The Shrewsbury and Telford Hospital NHS Trust

Board of Directors' Meeting: 13 April 2023

Agenda item		038/23		
Report Title		Digital Update		
Executive Lead		Helen Troalen, Executive Director of Finance		
Report Author		Angela Lewis, Digital Services Manager		
CQC Domain:		**Link to Strategic Goal:**		**Link to BAF / risk:**
Safe	√	Our patients and community	√	BAF7a, BAF7b
Effective	√	Our people	√	
Caring		Our service delivery	√	**Trust Risk Register id:**
Responsive	√	Our governance	√	1800, 1936, 2254, 2279, 2280, 2281
Well Led		Our partners	√	
Consultation Communication				
Executive summary:		1. The Board's attention is drawn to sections; **2. Strategy and direction** and **4.2 EPR programme**. The digital strategy has been used as the foundation for the Frontline Digitisation (FD) Minimum Digital Foundations (MDF) Programme, for which the Trust has secured £14.83 million external funding over 3 years. The EPR programme remains on track for an October go-live although there have been technical delays associated with configuring each system and integration, System C are focused on resolving these ahead of the first testing cycle. 2. The risks associated with delay to the digital programme; • inability to provide essential services for patients, work together with partners, and / or cease service provision. • potential financial penalties/ Potential regulatory action • reputational damage and negative impact on public confidence 3. System C have allocated extra resource to redress the delays. Progress and escaltions reported via the programmes governance structure.		
Recommendations for the Board:		This report is provided **for information only.**		
Appendices:		None		

1.0 Purpose

The purpose of this paper is to provide an update on the Digital Programme progress.

2.0 Strategy and direction

The SATH Digital Strategy was approved at Private Trust Board in August 2022 and was shared via Public Trust Board in November 2022.

The digital strategy has been used as the foundation for the Frontline Digitisation (FD) Minimum Digital Foundations (MDF) Programme, for which the Trust has secured £14.83 million additional external funding over 3 years. This will support the development and implementation of; Electronic Prescribing and Medicines Management (EPMA), a patient engagement portal (PEP) as well as bridging infrastructure, cyber security and connectivity gaps.

3.0 Plan and milestones

3.1 Clinical Systems

The Trust's key priority remains the delivery of the EPR Programme as this underpins future digital and data programmes.

In support of continued digital programme and clinical service delivery alignment, a bi-annual review will be undertaken with each division to ensure that digital requirements have been captured and fed back into the digital programme. Where this may result in a financial, resource impact or delivery conflict, this will be reported through to Senior Leadership Committee (SLC) for potential reprioritisation of the digital programme.

3.2 Core and enabling technologies

The Trust has applied for and was successful in securing further cyber security funding in 2022/2023 and is utilising the funding for a proof-of-concept deployment at SATH with a plan to extend this across the ICS should additional funding be made available and subject to affordability.

3.3 System alignment and partnership working

The Trust has continued to lead the completion of the ICS order communication and results reporting (OCRR) business case and subsequent funding bid. Funding has been awarded through the N8 Pathology Network Bid for Diagnostics Digital Capability Programme (DDC) funding for £3.54 million over 3 years.

The ICB has endorsed the SATH FD MDF bid which will include the convergence of a number of digital programmes across providers and will result in improved interoperability and visibility of data between organisations.

The Trust continues to support the ICS back office function review of digital services, with the aim of reconfiguring resource and priorities to ensure alignment to the ICS priorities and deliverables.

4.0 Progress

4.1 Clinical systems

Ambulance Hub

Digital Services are working closely with the clinical and operational leads to identify the critical digital requirements for the implementation of the Ambulance Hub, including the procurement of additional infrastructure / network, telephony, devices, including large screens, PCs and iPods. In addition, configuration changes to existing systems are being identified to allow patients to be tracked and their observations monitored (SemaHelix PAS, Ward-vision and Vitals). Digital services will continue to provide advice and guidance to the leads and will plan a number of post go-live visits to the Ambulance Hub to provide early intervention should any issues arise.

Patient appointment letter review.

The Letters Task & Finish Group, established in December 2022 by Andrena Weston, includes Patient Panel representatives, our Patient Experience Team, our Trust Librarian (and HEE Health Literacy Advisor), the Improvement Team, Digital Services and supplier subject matter experts. In addition to the group meetings, a number of multi disciplinary workshops have been held which have enabled collaborative letter design and decision making. There is an opportunity to improve both the existing letter content within the current PAS and also begin work to create letters in the replacement PAS. Key achievements to date include:

- Letters are being designed with the patient in mind with patient representatives are actively influencing our design decisions.
- Letter design principles agreed, reducing the complexity of letter content.
- 14 standard letter template types designed so far with patient participation and assessed for health literacy compliance.
- 1 standard letter template is now being offered for all outpatient new or follow up appointments.
- Average reading age for all letters developed so far is 9.5 years (previously 14.7 years).

Divisional priorities

Digital services are working closely with the divisions to support project delivery of the following projects by the end of Q4 2023/24:

- Streaming & Triage at RSH ED
- Heart Assessment Database
- CDC & Renal unit
- CTGs connected to Badgernet
- Glucose Meter Replacement
- Aria MedOncology upgrade
- Da Vinci Robot
- SAU Whiteboard

Work is ongoing with the divisions to identify and priorities future projects requiring digital enablement.

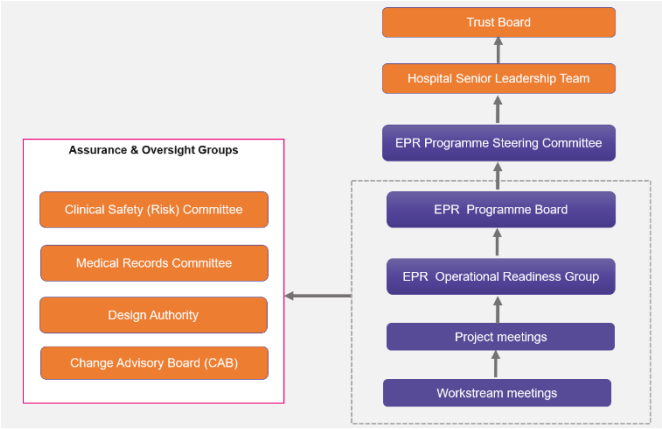
4.2 EPR Programme

All phases of the Bluespier implementation are now complete following the successfully go-live with CEPOD and (non-elective) Trauma whiteboards on the 6th of December. The Bluespier project has been formally closed.

In early December volunteers from the SaTH EPR project team visited University Hospitals Sussex (UHS) as two of their hospital sites implemented CareFlow. This gave the EPR Team first-hand experience of the transition from the same PAS, SemaHelix, to CareFlow PAS and the potential challenges. UHS are continuing to provide advice and updates on lessons learnt at their sites. Lessons learned from the Bluespier implementation, along with lessons learned from other Trusts, have been fed into the revised plan and approach for the CareFlow implementation.

Progress is tracked through the governance structure. The programme board and steering committee meet monthly to drive delivery. Assurance and oversight groups review workstream strategies and system/process design.

The programme remains on track for an October go-live although there have been technical delays associated with configuring each system and integration, System C are focused on resolving these ahead of the first testing cycle in May- June 2023 and have allocated extra resource to support the programme.



Governance Structure

High-level EPR Programme Risks

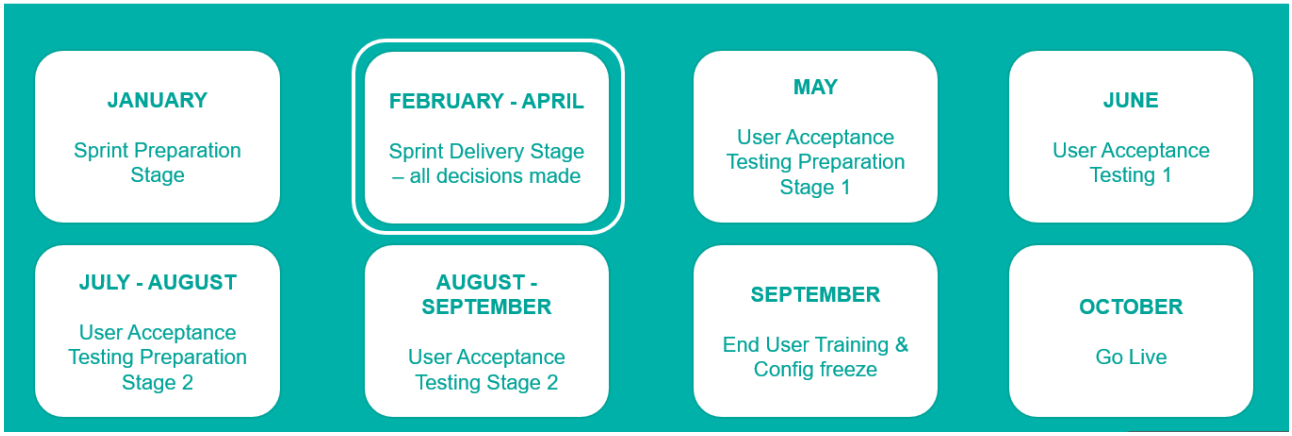
Risk	Mitigation
Ability to recruit and retain suitably skilled EPR Programme team resource	Increased the capacity and capabilities in the EPR team with experience EPR agency staff, internal secondments, fixed term posts and training for the EPR team.
Maintaining continuity of patient records in downstream systems, when interfaces migrate to CareFlow.	Work ongoing with system owners and suppliers to assess the impact on each system to allow for appropriate development to be scheduled.
Limited supplier capacity and lack of suitably knowledgeable resource within System.	System C have made additional resource available. Weekly meetings track escalations.
Capacity in operational/clinical teams to support all phases of the programme.	Close working with divisions to plan activities around availability of key resource. Ward clerk, Booking clerk and medical secretary seconded to the EPR team.
Complex data migration due to poor data quality, functional changes between systems and the volume of data held.	Data Migration tests underway to identify problematic data and fix. Work to minimise the change to reporting at go-live underway. Once impact confirmed it will be socialised ensure the Trust can prepare NHSE
Big bang approach to go-live, all 3 projects will be implemented at the same time.	Cutover planning to mitigate the risk. Floorwalkers and change agents provide support. Control room to coordinate the cutover period. Emergency planning team involved in the preparation/coordination of downtime and business continuity planning.
Competing parallel programmes and Trust commitments requiring the same expertise/staff.	Plans reviewed to deconflict competing activities. Close working with divisions to plan activities around availability of key resource.

Remaining Phase 1 projects

Between December 22 and January 23 the system implementations planned for Phase 1 of the EPR Programme were confirmed, the project plan and PID were updated accordingly and signed-off through the Programme Board and Steering Committee. The updated plan accommodates the delays caused by reallocating resource to the Bluespier project (2 month period) and the revised approach to improve process and configuration decision making.

Projects	Why	Challenges
1.CareFlow PAS (replaces current PAS, Ward boards and improves integration) **2. CareFlow ED** (replaces current ED systems and digitises the casualty card) **3. Vitals 4.3 upgrade** (upgrades current patient observation system and devices)	• **Replacement of the current end-of-life Patient Administration System (SemaHelix PAS).** Development ceased in 2017. System no longer compliant. • **Increased costs**. Only Trust using SemaHelix PAS, incurring full contract cost. • **Incompatible with EPR development and digital strategy**. SemaHelix PAS is unable to provide the functionality to underpin an EPR. • **End-of-life ward boards.** Reliant on SemaHelix infrastructure to function, only Trust using this product. No future development opportunities. • **Issues with paper CAS cards.** Restricts visibility, poor data entry. • **End-of-life iPods.** Will allow iPads minis to be used to capture observations, replacing iPods • **Improved integration.** Vitals, Bluespier and the Integrated Care Record (ICR) will be integrated into CareFlow.	SemaHelix PAS is deeply embedded in current processes developed over 25 years. Customised away from standard NHS process. CareFlow will bring significant changes to ways of working. Scale of the impact: 3000+ staff access SemaHelix, including organisations outside of SaTH, make achieving operational readiness complex. Scale of the data migration (1.2 million patient records) complicated by data quality issues. Complex system linkages and number of systems to be configured concurrently.

From February, through April the future state processes and system configuration decisions must be finalised, to allow the systems to be set-up correctly and the user acceptance testing cycles to be planned. To achieve this in the time available an agile approach has been adopted, breaking the decisions into sprints.



Sprints are intensive periods focused on specific elements of the patient journey, broken down into Inpatients, Outpatients and ED. Each sprint will involve two weeks of concentrated work focused on part of the patient pathway. The EPR team are spending time in departments using CareFlow alongside SemaHelix to;

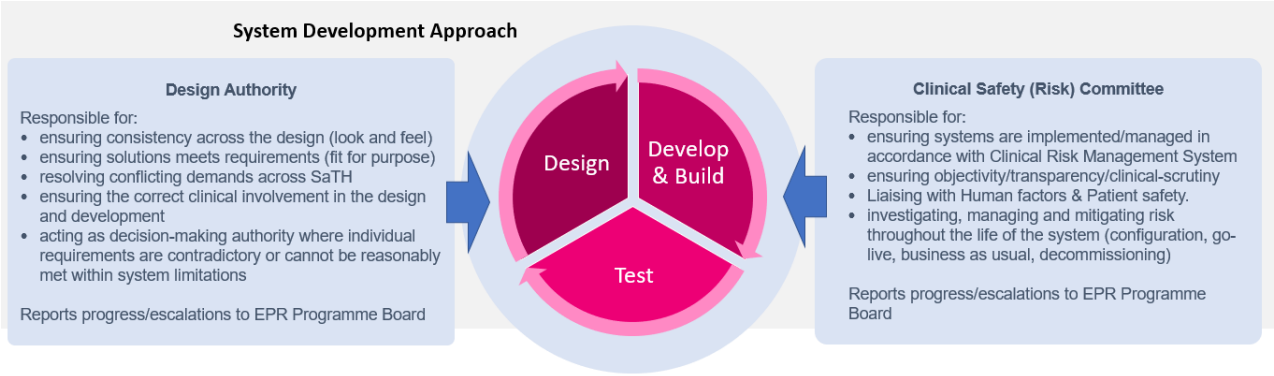
- check that the decisions made in the Functional Design Groups, held last year, work in practice.
- make any outstanding process/configuration decisions
- identify the operational impact of the change
- confirm role based access requirements
- complete the training needs analysis

Clinically Safe System Implementation

The design and safety of the EPR is overseen by the Design Authority and Clinical Safety committee comprised of:

- Chief Clinical Information Officer (CCIO) fully embedded
- Chief Nursing Information Officer (CNIO) starts April 2023
- Associate Clinical Information Officers (ACIOs) appointed for each Division (Associate Nursing Information Officers anticipated)

They advocate for innovation and development of systems, liaise and educate clinical colleagues and teams. Are responsible as Clinical Safety Officers for the patient safety case associated with each implementation.



Data Migration

The transition from the incumbent PAS to CareFlow is reliant on a comprehensive data migration of around 1.2 million patients. The migration specification expects the supplied data to adhere to a large number of data quality and integrity rules before being allowed to be loaded into CareFlow. Any records failing these rules will be rejected from the migration process. Multiple test data load will be performed ahead of cutover to allow data quality issues to be identified and resolved.

The goal for the final cutover migration run is to achieve as close to 100% migration of supplied records as humanly possible therefore early detection and resolution of these issues plays a key role in the migration success.

Any records identified as containing data quality issues will be highlighted to the Trust Data Quality Team and responsible divisions via a series of data quality reports that will be developed as part of the data migration workstream.
The reports will be available throughout the lifetime of the implementation such that they can be used to monitor the ongoing quality of the source data and highlight new issues as they arise so they can be resolved at the earliest opportunity.

The preferred approach to resolving any data quality issues is for the Trust to manually correct the affected records through the front-end Sema-Helix application. This gives the Trust full and direct control over how the records are corrected and results of the corrections will be immediately available in the data quality reports.

Service Improvement support.
During recent system implementations (Theatre system) it has become apparent that there are opportunities for the Service Improvement Team to offer support to areas with process improvement. This work will be tracked via a joint register of processes and reported via the EPR Steering group. The improvement team are providing further support by facilitating process design workshops, with the first session planning to focus on GP referrals and the outpatient appointment booking process.

Organisational Development Support
The OD team are working closely with the EPR Programme team and the NHSE's Frontline digitalisation change management team to prepare the Trust for the changes associated with phase 1 of the EPR. This includes a change readiness assessment and development of an action plan.

EPR Training
To prepare our workforce for the new systems and processes. Effective EPR training is critical to a successful EPR implementation. We are developing a training programme by:

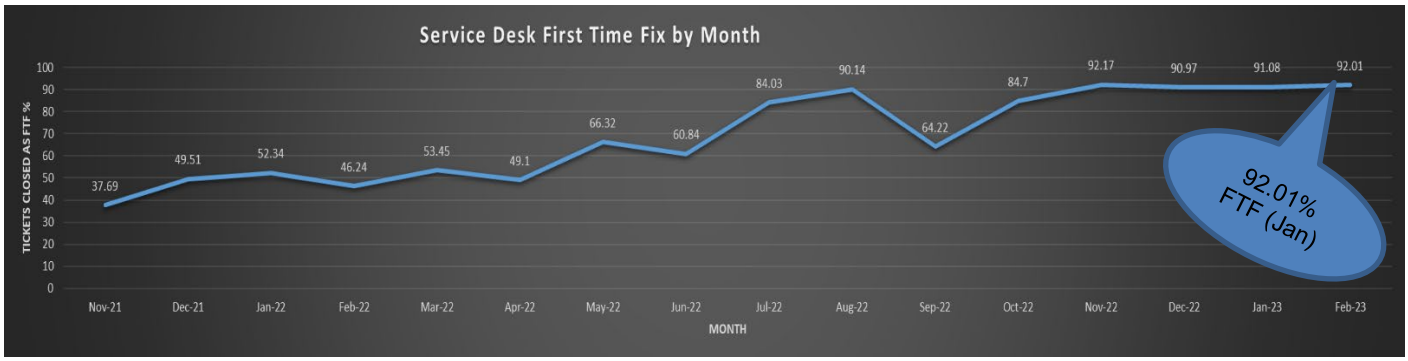
- Identifying training needs for each role through the sprints.
- OD considering options to provided additional training to support EPR (e.g. digital skills).
- Learning from West Sussex Hospitals, 75% of training was delivered via e-learning.
- Developing a training plan to deliver the training to 5000 staff, in 8 weeks prior to go-live; unlimited e-learning, Face-2-face taught courses (3,200 places), Virtual courses (1600 places) all booked and managed through the Trust's learning management system
- Post go-live training provided in November
- Setting-up training suites at RSH (supported by Improvement team) and PRH.
- Running awareness session to provide opportunities to see the systems, understand the new processes and ask questions before attending training.

System Operation Control (SOC) Centre
In support of the Regional SOC Dashboard (SHREWD) development, we have developed data feeds and we are also exploring opportunities within existing SATH systems to better support the ICS SOCC and Control room at SaTH. This includes the provision of large electronic display boards and tactical digital solution development.

4.3 Core and enabling technologies

Service Desk improvements
A new team was established during 2021 to provide service desk support for digital solutions and the IT infrastructure. The team has continued to make significant progress, increasing the number of calls that they are able to resolve as well as reducing the response times.

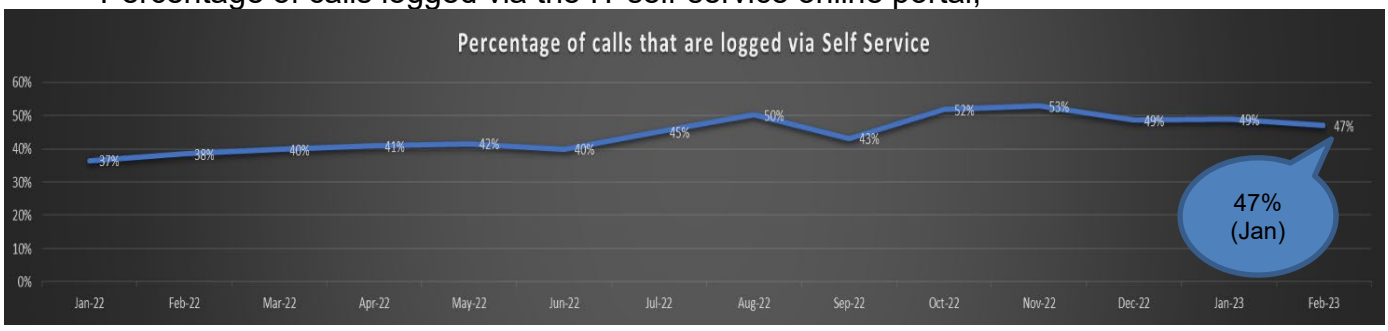
Service Desk First Time Fix (FTF)



Service Desk Average Time to Answer

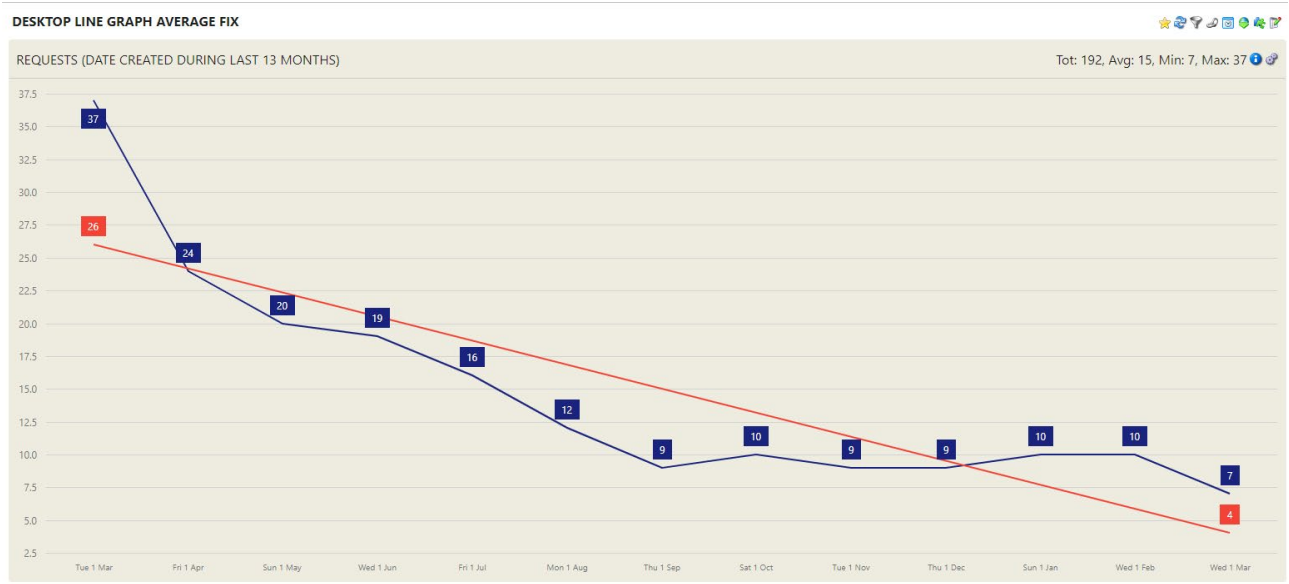
The use of the self-service portal remains between **40-50%** uptake compared to **37%** in January 2022 to support incident flow and users are now supported during incidents and digital solution implementations with the creation of dedicated phone lines to direct users more effectively.

Percentage of calls logged via the IT self-service online portal;



<u>Desktop Support improvements</u>

The team has continued to make progress reducing the average fix time. This has been achieved through process re-design, physical site attendance and the use of remote technology. The team have reduced the average fix time from **26-37hrs** between November 2021 and February 2022, to **7hrs** in February 2023.



In addition, the Desktop Support Team has recently implemented a desktop pro-active floorwalking initiative, visiting clinical areas on a regular basis to identify and resolve issues and provide general device maintenance. This new way of working is in its infancy; however, the plan is to formalise this on a rota basis.

Desktop Support – customer feedback

Thank you for all of you support in the Paul Brown today despite being very busy you took the time to address the issues we were experiencing in the unit.
We all think you deserve this card as a Thank You
The Paul Brown Day Hospital Team

Thank you from the whole team for getting us sorted so quickly with our IT and being so helpful. Not only has it made our working practice better but our new start has her own work space which will make her feel more welcomed in the Trust - You're a star!!
From the Palliative and End of Life Care team :-)

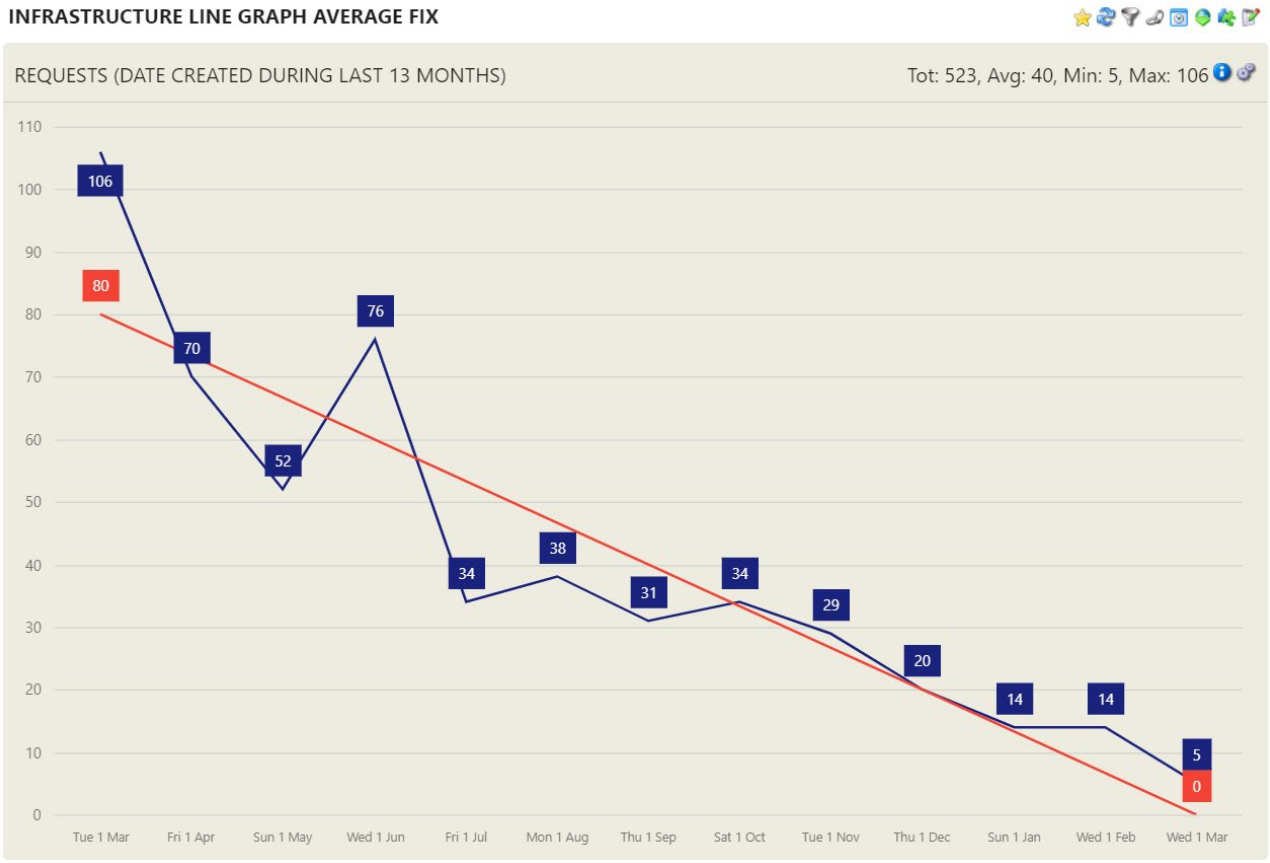
I'd like send you this email with regards to a member of your team who I would like to say is a credit to the IT department, (Dayal Mankoo) nothing is ever too much trouble for him. We have found him extremely helpful with all our technical issues. Please would you mind passing this onto Dayal.
Kind regards
Emma Deeley
Patient Services Administrator
Formal Complaints

I have been working with John Williams for a couple of weeks to try and get all Nurses access to Clinical Portal. He has advised me who to seek help from such as Ashley.
He has really been an absolute superstar and an asset to your team.
Kind Regards
Lisa Walker
Quality Matron

Thank you for all your help with sorting out the laptops for the new starters to our team. You have been super helpful, very responsive and gone above to deliver the laptops to the team members at very short notice. You should be recognised for your efforts and the customer services skills you have deliver as these are exceptional. I really appreciate you helping me to improve the across site booking of patients into the Children's Medical Day Unit, by enabling the shared access for our Excel spread sheet diary. I have spoken to so many people & they have given advice but no solutions. You really are a star

Infrastructure & Network team improvements

The team has continued to make progress reducing the average fix time. This has been achieved through process re-design, physical site attendance and the use of remote technology. The team have reduced the fix time from **29-20hrs** between November 2021 and February 2022, to **5hrs** in February 2023.



Connectivity

The technical design phase of the Core Network Project has been completed and validated through a full proof of concept deployment at Shrewsbury Business Park (SBP). All SBP based teams including Digital, Information, Data Warehouse, Pensions, Payroll, Finance, Workforce and Leasing are now live on the new cabling, new network switches, the new Wi-Fi, and the new ClearPass network authentication hardware.

Additionally, new Wi-Fi has been deployed to the main theatre areas at Princess Royal Hospital (PRH) and Royal Shrewsbury Hospital (RSH) to improve coverage and support the BlueSpier theatre management rollout, and the existing Wi-Fi at the Shropshire Education Conference Centre (SECC) has been migrated onto the new system.

New network hardware for both the Princess Royal Hospital and Royal Shrewsbury hospital datacentres has been installed and configured, and operational acceptance

testing has been completed. The migration away from the ageing datacentre network infrastructure is due to be carried out May and June 2023, improving the overall performance and reliability, as well as the resilience between the two main hospital sites.

Following the successful proof of concept, planning continues for the full network and Wi-Fi installation across the main hospital sites.

Windows 7

The Network Information Systems (NIS) notice issued by NHS England in 2021 has been closed following rigorous scrutiny of a submitted mitigation action plan which has met NHSE requirements.

Windows 11

The review is underway to test our digital solutions and identify configuration issues. A deployment plan is being developed alongside a robust communication plan. This has been commenced ahead of schedule and will support ensuring that we remain on supported platforms with a fit for purpose device build.

Cyber Security & Infrastructure

A solution has been implemented to enable the improvement of asset management across the Trust.

A solution is due to be implemented which is a medical device security tool, giving visibility for security posture of specialist medical devices. The intention is to link these systems together to automate asset record management.

High Severity Cyber Security Alerting

High Severity Alerts are issued when critical cyber vulnerabilities, with potential to cause significant service disruption or data loss, have been identified in systems widely used across NHS organisations.

It is vital that these HSAs are acknowledged as quickly as possible on the "Respond to an NHS Cyber Alert" (RTANCA) portal (within 48 hours) and addressed within 14 days. These metrics are for the last 5 high severity alerts up to the 27th March 2023.

Number that were acknowledged within 48 hours

5/5

⚠ Organisations **must** acknowledge within 48 hours

Average time to report mitigation complete

1 day

⚠ Organisations **must** patch or mitigate and confirm this is done within 14 days

Number where mitigation is complete or closed

4 / 5

⚠ **ALL** outstanding alerts must be closed using the RTANCA Portal

Orange	Lower Performance
Grey	Middle Performance
Blue	High Performance/Complete

Data warehouse development

- Work is continuing on replacing the old semi automated Secondary Uses Services (SUS) process with a more automated process as well as updating to a new format. This process collates activity data and submits it to NHSE and is used for payment purposes. We are currently sending test files to validate the format and the data. We are on schedule to start submitting data in the new format (CDS 6.3) for April 2023. This will also impact the Faster SUS submissions which are submitted daily.
- Work is continuing to validate the data feeds from CareFlow to the data warehouse using migrated data.
- The reporting function has now transferred to the Business Intelligence team and this includes reporting for the new EPR. The Data Warehouse team will continue to support existing reports during the handover period up until mid April 2023. This will allow the Data Warehouse team to concentrate on getting the Careflow data into the data warehouse as part of the EPR project.
- As part of the Data Digital Roadmap we are looking at what it would mean to host the data warehouse in the cloud. We have commissioned a 3rd party company to do an assessment of our data warehouse processes and how these can be migrated to the cloud. This report will help us develop our data strategy for the future and how this will benefit SaTH and the wider health economy. We managed to secure some funding from Microsoft that has paid for the 3rd party to undertake this work.
- Completed the development of Faster Data feeds. Currently being validated and tested. This will eventually replace some of the daily sitreps that we have to submit which will reduce the workload of the Performance team.

4.4 System alignment and partnership working

There has been a focus on the development of the digital requirements to support and underpin the HTP Programme, including a review of the remediation / transitional works and impact upon the digital infrastructure. These sessions are still in progress and are feeding directly into the development of the OBC.

The development of the STW ICS Digital and Data Transformation Plan continues and additional digital resource is being allocated to the Local Care Transformation Programme.

5.0 Future deliverables

5.1 Clinical systems

Following successful external funding bids to support the implementation of OCRR and improved digital maturity across the Trust and beyond, a series of prioritisation and planning sessions will be undertaken to schedule the next phase of the EPR.

5.2 Core and enabling technologies

The infrastructure and digital requirements to support the HTP OBC will continue to be a priority.

5.3 System alignment and partnership working

The digital and data transformation plan will continue to be developed and this will be costed to identify the level of investment required over the next 3 years. It is unclear whether there will be any funding opportunities available from 2023/2024.

6.0 Risks

There are a number of key risks to the delivery of the Digital Programme which are on the Trust's risk register;

- Further impact of COVID-19 and operational pressures upon the capacity of the clinical and operational teams to engage fully with the Digital Programme
- Resource constraints upon Digital teams due to the level of implementation and engagement support required for clinical system deployment
- Additional or changing priorities introduced causing resource constraints and revision of the Digital Programme
- Availability of skilled and experienced temporary and permanent staff to support the Digital Programme
- Emerging security weaknesses and threats that require critical intervention
- Capacity within the ICS to continue to progress the opportunities for digital transformation and enablement

7.0 Conclusion

The Board of Directors is asked to note the contents of this report.