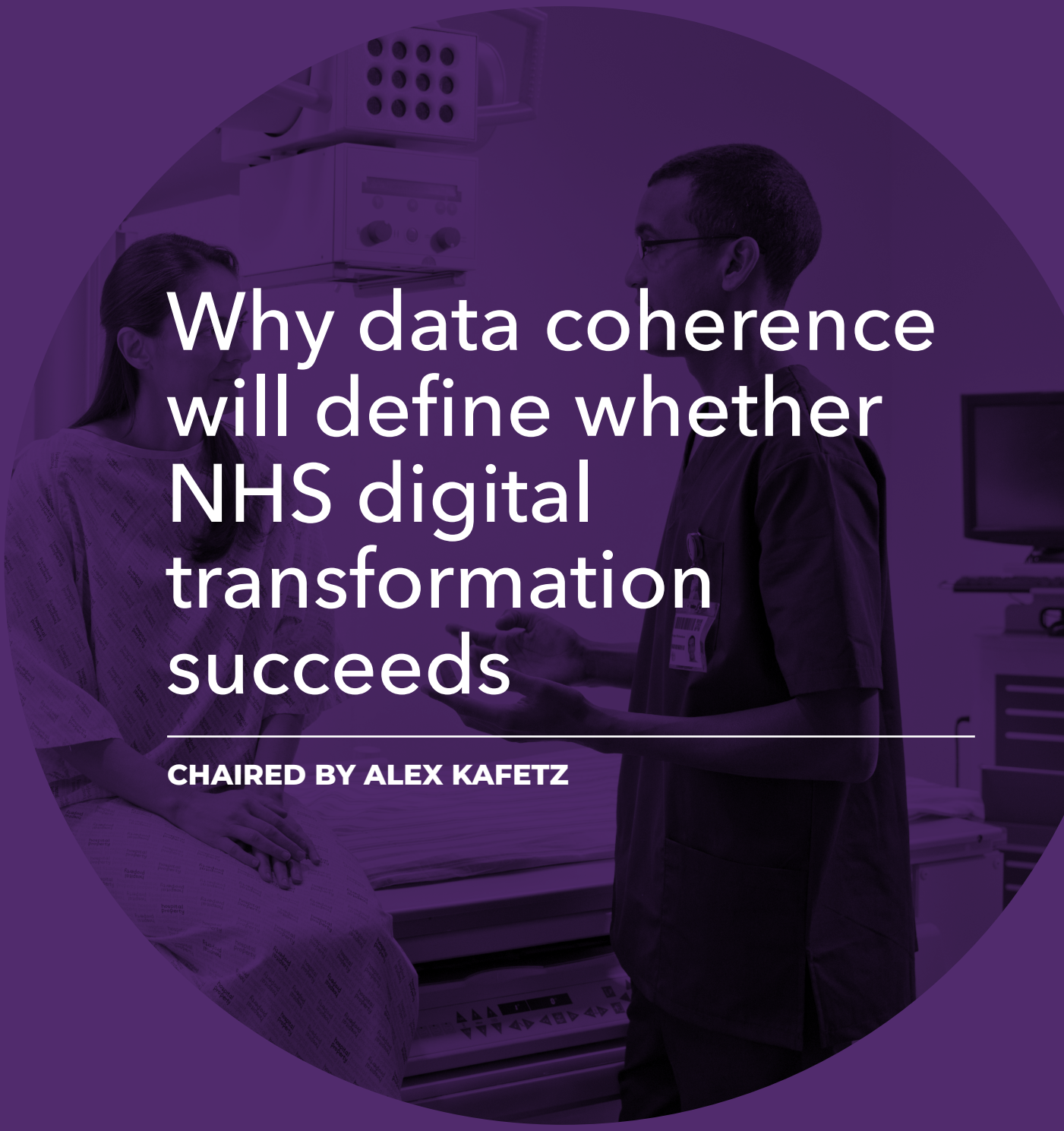
PUBLIC POLICY PROJECTS

INSIGHT • ANALYSIS • INTELLIGENCE

INSIGHTS



Why data coherence will define whether NHS digital transformation succeeds

CHAIRED BY ALEX KAFETZ

CHIME INTERNATIONAL™ RLDatix

Contents

ATTENDEES

Alex Kafetz
Non-Executive Director, Care Quality Commission

Antonia Frost,
Chief Nursing Information Officer, Sussex Community NHS Foundation Trust

Becca Robinson
Digital Clinical Specialist, Sussex Community NHS Foundation Trust

Chris Plummer
Chief Clinical Information Officer, Newcastle University

Claire Lemer
Chief Strategy Officer, Birmingham Women's and Children's NHS Foundation Trust

Diarmaid Crean
Digital Transformation Health Leader & Advisor, DC Digital Consultant Ltd

Dione Rogers
Deputy Chief Nurse and Chief Nursing Informatics Officer, Barking, Havering and Redbridge University Hospitals NHS Trust

Jagdip Grewal
EPR Technical Lead, Whittington NHS Trust

Jane Dwelly
Vice President, CHIME International

Julia Scott
Chief Multiprofessional Informatics Officer, Dartford & Gravesham NHS Trust

Justin Campbell
Senior Vice President, RLDatix

Masood Nazir
Chief Clinical Information Officer, NHS Birmingham and Solihull Integrated Care Board

Oya Celiktutan
Reader in AI & Robotics, King's College London

Richard Brownhill
Head of Improvement, NHS

Ravinder Sahota
Group Chief Information Officer, Dudley Group and Sandwell West Birmingham Hospitals

Rt Hon Stephen Dorrell
Chair, Public Policy Projects

Key Information

ABOUT PPP

Public Policy Projects (PPP) is an organisation operating at the heart of health and life sciences policy delivery. We bring together senior leaders and practitioners in the public and private health and life sciences sectors to find realistic solutions to the most pressing issues relating to health and care delivery.

ACKNOWLEDGEMENTS

This report, authored by Gabriel Blaazer (Editorial Manager at PPP) summarises the insights from a roundtable organised by PPP and CHIME International, supplemented with supporting and contextual evidence. The roundtable was chaired by Alex Kafetz, Non-Executive Director at Care Quality Commission, and held under the Chatham House Rule. A full list of roundtable delegates is included at the end of this report.

RLDatix has provided sponsorship for this report and roundtable from which it draws. Representative of RLDatix, Justin Campbell, participated at the roundtable to share subject matter expertise as prompted. PPP has retained full editorial control over the roundtable agenda and report contents. The views and opinions expressed in this report do not necessarily reflect those of PPP nor RLDatix, nor should it be presumed that any view or opinion is necessarily reflective of any individual participant of the roundtable.

NEXT STEPS

The roundtables and their related insight reports can be found on PPP's website. These insights inform deliberations in the Data and Digital Innovation Theatre at PPP's twice annual Integrated Care Delivery Forum.

Stakeholders interested in contributing to these discussions can contact David Duffy, PPP's Head of Content and Policy, at David.Duffy@PPPInsight.com

Foreword

ALEX KAFETZ

Healthcare systems today face a critical challenge: ensuring that data can move as effectively as patients do. While the NHS has made significant progress in digitising services and implementing electronic patient records, too much information remains fragmented across organisations, systems and care settings. As a result, the full benefits of digital transformation are not always realised at the point of care.

It was my privilege to chair this roundtable discussion, bringing together leaders from across the NHS, industry and academia to explore how data can better support the ambitions set out in the NHS 10-Year Health Plan. What emerged was a thoughtful discussion that moved beyond technology alone and focused on the foundations required to turn data into meaningful improvements in care.

One of the strongest themes raised by delegates was that the challenge facing the NHS is no longer strictly about digital adoption. The NHS is now largely meeting digital ambitions, yet clinicians and operational teams continue to encounter fragmented information, limited interoperability and inconsistent data quality. Delegates emphasised that data coherence – ensuring information is accessible, trusted and available when and where it is needed – must become the next priority.

The discussion also highlighted the importance of designing systems around the needs of those who use them. Data quality depends not only on technical infrastructure, but on workforce engagement and confidence that the information being collected delivers tangible value for patients and professionals alike. Without this connection, even the most sophisticated systems risk becoming administrative burdens rather than clinical assets.

Delegates were equally clear that trust and transparency are essential to enabling effective data sharing. Whether among healthcare professionals or the public, confidence is strengthened when there is clarity around how information is used and the benefits it delivers. Building this trust will be fundamental to supporting more integrated models of care and unlocking the potential of advanced analytics and artificial intelligence.

As the NHS continues its digital transformation journey, we must remember that success will not be measured by the volume of data collected, but by our ability to use it effectively. Achieving coherent, interoperable and clinically meaningful data will be essential if we are to improve care coordination, support population health management and ensure information follows the patient across the health and care system.

Alex Kafetz
Report chair, Independent Advisor and Non-Executive Director at the Care Quality Commission

Key Insights

1. **Data coherence is now the central test of NHS digital transformation**

   The NHS has made significant progress on digital adoption, but this has not yet created a coherent information environment. Patient data remains fragmented across organisations, systems and care settings, limiting the benefits of digital transformation at the point of care.

2. **The NHS already holds the data it needs, but cannot always use it effectively**

   The central challenge is not a lack of data, but the difficulty of bringing information together in a form that is accessible, trusted and clinically useful. Data only creates value when it supports decisions at the point of need.

3. **Data quality depends on frontline value, not compliance alone**

   Clinicians are often asked to enter large volumes of information without seeing clear benefits in their day-to-day work. Data quality will improve when staff receive value back through meaningful metrics, real-time insights and tools embedded in clinical workflows.

4. **Legacy data must be activated, not simply retained**

   EPR transformation creates a critical opportunity to reshape how historical patient information is managed. Legacy data must be archived in structured, accessible ways so it can be searched, surfaced and used at the point of care.

5. **The NHS must move from data collection to actionable insight**

   Centralised datasets and data warehouses can support population-level analysis, but they are not enough on their own. Different users need different information, and insight must be translated into context-specific action within clinical and operational workflows.

6. **Trust in data sharing depends on transparency and visible benefit**

   Concerns about data sharing often stem from a lack of clarity about purpose, access and benefit. Patients and staff need to understand who can use data, why it is being used and how it improves care.

7. **Patient agency must become a practical feature of data governance**

   NHS organisations act as stewards of patient data, but genuine stewardship requires greater patient visibility and control. Patients should be able to understand how their data is used, see who has accessed it and contribute to the quality of their records.

8. **Population health and prevention require data beyond traditional clinical settings**

   Neighbourhood health and prevention depend on a wider view of the factors shaping health, including data from local authorities, VCSE organisations and wider system partners. Without these sources, data transformation risks remaining too narrowly focused on clinical care.

Roundtable findings

INTRODUCTION

At a recent roundtable hosted by Public Policy Projects in partnership with RLDatix and CHIME International, senior leaders from across the health and care systems reflected on a challenge now central to NHS transformation: how to turn large volumes of fragmented clinical, operational and population data into information that genuinely improves care.

The roundtable took place following a period of significant flux for digital investment in the NHS. The government's soon-to-be-published Digital and Data Delivery Plan is expected to assert that digital investment will drive almost half of the productivity targets outlined in the NHS 10-Year Health Plan, while placing a firm emphasis on shifting care into community settings. The 2025 Spending Review committed up to £10 billion for NHS technology and digital transformation by 2028/29, alongside a wider £1.9 billion cross-government digital package to strengthen data infrastructure, prevention capabilities and access to patient information.[1]

> *Data was very prominent across the 10-year plan in a way that perhaps it has not been in some of the plans in the past.*

Complementing this, several recent policy documents and frameworks (including the recently announced Health Bill) place population data and intelligence as central functions of system leadership, with expectations on local place-based partnerships and 'integrator' organisations to assess population need, manage risks, and direct resources through more sophisticated use of data and analytics.[2, 3, 4]

Yet despite this progress and investment, delegates were clear that the NHS continues to face a more fundamental tension. While digital adoption has accelerated, data remains fragmented across systems, inconsistently structured, and often disconnected from clinical workflows. Consequently, the benefits of digitalisation are not yet consistently realised in frontline care or system-wide decision-making, despite continuing investment in this area through initiatives including the Federated Data Platform (FDP).

Data coherence

'Data coherence' refers to data that is consistently structured, interoperable across organisational boundaries, and available within clinical and operational workflows in a way that supports decision-making.

This objective increasingly aligns with national policy. Provisions set out in the Health Bill (currently at second reading) support the development of a Single Patient Record, intended to enable health and care professionals to access relevant patient information more easily across organisational boundaries. The government's stated ambition is to reduce fragmentation, improve care coordination and ensure that information follows the patient through different parts of the health and care system.

While the NHS already holds large volumes of patient information, the challenge identified by delegates was not primarily one of data collection. Rather, it was whether information can be brought together in a form that is accessible, trusted and clinically useful at the point of care.

Joining this discussion were NHS Trust and ICB CCIOs, CNIOs, CDOs, CMOs and Medical Directors, interoperability and data experts, and industry representatives.

Digital adoption has outpaced data coherence

Legacy structures continue to fragment patient data across the NHS, limiting the impact of digital transformation in practice. Proposals set out in the Health Bill constitute a consolidated approach to national digital infrastructure and data functions, alongside strengthened departmental oversight of key system capabilities. The intent is to reduce fragmentation not only in systems themselves, but in the way national responsibilities for data, standards and digital services are organised.

As reflected by the near ubiquitous implementation of electronic patient records (EPRs) across NHS trusts, the NHS is now a largely digital organisation.[5] However, delegates noted that digital adoption has not translated into coherent data or a single information environment. Patient data remains fragmented across multiple systems, creating risks to patients, disrupting clinical workflows, and limiting continuity of care. If clinicians cannot see relevant historical information at the point of care, the existence of that data elsewhere in the system becomes of limited practical value, and, to many, its practical value is effectively nil.

> *You can have the systems connected, but they are never going to do true data interoperability if they are not talking the same language.*

Data fragmentation becomes most acute at organisational boundaries, precisely where continuity of care matters most. Incomplete information at the point of handover can result in patients repeatedly having to recount their medical history, while increasing the risk that important clinical information is unavailable when decisions need to be made.

EPR transformation represents a defining opportunity to reshape how data is managed across the care continuum. Decisions taken at this stage – particularly around migration versus archiving – will directly determine whether historical patient data remains accessible, usable, and clinically meaningful after go-live.

As digitalisation continues at pace, there is clear consensus that the focus must turn to improving data quality and integrity at the point of care, including how it is structured, how it fits within workflows, and whether it is available when and where decisions need to be made. When IT systems are updated, legacy data needs to be archived in a structured way so it can be readily accessed where needed. This challenge goes beyond individual organisations. Achieving meaningful data quality depends on bringing together data from across acute, primary and population health systems into a structured, interoperable format. Only then can the NHS generate reliable insights at scale, and create the high-quality and clinically meaningful data needed for safe AI and innovations.

Data quality depends on whether it delivers value

If fragmentation represents a structural constraint, then engagement reflects a more fundamental issue in how the workforce itself interacts with data. Good quality data depends chiefly on the behaviours of those entering information on the frontline. These behaviours are in turn shaped by how useful the workforce perceives that data to be, as well as how easy digital tools themselves are to use and whether system design makes it straightforward for staff to enter information accurately and consistently as part of routine care.

Delegates indicated that at present, this relationship is often unbalanced. Clinicians are required to input large quantities of information into digital systems, but the value of that effort is not always apparent in their

day-to-day work. If data entry is perceived as an administrative requirement rather than as a potential clinical asset, engagement declines and data quality becomes inconsistent.

Data delivers maximum value only when embedded within clinical workflows, not held in disconnected systems or warehouses. Legacy information should not just be retained, but activated, turning clinical and operational history into live intelligence at the point of care. This enables better decisions while reducing risk, workload, and repeat harm.

This speaks to a deep-rooted cultural issue, where data collection has historically been approached through top-down policy that mandates data access and format, with limited transparency around how information is then used, and little recognition or communication of the role frontline staff play in shaping data quality. Although mandates are necessary to drive compliance, they alone cannot sustain the level of engagement needed to improve data quality over time. Compliance also tends to focus on performance and productivity data rather than other valuable sources such as patient reported outcomes and experience.

> *The fundamental way in any industry to increase data quality is to make the people who put the data in get value out of the data they are using... currently the NHS people feed the beast and get no value from the data.*

Alongside these challenges, delegates expressed concern about the volume of data being collected relative to the value it delivers, arguing that a significant proportion of information captured by EPR systems is never used in a meaningful way.

This creates a growing and unnecessary documentation burden for clinicians, who may spend more time entering data than acting upon it. In some cases, processes have been digitised without being fundamentally redesigned, limiting the benefits of transformation and embedding inefficiencies in clinical workflows.

Delegates agreed that ultimately, data quality must be visibly aligned with clinical value. This means creating clearer feedback loops, where data is returned to clinicians in ways that support clinical decision-making, be that through meaningful metrics, real-time insights, or digital tools embedded in clinical workflows. Visibility and ownership are critical to enable this shift; if clinicians can see how data informs care, and feel a degree of control over it, it can become something they actively invest in, rather than another task to complete.

Delegates also noted that patients have an increasingly important role in supporting data quality. Government proposals envisage greater patient visibility of information held about them through digital channels, creating opportunities for inaccuracies to be identified and corrected. In this sense, improving data quality may become a shared responsibility between healthcare organisations, professionals and patients themselves.

From data to insight, and from insight to action

While the NHS holds vast quantities of data, the system often struggles to translate it into actionable insight.

Delegates described the difficulty of working with large, aggregated datasets that lack context to support decision-making. What is useful for a community nurse may differ from what a paediatrician or GP needs, even when drawing on the same underlying information. Data may be available, but it may not be immediately meaningful or usable without additional context.

Centralised approaches can support population-level analysis, but they must be supplemented by tools that provide timely and relevant information

within clinical workflows and at the point of care. Without this translation from data to context-specific action, the potential value of NHS datasets will never be fully realised.

> *A data warehouse is great from an analytical population health management perspective. But do you have the institutional knowledge to surface that up at the point of care?*

This is particularly important for historical and legacy records. The information needed to understand a patient's story sits in numerous old systems, scanned documents or unstructured formats. Unless that information can be indexed, searched and surfaced with clinical context, it remains technically retained but practically underused.

Trust relies on transparency

Alongside these structural and behavioural challenges, delegates discussed how a lack of trust in sharing data, both among the staff and the public, shape how data is shared and used across the NHS. For both groups, concern about data sharing typically stems less from opposition to the principle itself, and more from a lack of clarity over its intended purpose.

> *The narrative is missing. When you want to converge data, the bit we seem to get wrong is the purpose and the reasons why.*

National strategies have placed substantial emphasis on the safe and secure use of data, but have been less effective at demonstrating how data use translates into tangible improvements in care. Unless there is a clear and compelling case for data sharing, uncertainty persists among both staff and the public over who can access NHS data, for what purpose, and to whose ultimate benefit.

Improving transparency is therefore an important step to improving trust, but is insufficient on its own. Trust is built through clear communication that demonstrates value in practice, meaning that patients need clear visibility over how their data is used, and by whom, and they need to see evidence that data sharing is making a difference. Where data sharing is already improving care, the NHS should be communicating this actively and consistently. This must extend beyond process and access, and ensure that clinically meaningful information – including surgical volumes and outcomes – is routinely available to patients as a matter of course.

From stewardship to agency

Despite broad acknowledgement that patients should have greater visibility and agency in relation to information held about them, delegates argued that this principle is not consistently reflected in how data is managed and accessed across the NHS.[6]

> *Whose data is it? There is only one answer: it cannot be the NHS' data. It has to be the individual's data.*

It is worth being precise about what the current framework establishes: NHS organisations are stewards of patient data, not its owners. Under UK data protection law and the Caldicott principles, they hold data in trust on behalf of patients – a role that implies accountability and transparency, not institutional control.[7, 8]

Delegates argued that in practice this distinction is not always observed, and that stewardship has too often functioned as a justification for restricting access rather than enabling it. Genuine stewardship requires that patients are informed about how their data is used, that they can see who has accessed

it, and that its use demonstrably serves their interests. By that standard, the current model falls short.

Delegates distinguished between two distinct but interrelated data assets. The first are clinical records, maintained by the NHS to support care delivery and accountability. The second are individuals' wider health records, encompassing lifestyle, behavioural factors, and the wider determinants of health – the kinds of data that profoundly shape health outcomes but rarely appear in clinical systems. Both are essential, yet neither has yet been consistently aggregated in a way that supports a fully integrated, person-centred view, available for patients and clinicians at the point of use.[9] Delegates noted that this gap is not simply a technical problem, but one that reflects a longstanding tendency to define health data narrowly, in ways that serve institutional reporting requirements rather than individual care.

Delegates noted that too much focus is given to clinical datasets, which do not capture the full context required to manage an individual's health effectively. This inhibits the NHS' broader population and neighbourhood health ambitions, which depend on a wider view of the factors shaping health at community and neighbourhood level. Systems that can incorporate and connect these disparate datasets, including those held by local authorities, VCSE organisations and other partners, are what will ultimately unlock a genuinely holistic view of patients and enable the shift towards prevention that national policy now demands.

Separating data from systems

Delegates identified the role of system suppliers as a significant and underappreciated barrier to data coherence. They argued that in practice, vendors have too often behaved as de facto owners of data held within their systems, making extraction and interoperability difficult, and creating commercial incentives to maintain dependency. As one delegate observed, the hierarchy of data ownership is clear in principle – the patient first, the NHS second, the vendor never – yet contractual frameworks have not consistently reflected this.

Standards such as DAPB4020 and provisions within the Data (*Use and Access*) Act 2025 begin to address this, but delegates expressed that compliance alone is insufficient without stronger contractual requirements and clearer consequences for non-conformance.[10, 11] As a condition of procurement, data must remain genuinely distinct from the applications used to create or manage it. This will allow organisations to change systems, consolidate records, and adopt new technologies without losing access to patient history or become constrained by vendor lock-in.

Interoperability is still unfinished business

While there has been major progress, delegates also argued that interoperability remains inconsistent across the NHS. Progress has been made in establishing common standards and expectations, but their implementation is not yet consistent across the system.

While interoperability has officially been mandated since the Health and Social Care Act 2012, these provisions were strengthened by information standard DAPB4020 (2022), and the Data Act 2025, which include requirements for all vendors to conform to shared standards.[12, 13, 14]

Primary care illustrates what this progress can look like. The widespread adoption of SNOMED CT since 2018 has enabled more consistent data capture and improved the ability to share

information.[15] However, delegates argued that equivalent levels of standardisation are not yet embedded across secondary care, limiting the extent to which data can move seamlessly between organisations.

This gap is reflected in day-to-day clinical practice. Delegates indicated that many clinicians continue to rely on manual workarounds, re-entering information, transcribing between systems, or working with incomplete records. While national direction is clear, these inefficiencies persist where standards have yet to be fully implemented or adopted.

A key component of interoperability, therefore, is ensuring that different systems can interpret and use data in the same way. Delegates asserted that the ultimate objective is to create a sufficiently coherent view of information that professionals working in different settings can make decisions based on the same understanding of a patient's circumstances. Without this shared view, technical interoperability alone may deliver only limited clinical benefit.

Orchestrating with system partners

Data from outside traditional healthcare settings, such as from voluntary, community and social enterprise (VCSE) organisations can play a crucial role in prevention, neighbourhood-level care, adding insight into the wider social determinants of health. However, these sources are not consistently integrated into NHS data systems.

> *If neighbourhood health is to truly work, then we must consider how data from wider system partners flows in.*

Delegates noted that effective orchestration is likely to depend on clearer national stewardship of data and digital infrastructure. The Health Bill sets out proposals to centralise a number of data and digital functions and strengthen oversight of system-wide capabilities, with the aim of improving consistency in standards and enabling more coherent use of data across organisational boundaries.

Making best use of this data will require effective system-level coordination; enabling seamless data sharing across organisational boundaries could support more proactive and preventative models of care, but depends on clear information governance, shared standards, and aligned priorities across organisations.

Without integrating these wider data sources and improving system orchestration, data transformation risks remaining incomplete and too narrowly focused on clinical settings alone.

Turning ambition into delivery

Taken together, this discussion highlighted a familiar position for the NHS: clear ambition, supported by investment into data and digital infrastructure, but uneven delivery.

A clear thread that emerged was the need to now focus on how data can and should support care in practice. This requires systems that work for clinicians, standardised data that flows effectively across organisational boundaries, and clear communication about the benefits of data use for patients.

The real test for NHS digital transformation will be whether data can follow the patient, retain its clinical meaning, and support decisions at the point of care, and of future intervention or prevention. In many respects, this is the challenge that current national policy is attempting to address through initiatives such as the Single Patient Record.

Achieving this requires a deliberate focus on data coherence across the full lifecycle

– from migration and archiving through to interoperability and governance – supported by clear national stewardship of data and digital functions, stronger oversight of system capabilities, and the consistent application of standards across organisational boundaries.

These are not technical considerations, but core clinical and operational foundations. Getting this right will enable safer care, improved productivity, and truly integrated models of delivery across the NHS.

REFERENCES

1. HM Treasury (2025). Spending Review 2025. Available from: https://www.gov.uk/government/publications/spending-review-2025-document/spending-review-2025-html
2. NHS England (2025). Model Integrated Care Board – Blueprint v1.0. Available from: https://www.digitalhealth.net/wp-content/uploads/2025/05/Model-Integrated-Care-Board-%E2%80%93-Blueprint-v1.0.pdf
3. Department of Health and Social Care (2026). Neighbourhood health framework. Available from: https://www.gov.uk/government/publications/neighbourhood-health-framework/neighbourhood-health-framework
4. UK Parliament (2026). Health Bill. Available from: https://bills.parliament.uk/bills/4124
5. NHS England (2025). Digitising the frontline. Available from: https://www.england.nhs.uk/digitaltechnology/digitising-the-frontline/
6. NHS England (2025). Information governance and data protection. Available from: https://www.england.nhs.uk/long-read/information-governance-and-data-protection/
7. Gov.uk (2020). The Caldicott Principles. Available from: https://www.gov.uk/government/publications/the-caldicott-principles
8. NHS Digital (2022). DAPB4020: UK Core Fast Healthcare Interoperability Resources (FHIR) Release 4 (R4) Governance. Available from: https://digital.nhs.uk/data-and-information/information-standards/governance/latest-activity/standards-and-collections/dapb4020-uk-core-fhir-r4-governance
9. UK Parliament (2025). Data (Use and Access) Act 2025. Available from: https://www.legislation.gov.uk/ukpga/2025/18/contents
10. UK Parliament (2012). Health and Social Care Act 2012. Available from: https://www.legislation.gov.uk/ukpga/2012/7/contents
11. NHS Digital (2022). DAPB4020: UK Core Fast Healthcare Interoperability Resources (FHIR) Release 4 (R4) Governance. Available from: https://digital.nhs.uk/data-and-information/information-standards/governance/latest-activity/standards-and-collections/dapb4020-uk-core-fhir-r4-governance
12. UK Parliament (2025). Data (Use and Access) Act 2025. Available from: https://www.legislation.gov.uk/ukpga/2025/18/contents
13. SNOMED CT: working smart, not harder (2023). British Journal of General Practice. Available from: https://bjgp.org/content/73/727/77
14. UK Parliament (2025). Data (Use and Access) Act 2025. Available from: https://www.legislation.gov.uk/ukpga/2025/18/contents
15. SNOMED CT: working smart, not harder (2023). British Journal of General Practice. Available from: https://bjgp.org/content/73/727/77