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**UNIVERSITY HOSPITALS BIRMINGHAM NHS FOUNDATION TRUST**  
**BOARD OF DIRECTORS**  
**THURSDAY 28 OCTOBER 2021**

<b>Title:</b>	<b>TRANSFORMATION REPORT</b>
<b>Responsible Director:</b>	<b>Nick Barlow, Director of Applied Digital Health</b> <b>San Ting Gilmartin, Director of Capital Planning and Developments</b>
<b>Contact:</b>	<b>Phillippa Hentsch, Strategy Lead - Digital Transformation, 14321</b>

<b>Purpose:</b>	To present an update to the BOARD OF DIRECTORS
<b>Confidentiality Level &amp; Reason:</b>	NHS CONFIDENTIAL - Commercial
<b>Board Assurance Framework Ref: / Strategy Implementation Plan Ref:</b>	BAF - SR3/18 - Prolonged and/or substantial failure to meet operational performance targets SIP - #5 Substantially improve digital healthcare offer to patients SIP - #8 Use our resources as efficiently as possible to meet our financial improvement trajectory SIP - #10 Transform the model of care to ensure patients are seen in the right settings and to move lower acuity care off acute/specialist sites
<b>Key Issues Summary:</b>	<ul style="list-style-type: none"> <li>• To introduce the transformation across two key portfolios (digital transformation and physical estate transformation) to the Board of Directors.</li> <li>• To provide a quarterly update on progress, and to highlight significant developments, including: <ul style="list-style-type: none"> <li>○ Development of a comprehensive programme of work to improve the way we digitally communicate and engage with patients.</li> <li>○ Progress on the adoption of Artificial Intelligence in to clinical practice.</li> <li>○ An update on our collaborations and partnerships with third parties, working with UHB to transform the model of care.</li> <li>○ Commencement of Arden Cross Health Transformation programme.</li> </ul> </li> </ul>
<b>Recommendations:</b>	The BOARD OF DIRECTORS is asked to: 1. NOTE this transformation update in these portfolios.
<b>Signed:</b> Nick Barlow & San Ting Gilmartin	<b>Date:</b> 19 OCTOBER 2021

# UNIVERSITY HOSPITALS BIRMINGHAM NHS FOUNDATION TRUST

## BOARD OF DIRECTORS

THURSDAY 28 OCTOBER 2021

### QUARTERLY UPDATE ON TRANSFORMATION

PRESENTED BY DIRECTOR OF APPLIED DIGITAL HEALTH and  
DIRECTOR OF CAPITAL PLANNING & DEVELOPMENTS

#### 1. Background

1.1 UHB agreed the following three overarching strategic priorities:

- Maintaining standards of performance and improving continuously the quality of patient care in the face of rising demand.
- Integrating services to deliver consistently high quality care to all patients, wherever they enter the system, and to derive economies of scale.
- Transforming the model of health and care, using technology, to be more integrated, preventative and organised around people rather than institutions.

1.2 This paper provides an introduction to the progress being made to deliver the third strategic priority of transformation. Two key portfolios that are working to deliver this vision:

- Digital Transformation
- Physical Estate Transformation

This paper is the first quarterly update, introducing the work and highlighting progress for key projects and programmes.

#### 2. Digital Transformation

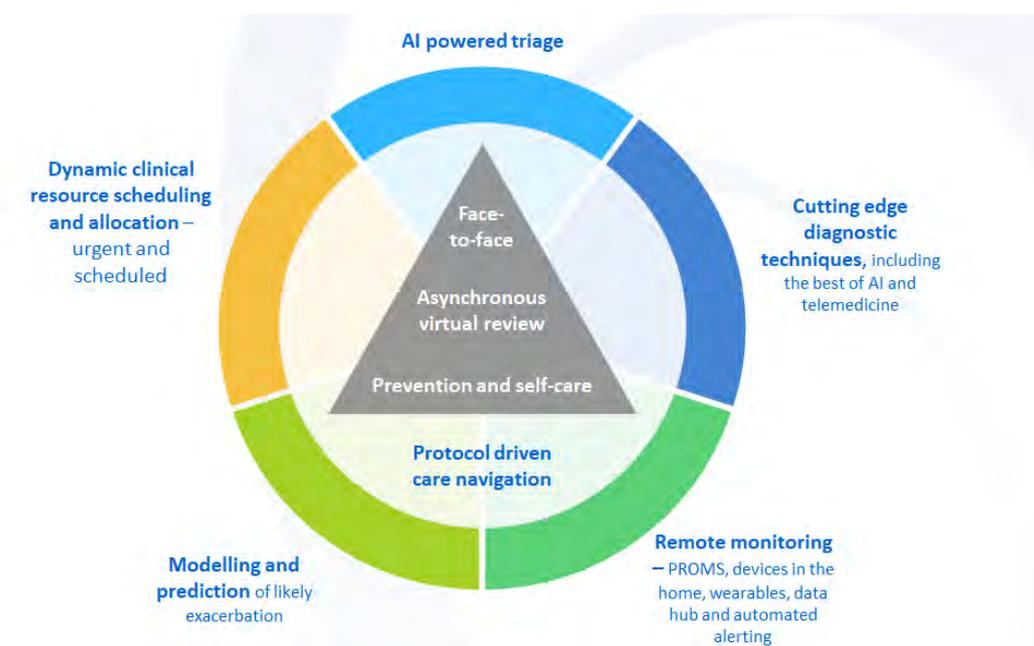
Building on the trust's strategy in 2018, the trust has revised its vision, strategic objectives and governance to deliver a new and ambitious digital transformation programme for the organisation.

The trust has a strong track record of being at the leading edge of adopting digital technologies to drive care delivery, and this programme now looks to accelerate this, exploiting the latest technologies for the benefit of our patients.

The trust's vision for digital transformation is underpinned by the following elements (figure 2). Our overarching vision is to design and deliver a more integrated, preventative model of healthcare, organised around people rather

than institutions. This will be enabled by:

- Digital first access to care
- Using cutting edge diagnostic techniques, including the best of AI
- Exploiting remote monitoring of patients at home and in the community
- Modelling and prediction of exacerbation
- Dynamic resource scheduling



The programme was set up in 2020 with three work streams:

- **Smart Diagnostics:** to provide accurate, efficient and timely diagnostic decisions to support the care a patient needs.
- **Smart Support:** to support citizens to stay well and effectively manage long term conditions at home and in the community.
- **Smart Access:** to provide rapid access for patients to the most appropriate help, in the right time and from the right person.

These are clinically led programmes, each with a clinical senior responsible officer (SRO): Paul Jordan, Clara Day and Neil Gittoes respectively.

Under the three workstreams, there are currently nine projects (Appendix A) within the programme.

### 3. Digital Transformation – Headline Progress Summary

3.1 Over the last quarter, there have been the following headline developments across the programme:

3.1.1 Introduced a new platform for digitally engaging and communicating with patients through the introduction of digital letters and notifications with DrDoctor. Through the introduction of this project, all patients are able to receive appointment text reminders, access letters straight from their phone or device and reschedule appointments. Patients are still able to opt-out of this service where they would prefer to receive a letter in the post.

Since launch, there have been around 2 million interactions with patients across the DrDoctor platform, with over 13,000 patients using the platform to help reschedule their appointments. The functionality has also been used to remotely assess patients on the waiting list: 7 services now using the platform to contact patients on the surgical wait list, with 4,000 patients contacted so far and about 40% of those having had clinical review resulting in a change in clinical priority.

DrDoctor functionality is now being explored to expand the use of Patient Initiated Follow-Up (PIFU) across the organisation. PIFU empowers patients' ownership of their care whilst allowing services to utilise available capacity wisely. Initially using UHB's core patient administration system (PAS) and manual processes, the trust went live with piloting this service in 4 specialities (MSK, gastroenterology, endocrinology and dermatology), and the trust will move to automated processes with DrDoctor in the coming months.

Building on the positive roll-out to date, discussions are on-going between UHB and DrDoctor to establish a more collaborative based partnership going forward to support the transformation of outpatients across the trust and improve the way we engage and communicate with patients.

- 3.1.2 A new video platform with DrDoctor has also launched in 2021 for all specialities. To date, more than 6,490 integrated video appointments have been scheduled with an additional 2,000 standalone video consultations. A recent transition of underlying video suppliers has provided additional features to further enhance the video user experience, including the ability to have up to 30 participants on a call. The introduction of "waiting room communications", so that staff can let patients know if clinics are running late, went live mid-October.
- 3.1.3 The trust is continuing to improve the skin cancer pathway for patients, using AI. Patients referred from GPs are asked to attend one of four diagnostic hubs across the city, where they have their mole or lesion reviewed by clinical photographers using AI. Where the AI makes a recommendation for discharge, all decisions are currently reviewed manually by a dermatologist. Around 7,000 patients have benefited from this pathway, avoiding a hospital appointment for over 2,000 patients. Two week wait performance for this pathway was at 97.9% for September as a result of the introduction of this pathway. Key developments in this project for the next quarter include improving clinic capacity, improving administrative efficiencies and integrating the platform with UHB's Patient Administration System (PAS) to improve data validation and remove manual workarounds in adding patients to the platform.

There is now an opportunity to pilot moving this pathway upstream in to primary care, as part of funding available through the NHS AI award. This could deliver improved patient access and system

capacity benefits.

- 3.1.4 The trust has an ambitious programme in place to transform the hospital centric model of care to a distributed and collaborative one, using technology. To meet this objective, the trust continues to develop its programme with Big Picture Medical through a wide ranging collaboration agreement. Over the next 5 years, this will see the platform being deployed in a wider number of pathways across the trust to better support care being delivered across settings.

The trust started work with Big Picture Medical on the medical retina pathway. This allows for patients to have their diagnostics undertaken in the community and then virtually reviewed by UHB ophthalmologists. This allows patients to wait less time for their diagnostics, and it takes clinicians less time to virtually review patients compared to a face to face clinic.

The next pathway to go live using the platform will be a home monitoring pathway for COPD in October 2021, for patients being discharged from the QE, opening up the possibility to scale to other remote monitoring pathways in the next quarter.

The first integration between Big Picture and UHB's core clinical information systems went live in September, linking up the platform with the PAS system to ensure the right patients are identified and added to pathways.

- 3.1.5 A key enabler in the digital transformation programme is the development of diagnostic hubs, using new technology to improve diagnostic access and enable a new mix of workforce to play their role in the pathway. Along with diagnostic hubs for the skin cancer pathway, the trust has also opened its first dedicated high volume ophthalmology diagnostic hub, which enables patients to have their patient histories and diagnostics captured more quickly. Since opening in April 2021, over 2,100 patients have been seen through the hub. Work is underway with the Ophthalmology team to implement the recommendations of a recent map & measure exercise to increase numbers through the hub. The model will be tested and expanded to other specialities as and when new technology becomes available, continuing next in Ear, Nose and Throat pathways, where there is potential for new technology to support a streamlined pathway, using a new mix of workforce.
- 3.1.6 The trust is working towards a new breast screening pathway using AI with Kherion Medical. In time this would see the introduction of AI as a second reader in this pathway, freeing up radiology capacity and improving patient outcomes. The trust has undertaken a detailed retrospective analysis of 3 years' worth of mammograms to understand if the new technology would have affected the decision to recall patients. Detailed case reviews have been completed for priority cases. Performance of the new pathway (simulated AI + human reader model) has been shown to be superior or non-inferior to the current double human reader model. Teams at UHB and

Khieron Medical Technologies continue to work successfully and closely together, and the next phase of the work will to introduce AI in to clinic workflow, but in the first instance as a silent third reader.

3.1.7 The trust is continuing to evolve its digital front door, building on Ask A&E. In continued collaboration with Babylon Health, 2,610 chat flows have occurred since 1/4/21 with 62% of users signposted to non-hospital settings. Ask A&E was introduced into Heartlands Hospital A&E department in July, and is being linked up with new primary care capacity to support patients where “GP consultation” is identified as the recommended action. Work is ongoing to understand whether a single digital signposting service has wider utility across the whole system, firstly through evaluating its use with Pathfinder GPs.

3.1.8 The team is working in partnership with BT on a comprehensive collaboration, in the first instance to deploy remote diagnostics to support admission avoidance. This pathway involves using connected devices to support virtual review and triage of patients outside acute settings, linking up the West Midlands Ambulance Service, intermediate care homes and care homes to the trust’s Older People’s Assessment and Liaison service (OPAL). Early specialist input provides the opportunity to avoid an admission. Continuing to build on the successful pilot launched at Norman Power in March 2021, the trust is now looking to expand the roll out of remote consultation between more intermediate care centres and expanding in to care homes. This model is now going to be deployed in to Perry Tree intermediate care centre.

A proposal has been submitted to NHSE/NHSI (as part of the national targeted improvement fund) to further accelerate this programme of work, with the aim of expanding BSOL’s urgent and emergency care response.

#### **4. Physical Estate Transformation**

A new Director of Capital Planning and Developments was appointed in February 2021 to enhance the Trust’s long-term strategic estate planning. Work is continuing to ensure existing and future transformation projects are aligned with the shared model of clinical care across the Trust and wider Integrated Care System (ICS).

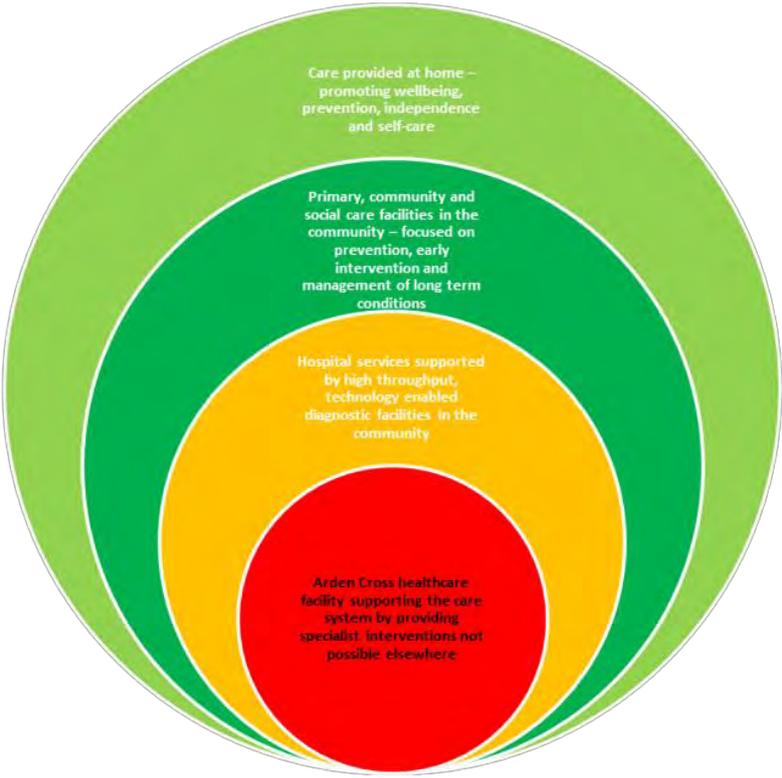
The Birmingham and Solihull ICS serves some of the most deprived and diverse communities in the UK, as well as some of the youngest. The need for ICS partners to work together to tackle these challenges has been driven home by the experience of the Covid-19 pandemic. As ICS priorities and governance structures become clearer it is expected that more estates and transformation projects will be planned on a system basis.

Creating and utilising space across all Trust sites will continue to be challenge for the foreseeable future. Any future physical estate projects and programmes must stay aligned to any successes from the Digital Transformation programme

and its projects to ensure the ongoing reinforcement of any benefits realisation plans, including the possibility of off-site locations. The key aim is to provide the right physical and geographical locations suitable to accommodate these new digital healthcare activities into the future across Birmingham and Solihull. These two portfolios will become more closely aligned as the capital planning and developments team evolves in the coming months.

For the moment, the table below focuses on current in-progress initiatives:

<b>Project/ Programme</b>	<b>Site</b>	<b>Project/Programme Update</b>
ACAD Project	BHH	The highest point of the external building structure has been completed, with a “topping off” ceremony held to celebrate this latest milestone. The facility will provide new clinical facilities including outpatients, endoscopy, day-case, and imaging capable of serving nearly half a million patients each year. <b>Project Cost: £97.1 million</b> <b>Building Completion Date: September 2022 with an opening date of October 2022</b>
Capacity Expansion Programme	All	Plans to create additional inpatient adult capacity including new wards (East block at QE and modular wards at GHH and BHH). Subject to project approval and successful staff recruitment, the new wards will enable more patients to be treated faster and support tackling the COVID backlog recovery. <b>Programme Cost: £15 million (Capital)</b> <b>Project Completion: QE East Block Wards January 2022 and BHH &amp; GHH modular wards: Summer 2022</b>
Harborne Hospital	QE	Harborne Hospital will provide a full range of healthcare services, including acute and complex care for private patients. Plus extra capacity and access to specialist facilities for NHS patients. <b>Project Cost: £100 million (privately funded)</b> <b>Project Completion: Late 2022</b>
Solihull Theatre Capacity	Sol	Support medium to long-term planning for theatre capacity at Solihull Hospital site aligning with the UHB surgical services strategy. The three vanguard theatres are leased until mid-2023, therefore, investigating concept of a potential theatre block business case, which may need to include intensive care beds.
Arden Cross Programme	All	Regeneration scheme in East Birmingham/North Solihull around the High Speed 2 Interchange Station. Located in the centre of the country, the site is internationally connected through the airport, train station, motorway network and HS2 Interchange station. The vision is to create a world class community for work (27,000 jobs), living (3,000 new homes), learning and leisure. The site could add £1.4 billion to the regional economy once fully operational.

		<p>UHB has been asked to look into the opportunity to become an early tenant on site, creating a new healthcare facility for Birmingham &amp; Solihull.  Further Information: <a href="https://ardencross.com/">https://ardencross.com/</a></p> <p>An Expression of Interest (Eoi) was submitted to the DHSC new hospital programme team and the Trust Board approved resources to expand the project team at the end of September 2021.</p> 
<p>ICS Estate Strategy &amp; One Public Estate</p>	<p>All</p>	<p>Healthcare building and estate development has occurred on an ad-hoc site-by-site basis with little co-ordination. To achieve optimal long-term solutions and secure the best value for public sector expenditure, it is clear that future developments need to be planned on a system basis.</p> <p>Trust estates staff are attending meetings with local authorities and other ICS partners to seek to understand how large scale residential and regeneration schemes will affect long-term population forecasts and future healthcare demand.</p> <p>Planned developments including Kingshurst, Langley and Sutton Coldfield may all offer opportunities for new healthcare facilities such as community diagnostic hubs with integrated provision of public services.</p>

The above initiatives have varying timescales and costs but each will improve the Trust’s ability to provide healthcare from modern, fit-for-purpose buildings.

## **5. Next Steps**

5.1 Proposed next steps include:

- Continue to align transformation initiatives across both portfolios with the wider system goals and priorities.
- Continue work to realign resources from short term reactionary estate projects towards medium and long-term planning towards enabling transformation.

## **6. Recommendation**

It is recommended that the Board of Directors;

6.1 **NOTE** the progress being made in the various transformation schemes

**Nick Barlow**  
**Director of Applied Digital Health**  
**19th October 2021**

**San Ting Gilmartin**  
**Director of Capital Planning and Developments**  
**19th October 2021**

## Appendix A: overview of digital transformation projects

