



Public Board Digital Bi-annual Update Report 26 October 2023

Item 4.5

Presented for:	Information and Assurance
Accountable Director:	Simon Marsh Chief Information Officer
Presented by:	Simon Marsh Chief Information Officer
Author:	Simon Marsh Chief Information Officer
Previous Committees:	None
Legal / Regulatory:	No

Key Priorities/Goals	Equip our people with the best tools, technology and environment to support excellent outcomes Be a respected and influential system partner, nationally, regionally and at place Deliver the best possible response for each patient, first time
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Strategic Ambition		BAF Strategic Risk
1. Patients and communities experience fully joined-up care responsive to their needs	(✓)	Choose an item
2. Our people feel empowered, valued and engaged to perform at their best		Choose an item.
3. We achieve excellence in everything we do		Choose an item.
4. We use resources wisely to invest in and sustain services	✓	4b Ability to delivery key technology and cyber security developments effectively

Key points	
1. This report sets out the BAU and Project activities being undertaken by the Digital Directorate in support of YAS in H1 23/24.	For assurance

Public Board
Digital Bi-annual Update Report
26 October 2023
Presented by Simon Marsh

1. SUMMARY

- 1.1 This report describes the activities being undertaken by the Digital Department in the support and transformation of YAS using both technology and data.
- 1.2 The department undertakes a variety of tasks including the support, maintenance and development of;
- Commercial systems that underpin 999/111/PTS and the corporate departments
 - a highly resilient and secure network and communications infrastructure across three call centres and over 90 locations throughout the regional operating footprint
 - an end user compute (EUC), mobile telephony and tablet based infrastructure of over 9,500 devices
 - an extensive fleet-wide data and communications environment for 999 across Dual Crewed Ambulances (DCA), Rapid Response Vehicles (RRV) and specialist vehicles
 - the 999 Electronic Patient Record (EPR) and other core clinical systems that are developed by the internal team
 - a data warehouse and reporting environment that develops data into insights in support of both YAS operations and the wider healthcare environment.
- 1.3 The department is audited regularly to ensure the environment is cyber secure. This year, YAS obtained a ‘Significant Assurance’ rating from the Data Security and Protection Toolkit (DSPT) audit conducted by 360 Assurance. This improved from 22/23 as a result of an Executive focus on achieving 95% staff compliance with the annual Information Governance and Data Security training requirements. A Phishing exercise (to ascertain staff susceptibility) was undertaken with the support of 360 and produced a significant assurance result. No Cyber security incidents have been reported during this reporting period
- 1.4 The department is proactive in leading the analysis and planning work related to longer term strategic objectives including;
- the proposed move to Pathways triage within EOC
 - the possible move of all service line systems to a vertically integrated CAD system
 - the development of Artificial Intelligence (AI) systems and Robotic Process Automation (RPA) (in conjunction with the NAA) that support improved patient and staff experiences specifically related to the Ambulance Sector
 - integration of YAS with the Yorkshire and Humber Care Record (YHCR) for sharing clinical data across the wider regional healthcare environment
 - working with the regional ICBs and Public Health networks to provide insight from YAS data
- 1.5 With the exception of planned outages for upgrades and patching, the national telephony outage for 999 and a short-term outage in the BT SIP telephony environment in July – both outside of YAS’ control - there has been 100% system and infrastructure uptime during this reporting period. Twenty one Priority 1 incidents have

been reported with 86% resolved within the Service Level Agreement (SLA) time period. There have been a number of P1 incidents related to silent calls in 999/111/PTS that are resolved but are being monitored by BT as the telephony network provider.

- 1.6 The service desk has dealt with over 26,000 incidents and requests. This is a 24% increase on the previous six months. The 'manned' service desk hours have been extended from a 0830-1700 M-F to 0630-2000 M-F with on-call support outside of these hours. These extended hours fit with call centre and operations shift changes and have been implemented to deal mainly with password reset or device problems that previously prevented staff logging on to core systems.
- 1.7 The Trust Board is asked to note the contents of this report and be assured that the department is fulfilling its responsibilities towards the wider organisational priorities.

2. BACKGROUND

- 2.1 The core and overriding objective for the Digital Directorate is to ensure a fully supported technical and reporting environment that enables all three service lines and the corporate functions to operate without interruption on a 24*7*365 basis. This applies equally to our multiple call centres, our operational crews within 999 and PTS and the staff that support these functions.
- 2.2 IT maintain an End User Computing (EUC) environment consisting of 5,705 mobile phones, 786 Tablet devices, 1,218 Desktops and 1,794 laptops and provides resilient services across three separate call centre locations and over 90 discrete locations including Ambulance Stations, training centres and standby points. There are circa 314 servers hosted and supported within our data centres (for production, testing, training and development) together with external provider infrastructure for Adastra (111) and the NHS Mail and Sharepoint environments that are outside of YAS' management control.
- 2.3 We have maintenance windows each month for the upgrade to our functional software and operating systems that are planned with key stakeholders to enable minimal disruption to each service line. These enable both functional and security patching to occur. Where necessary, service lines will invoke their Business Continuity (BC) plans and revert to paper for the outage window.
- 2.4 YAS is supplied with a fully resilient networking and voice communications environment between the three contact centres at Springhill, Callflex and York. This enables parts of the network to be shut down for maintenance and call traffic to be re-routed to ensure continued operations across the three sites.
- 2.5 We supply suites of operational and performance reports for all three service lines and corporate functions using PowerBI. Where appropriate we also provide data to NHSE and other regional external healthcare providers to assess YAS' performance.

3. BAU ACTIVITIES

3.1 System Availability

- 3.1.1 YAS maintain a highly resilient technical environment supporting all three service lines, four contact centres across three locations and corporate services. With the exception of planned maintenance periods and two specific outages related to

telephony that were national issues with BT, there has been 100% system availability during H1 2023/24.

3.2 Service Desk

3.2.1 The service desk operates from 0630 to 2000 Monday to Friday and outside of these hours has an on-call service for major incidents (P1-P2). There is a walk-up service within the new Logistics Hub from 0800-1700 Monday to Friday. The 0630-0800 and 1700-2000 service is provided by our support staff working from home. These hours have been set up following analysis of call patterns for the out-of-hours service to support front line operation shift starts where the majority of calls were for password reset or other activities that can be resolved remotely.

3.2.2 Users are able to log calls either via the ICT portal or on the phone.

3.2.3 The ICT Department service desk operates In line with the internationally recognised Information Technology Infrastructure Library (ITIL) Framework. This is a set of practices that aim to restore IT services, assist users, and coordinate incident resolution with specialist support groups. Logged calls are split into either

- an **Incident** (something we have now that is no longer working) and;
- a **Request** (something you have not had before and now want e.g. hardware, software, access).

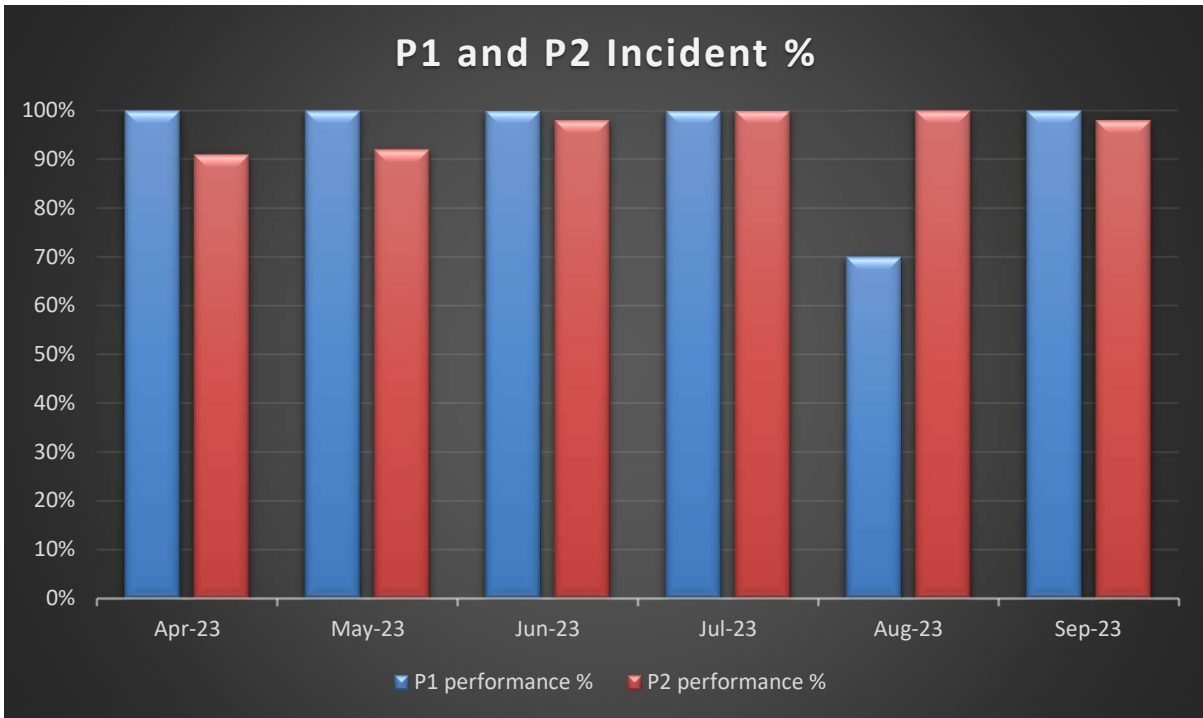
3.2.4 All ICT staff are proficient in ITIL.

3.2.5 The figures below represent incidents and requests received in the period April to September 2023 (compared to the previous six months of October 2022 to March 2023). These are drawn directly from the Trust’s Service Desk software, House on the Hill.

- Total Calls received via phone to service desk 5665 (5466) - 4% increase
- Total Incidents 13,887 (10,583) – 31% increase – 95% (91%) compliance with SLA
- Total requests 12,689 (10,882) – 17% increase - 94% (89%) compliance with SLA
- Total volume of work for service desk – 26576 (21465) – 24% increase
- The majority of the incident/request increase is via the ICT portal.

4. INCIDENTS VOLUMES AND SLA

Priority	Response	Fix Time	SLA Time	Volume	% in SLA
P1 – Critical	30 minutes	4 Hours	24 Hours	21	86%
P2 – High	1 Hour	8 Hours	24 Hours	146	94%
P3 - Standardvbb	1 Day	2 Days	Mon-Fri 0800-1700	9828	94%
P4 – Low	2 Days	5 Days	Mon-Fri 0800-1700	3723	95%
P5 Very Low	5 Days	125 Days	Mon-Fri 0800-1700	169	100%
Note – some calls are combined and this reflects the difference in total calls versus the number of incidents recorded by priority					



4.1 August saw the start of the 'silent call' incident (Trust risk 568) within 999/111/PTS that is still under investigation with BT/Avaya and this alone resulted in an increase in P1 incidents during the month. While now believed resolved by all parties, occasional calls do get reported but these are understood to be related to poor mobile connectivity.

4.2 The 21 P1 incidents are broken down by service/system as follows

System	# incidents
CAD	1
GRS	1
Telephony	7
Avaya	1
Adastra (111)	3
Cleric (PTS)	3
Infrastructure	3
EPR	2
Total	21

4.3 The main cause for P3, P4 and P5 incidents are as follows

Incident Type	Volume
Password Resets	1618
New Starter setup	274
Avaya Desktop issue	78
EPR Problems*	790

4.4 Requests

4.4.1 The following table identifies the request SLA and anticipated response times. Overall 94% of requests were fulfilled within SLA.

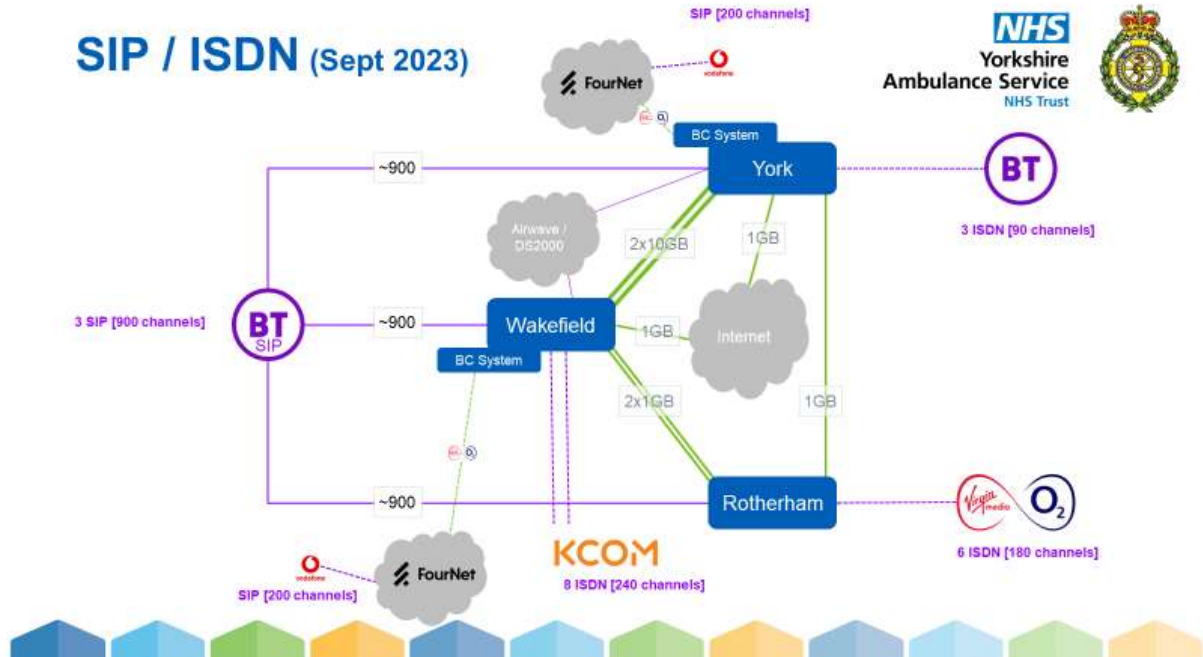
Priority	Response	SLA Time
P1 – Critical	2 Days	Mon-Fri 0800-1700
P2 – High	5 Days	Mon-Fri 0800-1700
P3 - Standard	10 Days	Mon-Fri 0800-1700
P4 – Low	15 Days	Mon-Fri 0800-1700
P5 Very Low	30 Days	Mon-Fri 0800-1700

4.5 Cyber Security

4.5.1 The trust passed the DSP Toolkit audit in 2023 with a Significant Assurance Rating. Security patches are applied to both End User Computing (EUC – desktops/ laptops/ getacs) and servers on a regular basis in accordance with NHSD Standards. As this is a public document, more details are provided in Appendix A which will not be for public release.

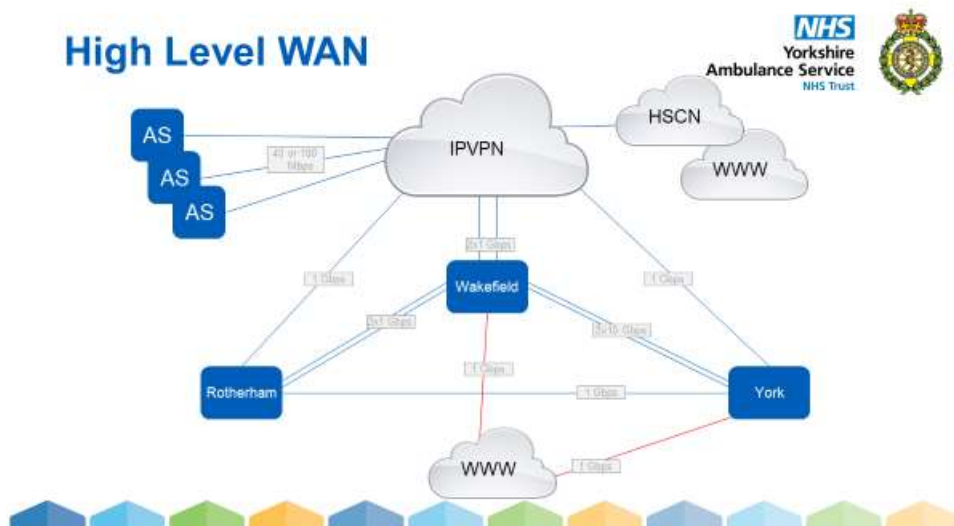
4.6 Telephony

- 4.6.1 The department implemented BT SIP technology in Q1 as a result of our primary provider, KCOM, ceasing support for their ISDN technology ahead of the schedule cease in 2025. The remaining ISDN suppliers (Virgin/O2/BT) are due to cease their support in 2025.
- 4.6.2 The Trust is undertaking procurement of a secondary/resilient SIP supplier in 2024. This is expected to be in place by the end of the 2023/24 financial year.
- 4.6.3 The SIP circuits increase capacity for telephony (all service lines and corporate) across the Trust and is provided in a ring circuit to all three main sites at York, Wakefield and Rotherham.
- 4.6.4 A new Business Continuity (BC) telephony service has been implemented for 999 via Fournet (using Vodafone SIP technology) across York and Wakefield. This is due to be commissioned on November 1st 2023.



4.7 Network

- 4.7.1 A Wide Area Network (WAN) from Virgin Media is in use across YAS, primarily linking the call centres and data centres across Wakefield, York and Rotherham. This is a redundant network with multi-site routing capability in the event of a failure.
- 4.7.2 The current 5-year WAN contract is due for renewal in January 2024. Procurement are working with suppliers for the retendering of this infrastructure which will use an improved version of the WAN incorporating latest technology developed since the WAN implementation in 2018/19.
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4.8 Project Related Activity

- 4.8.1 This section provides details of the projects being undertaken by the Digital Department on behalf of the Trust. Many are standard refresh projects resulting from equipment or infrastructure obsolescence to ensure provision of a resilient and supported environment. Or from system upgrades and functional updates requiring cross departmental working. Some, especially in the area of data and reporting, seek to enhance and transform staff and patient experience and improve underlying trust performance.
- 4.8.2 Strategically, the department is in the early stages within a number of projects with far reaching consequences, This includes the migration from AMPDS to Pathways in EOC, the provision of a vertically integrated CAD system to support 999/111/PTS and the development and deployment of AI solutions with, as yet, unknown benefits for the Ambulance Sector overall.

4.9 Call Centre and front-line staff communications

4.9.1 Intelligent Routing Protocol (IRP) for 999 and Single Virtual Call Centre (SVCC) for 111

- IRP was launched successfully in 2022 and is in use within YAS
- SVCC had a technical launch on May 10th 2023. Not yet in service as at national level the underlying processes and commercial contracts have not been agreed

4.9.2 Mobile Device Management Software (MDM)

- The trust is moving from the current provider, SOTI, to Microsoft's In Tune product for the management of all Trust mobile devices and tablets
- After use within YAS for 24 months, the SOTI product is deemed not fit for purpose due to the exceptional demands on the Voice Comms team and the service desk and functional challenges that prevent YAS providing a secure environment.
- Project has commenced pilot with Intune that will continue to the end of October 2023.
- Migrations to Intune will start in November with focus on Operations and commencing in SY.
- In Tune is a component of the new Microsoft N365 contract and is included within their pricing structures. The change to Intune will save the trust approximately £230k p.a starting from August 2024.
- Plan is to migrate all Trust mobile devices by July 2024 and project is currently on track to achieve this.

4.10 SIP resilience

- Following successful launch of SIP as the primary telephony provider platform to our call centre and corporate offices in March 2023, IT are working with Procurement to deliver a resilient SIP network as the second and final phase with an alternate provider This is expected to be delivered in Q4 2024 and the project is on track to meet this date.
- ISDN lines have been procured from BT (via KCOM) as a temporary measure to provide resilience
- ISDN technology is due to be discontinued w.e.f March 2025 by all suppliers

4.11 Clinical Systems Development

4.11.1 Medicines Management

4.11.2 **App for AVP Packers** - completed and went live May 2022.

4.11.3 **Controlled drugs app for A&E Ops staff** - development completed May 2023 and live in pilot areas. Full roll-out plan sits with Hub & Spoke Programme. This app will only be supplied on Trust mobile phones. The Interim Medical Director flagged a risk in running both paper & electronic systems in parallel for too long due to difficulties with oversight when dealing with 2 systems.

4.11.4 **Prescription only drugs app for A&E Ops staff** - development completed Jul 2023. Hub & Spoke programme to schedule pilot phase once controlled drugs deployment issues are addressed.

4.11.5 **Medicine Management integration to the EPR** has been descoped and is awaiting development, planned as an option in the new EPR

4.12 EPR

4.12.1 EPR is developed using an Agile methodology. Releases containing functional changes have been rolled out in April (Webb) and July (Xena) 2023.

4.12.2 Webb release introduced changes to clinical outcome screens related to pathways and safer right care

4.12.3 Xena release introduced the use of GP connect and NHS number validation redesign. GP connect functionality was suspended in August to investigate EPR performance issues related to large data sets and a fixed version was reinstated on 17th November 2023.

4.12.4 EPR connection issues are currently subject to a Task and Finish Group to establish root cause of stability problems seen at various Acute locations. Expect feedback and potential resolution in Q4.

4.12.4 EPR is being redesigned with a ops/clinical focus group with a view to replatforming and rearchitecting the software in 2024/2025. This will replace the current GETAC's with another device – expected to be either Apple or Android. Commercial products are also being investigated now they are available and in use with other Ambulance Trusts.

4.12.5 Capital and revenue funding has been provided by the Frontline Digitisation Fund to support the continued development of the EPR and the platform change. This is detailed in the table below. This is matched funding with YAS expected to match over a five year period. (2022/23 – 2027/28)

Year	Capital (£k)	Revenue (£k)	Year Total
2022/23	89		89
2023/24	412	503	915
2024/25	451	531	982
2025/26			
Total all years	952	1034	1986

4.13 Mobile Device Vehicle System (MDVS)

4.13.1 The MDVS programme is a national rollout across all Emergency Services and is led by NHSE's Ambulance Radio Programme (ARP)

- 4.13.2 Within YAS, the MDVS project replaces Mobile Data Terminals (MDT) and National Mobilisation Application (NMA) software in all Trust DCA, RRV and specialist vehicles. The 40 DCA's due to be retained within the Trust are now included within a revised scope - a total of 660 vehicles.
- 4.13.3 The project is due to complete at YAS in December 2023. As at 16th October 2023, 531 of 660 (80%) vehicles are completed. The final project completion date has dependencies on the delivery of new DCA's to YAS over the next 2-3 months.
- 4.13.4 The new NMA complies with the stringent laws with the Road Traffic Act 2018 related to the use of mobile devices while driving and the potential distractions they cause.
- 4.13.5 Additional software has been developed between the ARP and YAS to enable the non-driving crew member in a DCA crew to receive critical job information not currently visible in the NMA while driving above 7mph. This 'incident viewer' software is currently in pilot and is available on Trust mobile phones using the Intune MDM. Wider rollout will commence during November, initially to Doncaster (200 users) and then to Leeds (250) Ambulance stations.
- 4.13.6 NMA Lite has been deployed on new phones to all Community First Responder Crews and is being deployed to BASICS Doctors – this functionality works similar to the DCA/RRV NMA and enables EOC to locate and then dispatch volunteers for CAT1 jobs.
- 4.13.7 The MDVS project team is multi disciplined across ICT, Fleet, Ops and Internal Comms and has been nominated for a STAR awards for Team of The Year.

4.14 N365

- 4.14.1 The national N365 contract has been renewed and went live in September 2023.
- 4.14.2 The contract includes changes to the underlying software sub-systems and now includes Intune as an MDM option, the ability to move from Windows 10 to Windows 11 and access to Server 2022 within the contracted price.

4.15 Remote and Hybrid working

- 4.15.1 The technology to have 111 call handlers working remotely was piloted in Q1 and rolled out in Q2.
- 4.15.2 The technology for the 999 Senior clinical advisors to work remotely at stations (Hull, Sheffield, Keighley) is available for rollout and is being planned with Ops.

4.16 Artificial Intelligence (AI) and Robotic Process Automation (RPA)

- 4.16.1 YAS is working with other NAA trusts to analyse the potential for AI in various scenarios that include call audits, call recording transcribing and in-call monitoring. Industry days have been held on October 5th and 17th 2023 with 16 suppliers to identify what is feasible and what experience there is in working with emergency services. A full report on this will be developed over the next month.
- 4.16.2 While there is no definitive use-case or benefits case developed as yet, a request for funding will be made for AI within the 2024/25 business plan to explore further work in this area.

4.16.3 Under the NAA, RPA has been successfully deployed within YAS to assist in driving licence checks and finance invoice management. Further work is expected in this area once more use-cases are developed.

4.17 Move to Pathways and CAD migration

4.17.1 YAS is planning for the move, within EOC, from AMPDS to Pathways. Various meetings have been held with NWA and EMAS to understand their projects, approach, lessons learned and costs and to define potential options for this migration. This will be presented as part of 24/25 business planning and is currently scoped to conclude in December 2024 – subject to approvals and prioritisation.

4.17.2 YAS is holding workshops with various CAD suppliers identified during the, now stopped, NAA Common CAD project with a view to migrating one or all service lines to a single CAD platform starting in 2025/26. This is very much in initial analysis and will be the subject of a separate business case developed alongside Operations.

4.18 Data Warehouse

4.18.1 YAS has a project to migrate to a new data warehouse against which all reporting will take place. This was due to extensive failures within the existing warehouse due to data collection and processing/storage constraints. This project has been ongoing for the last two years. Initially this was believed to be a relatively routine migration to hardware with more storage and processing capability. However, it became apparent that extensive work needed to take place to streamline the entire data collection processes and underlying reporting software.

4.18.2 This project is now approaching completion and should be concluded in Q4.

4.19 Business Intelligence

4.19.1 The BI team are responsible for KPI and additional reporting to national, regional and YAS requirements for all three service lines. The team maintains, refines and develops a large and holistic reporting suite, predominantly using Power BI. The last six months has seen a substantial increase in the amount of work to support the System Partnership Directors (SPD) in their work across each ICB and in the generation and analysis of operational data, providing key insights into YAS performance. The BI team work extensively with internal capacity teams and ORH on modelling performance and presenting opportunities to improve underlying performance within the trust.

5. Key Projects

5.1 These projects are work that has been requested by service lines and corporate services in support of improved reporting to provide deeper understanding of performance challenges and support various board related initiatives including Strategic Objective 14.

5.1 999

5.1.1 New Data Warehouse –

- Move last 2 years of data into new 999 Data Mart. In October/November all 999 reports will be switched over to the new warehouse providing improved resilience and reporting

- Frequent Callers – Currently updating and re-designing the ICS report for the team to share with commissioners
- Pathways and Mental Health Dashboard re-design – working with the CIA team to update and refresh their dashboards to bring in new data
- 999 Ops Dashboard – Rolled out to pilot users to test and develop a process for sharing with manager's – awaiting feedback.
- COO report – new Power BI report to bring all the 999 measures into one easy to use report allowing the user to pick and choose measures on a page.
- Goldcell Report – new refined report to support system control centres and ROC managers
- Handover and Cohorting changes - new processes set up to implement recent guidance changes
- EOC Call Audit Dashboard – Development and testing completed and being rolled out in Q3
- Jack Kelsey has been nominated for an Innovation Award at this years STAR awards.

5.2 IUC

- IUC Automation Development – In the process of automating BAU reports to free up capacity to run from the new warehouse –
- Vocare report complete will be completed in Q3, followed by C3/4 Validations later in Q3
- IUC 1-2-1 App Dashboard – Development completed in October 2023 for rollout to IUC supervisors to see stats from 1-2-1 app – currently in test with a pilot in IUC and expected rollout in November 2023
- Scoping and analysis ongoing to migrate IUC datasets into the new warehouse for improved performance and reporting performance
- Addition of clinical self-service/team leader reports alongside existing call handler versions
- Improvements to Audit Reports to remove the need for legacy Excel audit reporting

5.3 PTS

- Integrated Transport Pilot reporting set up with new Power BI in development to model potential impact of new eligibility for each ICB and plans to create revised daily PTS update on Power BI.

5.4 Corporate

- On going maintenance work to the Flu Dashboard and Medicines Management App and
- Ongoing development and refinement of reports for the newly formed People Committee
- Sickness Absence Reduction Project for the Trust's operational efficiency group – this requires an overhaul to the way sickness absence is monitored and reported - expected delivery date Q1 24/25.
- DATIX Automation Work – Working with the quality team to automate DATIX reporting – currently working on the S6 report to add in the narrative and automate the running of reports
- Public Health Management (PHM) Training – three senior analysts are being trained in PHM with the Strategy Health Economics Unit

5.5 Regional Data Sharing/ Objective 14

- Population Health Tool rolled out to partners with over 50 people given access and 4 specific workshops to help people understand the tool. Further work being scoped based on this toolset to look at conveyance characteristics at local level.
- Working with SYICB with their API Development team to allow sharing of data between YAS and SY
- Exploring the ability to share data across the regional Tri Service members (police, fire service and YAS)
- New Sharing agreements set up between YAS BI and South/West Violence Reduction Partnerships
- Initial exploration of pilot projects for Population health and conveyance in WYICB

6. Risk

- 6.1 With the exception of mitigated cyber security risks, the largest risks to the digital department is the recruitment and retention of staff. We have a lower than average turnover within the department however staff with key skills to support the technical environment are exceptionally difficult to recruit. This is common across all NHS organisations and reflects higher salaries in the private sector. A RRP is being developed with HR and finance to address the potential for key skill loss that would result in an inability to provide a BAU and/or project delivery service.
- 6.2 We have occasional reliance on contingent labour from agencies to provide short term staffing for projects or extended vacancies. Approval routes for non-clinical agency staff now need ICB and NHSE Regional approval and it is not yet understood how this new regime will impact on staffing requirements.
- 6.3 ICT conduct monthly Risk meetings and any identified risks at level 12 and above are reported to the Trust Risk committee.

7. Equality Analysis

- 7.1 We continue to work with staff members who require specific hardware or software in accordance with reasonable adjustment requirements identified by Occupational Health.

8. Publication Under Freedom of Information Act

- 8.1 This paper is exempt from publication under Section 22 of the Freedom of Information Act 2000, as it contains information which is in draft format and may not reflect the organisation's final decision.
- 8.2 Appendix A will continue to be exempt once the paper is published under Section 29/36/38/40/41/43 of the Freedom of Information Act 2000, as it contains information which is related to Cyber Security

9. Recommendation

9.1 The Board is asked to note the contents of this bi-annual report

10. Supporting Information

10.1 The following papers make up this report:

*APPENDIX A – Cyber Security – **NOT TO BE MADE PUBLIC***