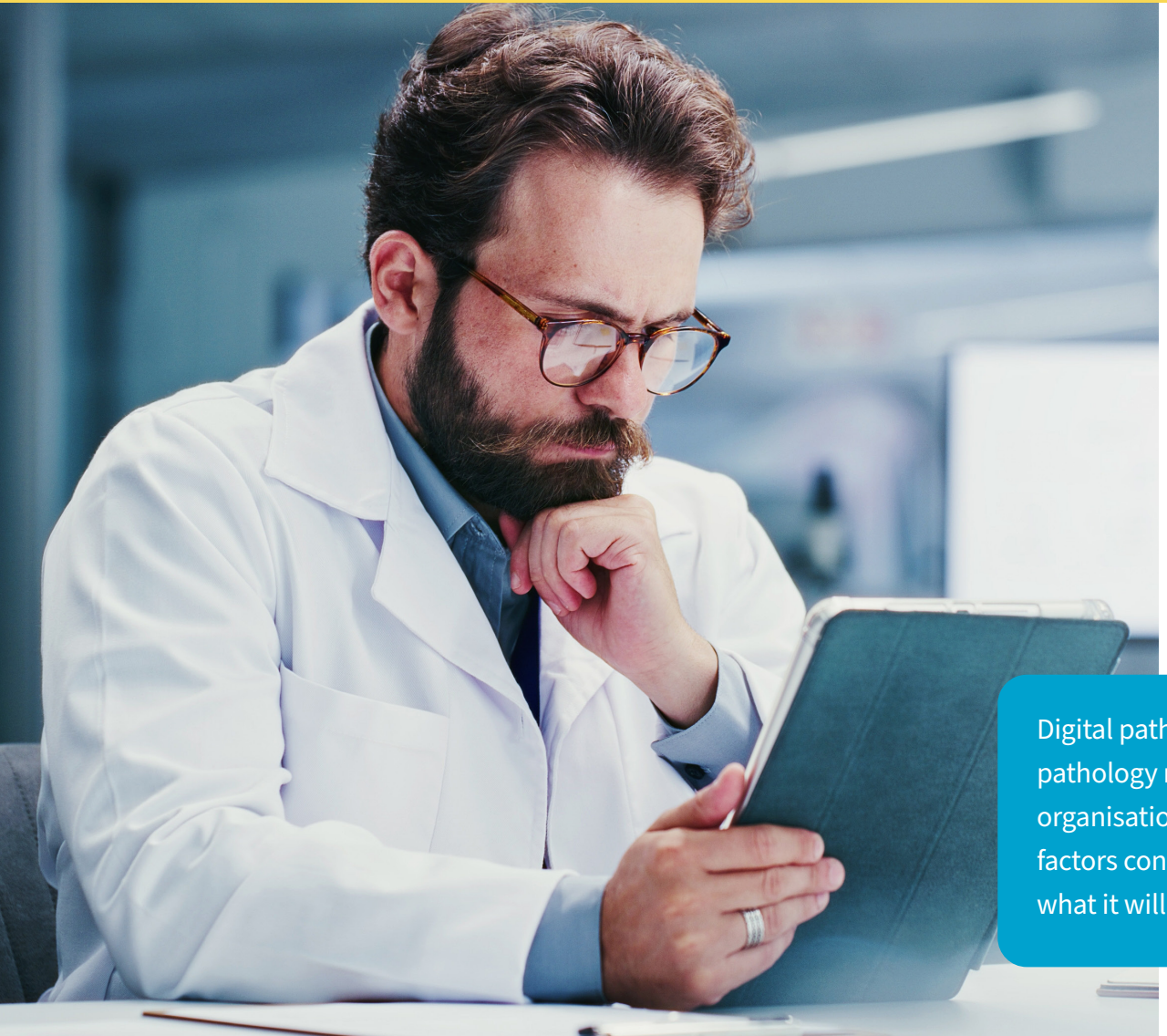
GE HealthCare

Unlocking collaboration in digital pathology networks



Digital pathology is now generally part of routine practice across many UK centres. Laboratories are digitising workflows and expanding whole slide imaging programmes, creating new opportunities to transform how pathologists collaborate across organisations, networks and regions. However, seamless collaboration remains difficult to achieve, despite advances in technology.

In late 2025, GE HealthCare convened a **Digital Pathology Roundtable** to examine how pathology organisations across the UK are approaching this challenge. The event brought together clinical pathologists, service managers, and digital and IT specialists from NHS Trusts, Health Boards, pathology networks and private providers. Discussions around enhancing network communication and collaboration reinforced a growing recognition that while digital pathology has the potential to connect laboratories in entirely new ways, technical fragmentation, governance barriers and cultural factors continue to limit progress.

Digital pathology creates new opportunities for collaboration across pathology networks, enabling cases and expertise to be shared between organisations. But fragmented systems, governance barriers and cultural factors continue to limit progress. Insights from a UK roundtable explore what it will take to enable truly connected services.

Interoperability as the foundation

At the heart of collaborative digital pathology lies a simple requirement: systems must be able to communicate with one another. Interoperability between laboratory information systems (LIS), image management systems (IMS) and other digital infrastructure forms the foundation for cross-site reporting and case sharing.

Networks that have implemented shared systems demonstrate how effective interoperability can streamline workflows and distribute workloads across multiple sites if necessary. In contrast, organisations operating fragmented systems often remain confined to institutional silos, even when digital slides are available. As networks modernise their digital infrastructure, procurement strategies will need to prioritise interoperability from the outset. Systems that integrate seamlessly and support open standards will be essential to enable collaboration at scale without the need for costly reinvestment.

Governance and data sharing

Even where technology allows images to be shared, governance frameworks often get in the way. Information governance remains one of the most persistent barriers to network collaboration.

Data-sharing policies frequently differ between trusts, creating delays and administrative complexity when cases need to move between organisations. These inconsistencies can lead to duplication of effort and, in some situations, reliance on external providers to facilitate case transfers.

More consistent national data-sharing frameworks would allow seamless case exchange within NHS networks. Standardised governance would make it easier to enable second opinions, distributed reporting and more effective use of existing capacity.

The case-sharing opportunity

The limitations of current systems are particularly visible in the process of outsourcing cases. In many organisations, physical slides still need to be transported between laboratories when additional reporting capacity is required. These transfers can take several days, or even a week, delaying results and increasing costs.

Digital pathology offers the potential to transform this process. When systems are interoperable and governance frameworks allow secure data exchange, digital cases can be shared instantly between organisations. This enables laboratories to redistribute workload more efficiently and access expertise across networks without the delays associated with physical slide transfer.

Over time, this approach could reduce reliance on external outsourcing and enable laboratories within NHS networks to collaborate directly. Instead of sending work outside the system, capacity could be shared dynamically across collaborating laboratories.

The human factor

Technology alone, however, cannot deliver network collaboration; cultural and organisational factors play a significant role in determining whether digital pathology networks succeed. Entrenched working practices, organisational silos and resistance to change can all slow adoption of new collaborative models. Successful networks are often those that invest in engagement alongside technology, supporting pathologists and laboratory teams through phased implementation, training and regular communication between sites.

Digital pathology is also reshaping workforce expectations. Younger consultants and trainees are often strong advocates for digital workflows, and access to digital systems is increasingly seen as an important factor in recruitment and retention.

Managing growing datasets

As collaboration expands and more cases are shared across networks, the volume of digital pathology data continues to grow. Storage practices vary widely across organisations, ranging from around 30 days of hot storage in some settings to indefinite archiving in others.

Different pathology specialties may also have different requirements for how long results should be retained. For example, paediatric cases may need to be kept longer than high-volume benign biopsies. At the same time, retaining larger datasets can support research and emerging technologies that rely on access to extensive image archives. Balancing these considerations will require clear professional guidance. National recommendations that recognise both clinical value and infrastructure constraints could help organisations develop more consistent retention strategies.

Lessons from international models

There are several international examples that demonstrate what fully connected digital pathology systems can achieve. Participants highlighted countries such as Sweden and the Netherlands as early leaders, where they understood that many laboratories and regional networks are implementing fully digital workflows for routine pathology diagnostics. These systems enable pathologists to review cases remotely, share expertise between institutions and distribute workloads across networks. While the UK healthcare system differs structurally, these models clearly illustrate the potential benefits of coordinated digital pathology strategies.

Suppliers also have an important role to play in enabling this transition. Achieving interoperability across networks will depend on vendors adopting open standards and ensuring compatibility between systems.

Looking ahead

The roundtable hosted by GE HealthCare highlighted how strongly the community is aligned around the need for better connectivity between laboratories, and the participants agreed that the potential benefits of connected pathology services are substantial. Interoperable systems and consistent governance frameworks could allow laboratories to share cases, access specialist expertise and redistribute workload more efficiently than is currently possible.

The first step towards this goal is to enable collaboration within individual pathology networks, ensuring systems and processes allow cases to move smoothly between sites. From there, greater connectivity between networks could allow regional collaboration and more flexible use of expertise and capacity. Ultimately, the goal is a pathology ecosystem where cases, data and expertise can move securely and seamlessly across organisations. Achieving this will require coordinated progress in technology, governance and workforce engagement. But if these elements can be aligned, digital pathology has the potential to transform how services collaborate and create a more connected, responsive and resilient diagnostic system for the future.

The perspectives presented in this article reflect insights shared during the roundtable discussion and represent current experiences and expert opinion from participants, rather than formal positions of any individual organisation.

GE HealthCare