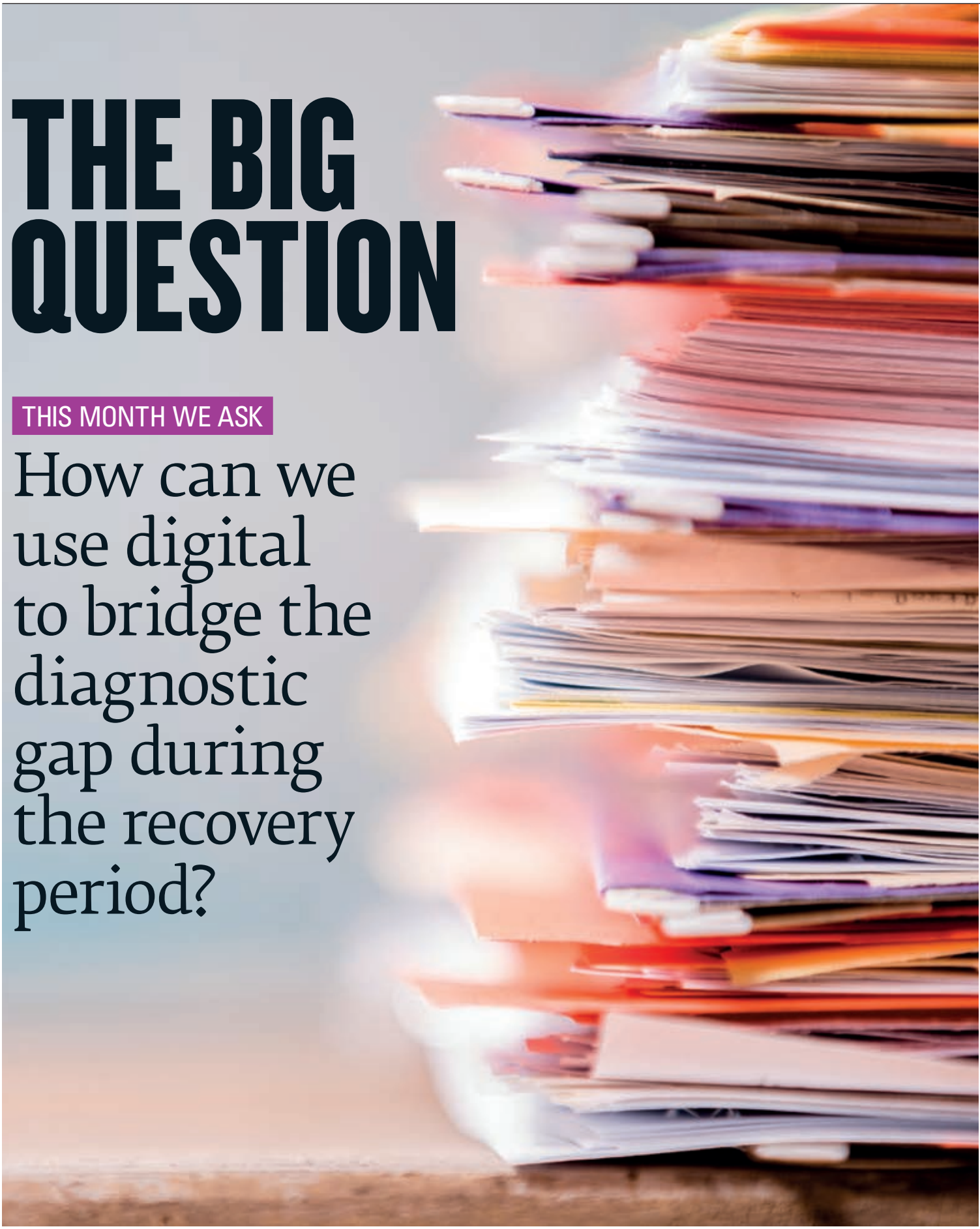
THE BIG QUESTION



THIS MONTH WE ASK

How can we use digital to bridge the diagnostic gap during the recovery period?

Ashley Ballard

Senior Biomedical Scientist
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The most obvious way in which digital systems can help to bridge the diagnostic gap is in histology. Digital pathology offers significant productivity gains, which is more important now than ever, given the waiting lists. Key to these improvements is the promotion of more collaborative working and the pooling of workloads across and between pathology networks, as well as the enabling of greater sub-specialisation amongst pathologists.

With the addition of artificial intelligence applications that can aid in semi-quantitative test scoring, recommend additional testing based on the H&E stain, and identify areas of interest that may be cancerous, these productivity gains are further amplified.

Digital pathology is also a key education tool. As it is adopted by more histology departments, the availability of digital case archives and real-time second opinions will hopefully improve training opportunities for biomedical scientists wishing to advance down the dissection and reporting pathways, easing the burden on pathologists.

However, digital pathology is a long-term investment and although being adopted by many pathology departments, it is likely to be a few years before its use is widespread across the UK. Quicker wins can be gained with simpler systems, such as voice recognition, specimen tracking systems, or even just modern office applications that encourage collaborative working and which can often be implemented in months, not years.

IMAGE: ISTOCK

Chloe Knowles

Specialist Biomedical Scientist
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Digital technology within the histopathology process has provided us with workflow efficiencies that may not have been possible with traditional methods, and can be used to aid laboratories during the busy recovery period. The use of digital software, such as tracking systems, can ensure cases are prioritised and well managed from the moment they arrive in the laboratory, and the use of new technologies such as autosectioners can reduce pressures on the laboratory workforce. Digital pathology can provide a faster means of networking and sharing workload to tackle backlogs that have built up as part of the pandemic. Digital images can be shared with other experts across a network faster than traditional methods, meaning patients get their results faster, and are not left too long in limbo waiting for their treatment to start.

In terms of bridging the gap for diagnostics, digital pathology could be used to facilitate training for biomedical scientists to reduce pressures on the reporting pathologists, and streamline cases more efficiently. Training biomedical scientists to recognise certain characteristics of disease could allow the laboratory to triage cases.

Laboratories could also utilise the benefits of artificial intelligence within healthcare, and use it to perform time-consuming tasks, such as mitotic cell counting. This will potentially speed up reporting of cases, and allow pathologists to maintain their brain power to focus on more complex cases.

Darren Treanor

Consultant Histopathologist
Leeds Teaching Hospitals NHS Trust / National Pathology Imaging Co-operative (Director)

One of the clichés about a crisis is that it accelerates transformation and the adoption of new solutions. But I think the COVID-19 pandemic has led to a digital transformation of healthcare almost overnight.

Virtual team meetings, remote working, and patient video consultations have been talked about for years, but were always on the list of things for the future – too hard, too complex, too expensive. Digital pathology fits into this category. NHS departments fortunate enough to be amongst the early adopters have used this technology creatively during the pandemic. We've seen it used for remote working, allowing pathologists to report cases from home to maintain pathology services, and to continue teaching and training during periods of social distancing. "Zoom fatigue" is real and there are certainly times when work is better done in person, but it is clear that digital technologies will continue to help in the recovery of the NHS from this pandemic. While there is no replacement for a complete workforce of highly trained, valued staff, digital technologies in pathology have reached a level of acceptance that would make any post-COVID NHS without digital tech unthinkable. The National Pathology Imaging Co-operative (NPIC.ac.uk) programme, supported by £50m from the government's Industrial Strategy Challenge Fund and managed and delivered by UK Research and Innovation, will be part of this transformation.