language models (a specific type of AI) on several use cases, including the potential for AI to enable users with less technical experience to make use of our openly available data and opportunities for AI to streamline work in their own team. These are expected to be the first steps towards further applications of Gen AI in the data science arena.



Commitment

5 | Continue to drive innovation by...

- delivering a Modern Data Platform (MDP), with best of breed tooling, to facilitate innovation across the NHSBSA
- adopting a 'fail fast' approach to experimentation, creating a well-informed, productive and progressive roadmap to enable the rapid adoption of proven innovations
- testing further applications of AI, including Gen AI, and implementing those that deliver value from our data

Case study

Harnessing the power of NHS prescriptions data for care home patients:

The potential and possibilities

The NHSBSA Data Science and Advanced Analytics team deliver actionable insights from data through innovation, experimentation and collaboration. These insights drive policy, decision making and efficiencies across the NHSBSA and wider health and social care system.

The team undertook an exciting project to identify care home patients in NHS prescriptions data through innovative data linkage work. This has enabled them to estimate the primary care prescribing that is taking place in care homes for the first time. This addresses a key gap in knowledge and could inform the use and management of medicines in care homes to improve health outcomes, the quality of care and ensure value.

The team used cutting edge reporting methods to create an interactive insight report. This provides readers with high level insights around the profile of care home patients receiving prescriptions, prescribing volumes and costs and commonly prescribed medicines. It also enables the readers to further explore the data at various levels.

They have also made the full methodology and code openly available which provides opportunity for review, engenders transparency, and encourages reuse, collaboration, and further development. The team have also created an R package for others to use when matching addresses, with integration to the Ordnance Survey API.

The work has received positive feedback about its value and potential, for example:

"The work to develop a methodology to identify care home patients and understand prescribing trends in care homes will directly feed into the Enhanced Health in Care Homes dashboard work. We are keen to incorporate it to help us understand variation and drive-up quality of care in care homes".

Enhanced Health in Care Homes, NHS England

"Identifying care prescribing at care home level will help us optimise medicines for some of our most vulnerable patients. By taking a population health approach we can risk stratify patients and understand the impact of interventions. I'm really excited about the work the NHSBSA are doing; this is good for systems, clinical teams and ultimately patients".

Senior Pharmacist, NHS England

Open and transparent

At the NHSBSA we are committed to being ‘open by default’ when it comes to our data. This includes making our data and reporting open, where it is legal, appropriate, and safe to do so; being open about the data we hold, if and how it can be accessed; and publishing analytics code enabling it to be reviewed, reused, and further developed. This aligns to the UK General Data Protection Regulation (GDPR) principle of lawfulness, fairness, and transparency. It also builds trust, enables citizens and other stakeholders to make informed decisions and supports greater democratic accountability of the government and parliamentary scrutiny. For us, working in the open also means being transparent about how we work, and we do this through several routes such as publishing roadmaps and blogs.

By embracing open data principles and proactively publishing data, we recognise that we could realise efficiencies such as a reduction in administrative time and effort to respond to Freedom of Information (FOI) requests, parliamentary questions and other adhoc requests. Making data open also enables others to use the data for new purposes ultimately delivering greater value for taxpayers. The benefits are perhaps best demonstrated by our English Prescribing Dataset (EPD) which is now one of the key components underpinning

‘OpenPrescribing.net’ an openly available online browser of the EPD, with dashboards available for every GP practice in England with over 100 measures of prescribing quality and safety. The tool is widely used with 20,000 unique users every single month and thousands of subscribers to practice prescribing email alerts.

Although we are still early on in our journey to being open by default, in March 2020 we achieved a key milestone with the launch of our Open Data Portal (ODP). Since its launch, we have published 18 curated data sets on the ODP, while simultaneously laying the groundwork for more to follow. This year alone the ODP has facilitated more than 7.5 million transactions. We have plans to unveil more open datasets focusing on the areas of dental and pharmacy as well as supporting our service teams to publish key performance data in the open.

Our mission extends beyond just provision of data; it’s about understanding, insight and growth. We produce Official Statistics; each release designed to enrich the understanding and provide valuable insight into our corner of the healthcare landscape. Seven publications have already been published, with others actively in development. Over the coming years

we will continue to explore where publication of data from our Citizen and NHS Workforce Services directorates can contribute to the landscape of statistical publications produced by ourselves and colleagues across government, ensuring coherence.

Our Data Science and Official Statistics teams have embraced a culture of transparency, including open publication of insight articles and their code on GitHub. This repository of knowledge not only shows our commitment to information sharing, but empowers those who seek to use our invaluable data and build on our work.

Fully embracing the concept of being ‘open and transparent’ can be daunting and we recognise the need to support colleagues across the organisation in understanding what this means, the different opportunities they can leverage on this journey as well as addressing concerns around the implications of open data publication including increased inquiries and demand on service areas. We are committed to working with colleagues and stakeholders to ensure we progress on this journey together and collaborate to address challenges and realise the potential benefits.

Commitment

6 | Proactively embrace data openness and transparency by...

- working in the open, with more data and documentation being published to improve transparency
- launching a Data Hub to improve the user experience for people finding, understanding and unlocking value from NHSBSA data and insight
- increasing trust in the NHSBSA analytical work through greater adoption of the statistical code of practice and analytical standards

Case study

Open data drives new possibilities for health care

One of the great benefits of making data openly available is that it enables others to do new and innovative things with the data we hold. This can deliver far more value than our organisation ever could alone.

One of the best examples of how our open data has been used to deliver value is the OpenPrescribing.net developed by the Bennett Institute. This tool takes NHSBSA open data alongside data from other NHS sources and makes it freely available for users to view and analyse through a user-friendly interface.

The team from the Bennett Institute have published several academic papers documenting their methods along with evaluation of the impact of the tool on prescribing behaviours and cost efficiencies. The tool is widely used with 20,000 unique users every single month and thousands of subscribers to practice prescribing email alerts.

Over the years, the Bennett Institute team have also provided feedback around our open data offering which has helped guide improvements. This has included enhanced governance and communication around any changes to the data as well as moving the key data set from a publicly available portal which required users to login to one with API capability and no login requirement.

We also complement our open data provision by making some of our analytics code available enabling users to peer review our work and easily build on it. In addition, we provide statistical publications which offer users open access to simply worded summaries of key trends and user-friendly visualisations along with the underlying data meaning we can reach a broader audience who may be less analytically or technically inclined.

As we continue on our journey to being open by default, we hope to see further examples of how people use our data, whether it be individuals using them to hone their data and analytics skills, students using it for their projects or large-scale national initiatives like those of the Bennett Institute.

Summary of our commitments

1 | Enhance our data management by...

- working with DHSC to attain appropriate legal powers for further added value use of our data
- ensuring compliance, security and efficient storage utilisation for documents and unstructured data
- embedding data related policies and standards across DDaT, and the broader organisation and determine the approach for legacy systems
- undertaking and publishing a data maturity assessment to identify further improvements
- improving data access and discoverability
- reviewing and updating our approach to MDM across our estate

2 | Continue to support our people by...

- driving forward the professionalisation of data across the NHSBSA and beyond
- delivering a programme to improve data literacy across the NHSBSA, including enhancing our data communities
- providing our people with the training, tools and frameworks to achieve their best
- continuing to welcome data apprentices to our organisation, growing talent for the future

3 | Continue to improve our efficiency by...

- delivering a Modern Data Platform (MDP) and Data Operating Model (DOM), which will improve efficiency, and minimise impact on the environment
- continuing to use our data to identify opportunities for wider system efficiencies
- re-designing systems and processes, with a focus on automation and interoperability

Summary of our commitments

4 | Continue to collaborate by...

- supporting the NHSBSA and sponsors to use data to inform policy decisions, design, deliver and manage services
- sharing best practice, ensuring coherence and exploring where our data further supports the wider NHS
- working more closely with our customers, so that we solve problems together and co-create solutions that meet user needs and benefit the wider health system

5 | Continue to drive innovation by...

- delivering a Modern Data Platform (MDP), with best of breed tooling, to facilitate innovation across the NHSBSA
- adopting a 'fail fast' approach to experimentation, creating a well-informed, productive and progressive roadmap to enable the rapid adoption of proven innovations
- testing further applications of AI, including Gen AI, and implementing those that deliver value from our data

6 | Proactively embrace data openness and transparency by...

- working in the open, with more data and documentation being published to improve transparency
- launching a Data Hub to improve the user experience for people finding, understanding and unlocking value from NHSBSA data and insight
- increasing trust in the NHSBSA analytical work through greater adoption of the statistical code of practice and analytical standards

Our strategy landscape



2024
2029



To empower our people and partners to unlock the potential of our data to make better decisions for a better health and care system.

Data strategy 2024-2029

 www.nhsbsa.nhs.uk

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