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Council of Governors Workshop

Electronic Patient Record, Public Facing Digital, Digital Inclusion, ICS Position and Cyber Security

18th March 2025

Presenter names:
Morgan Thanigasalam
Rosie Atkin
Jaki Taylor

Vision: Informed decisions and digitally connected care

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Objectives	Approach
Deliver EPR	• Clinically led • Mobile first • Phased, modular and interoperable
Connect digitally with patients and partners	• Citizen ownership of health and care record • System-wide demand and capacity management • Clinical information shared across the ICS
Support our colleagues	• Digital Transformation Unit for delivery and education • Right devices to meet individual needs • Prioritising user experience
Unleash information for insight	• Innovation through AI and machine learning • Analysis that informs decisions • Self-service reporting platform for SFH and ICP
Improve our digital infrastructure	• Ensure consistent connectivity across all our sites • Up to date software and systems • Cyber secure

Outcomes

- Citizens have the information they need, when they need it
- All health and care colleagues have the information they need, easily accessible
- All health and care colleagues have the right tools to do their jobs
- Reliance on paper Is significantly reduced

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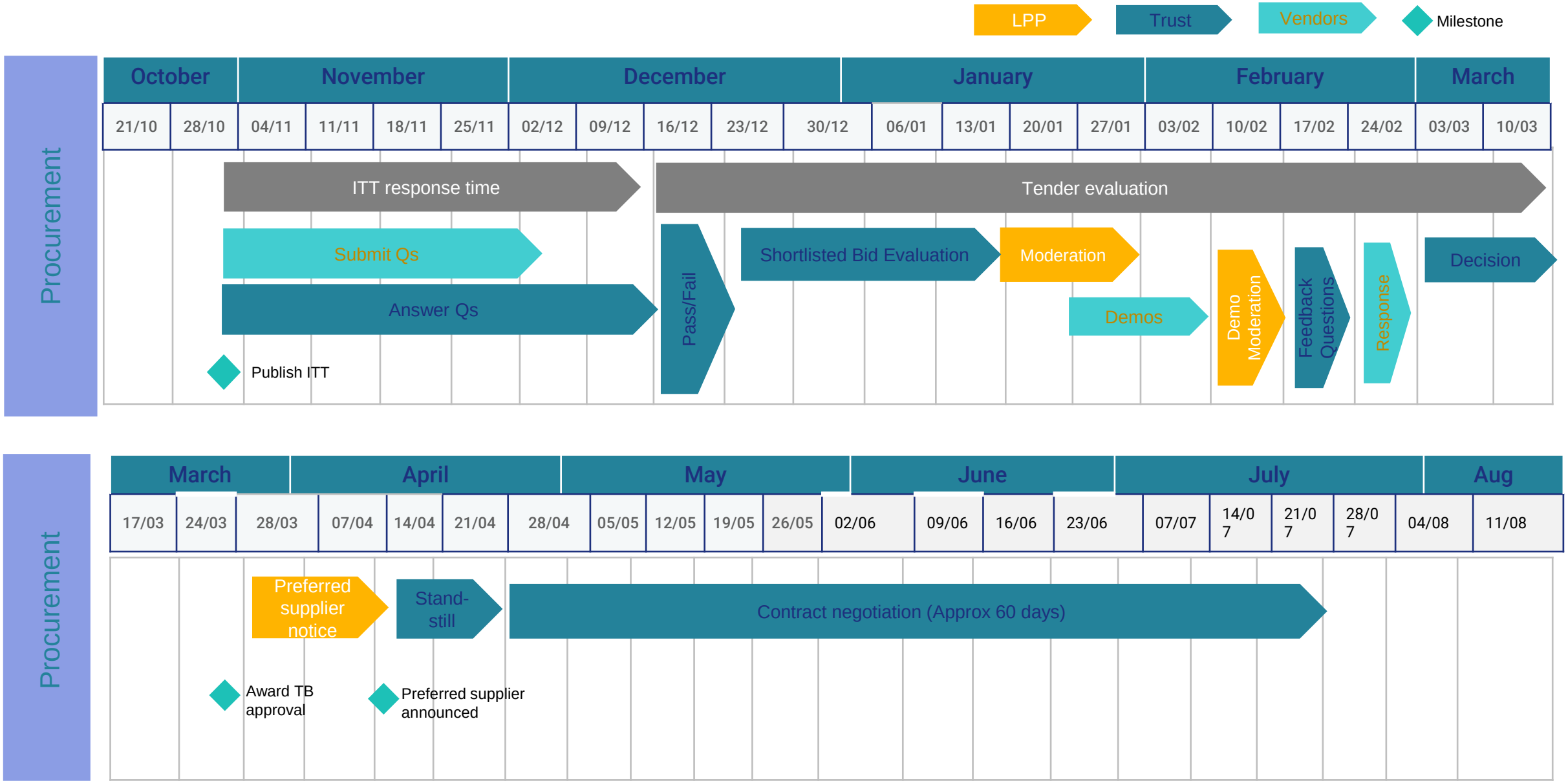
Electronic Patient Record (EPR)

- What is an EPR?
- Who has an EPR?
- Why do we want an EPR?
- Where are we at?
- Come back and present to Governors once we have a published preferred supplier

Invitation To Tender Detailed Timeline



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SFH Governors Cyber Security

Presenter:
Jaki Taylor – Director of NHIS

18th March 2025

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Agenda

1. What is Cyber Security?
2. The World we live in
3. Lessons from Real NHS Cyber
4. The Board Toolkit
5. Cyber Strategy
6. Cyber Assurance
7. What can we do?
8. Questions

The World we live in…

1. Cyber Security is Britains top Business Risk
2. 39% of UK businesses report a Cyber-attack or Security breach in 2022
3. 50% of UK businesses report a Cyber-attack or Security breach in the last 12 months
4. For larger businesses this is much higher – 70% medium and 74% large.
5. The most common type of breach or attack is phishing (84% of businesses)
6. For medium and large businesses, the average cost is approximately £10,830
7. 48% of businesses have a rule to not pay ransomware payments
8. It is estimated that the total cost of the UK economy was £27billion

What is Cyber Security?

Computer security is the protection of computer software, systems and networks from threats that may result in unauthorised information disclosure, theft of hardware, software, or data, as well as from the disruption or misdirection of the services they provide.

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The World we live in

Cyber attack sees over 1,000 NHS ops postponed

NHS software provider faces £6m fine after hackers steal tens of thousands of medical records

The data protection watchdog's provisional ruling blames software company Advanced for "serious failings" after sensitive patient data was stolen and NHS services disrupted.

Wednesday 7 August 2024 02:32, UK

Advanced cyber-attack: NHS doctors' paperwork piles up

30 August 2022

BBC/FA

Staff

NHS patients affected by cyber-attack may face six-month wait for blood test

Only 'urgent' tests to go ahead in short term after hospitals in south-east London hit by Russian gang's seizure of data

LESSONS FROM REAL NHS CYBER NEAR MISSES

Without direct intervention, any one of these cases could have resulted in Trust-wide loss of all IT and impacted on patient services

What we have seen

Below details the routes in which the attacks have happened over the past 6 months

PHISHING
Phishing emails used to deliver malware and gain credentials for initial access

HIGH SEVERITY ALERTS
Unpatched critical vulnerabilities including high severity alerts being exploited months and years after disclosure such as Log4Shell

WEAK PASSWORDS
Weak passwords on internet facing services which are then reused across multiple accounts e.g. dental1 / adminadmin

REMOTE ACCESS
Regular abuse of unpatched remote access solutions (VPNs) that are insecure. Often established quickly during covid but not maintained

MFA NOT ENABLED
Multi Factor Authentication not enabled on accounts such as: internet facing accounts with key public services, admin accounts

NATIONAL SERVICES NOT BEING USED
Critical servers and devices not enrolled onto central services such as MDE

What is the impact?

2022 Advanced and NHS111 | 2023 Ortivus and EPR | 2023 6 very near misses

6
Very near misses in the last 6 months

£398K
Spent on cyber incident response in the last 6 months

1286
Hours spent on incident response in the last 6 months (excl CSOC and orgs)

2342
Incidents dealt with by the cyber security operations centre in the last 6 months

OTHER IMPACTS INCLUDE:
- Delayed cancer treatments
- Prevention of remote working (impacting activities such as radiography imaging analysis) as VPNs are taken down
- Reverting to pen and paper in some cases
- Staff working round the clock and over weekends

TYPICAL ACTIVITIES SEEN IN RECENT ATTACKS

COMPROMISED DOMAIN CONTROLLERS | DATA ACCESSED AND EXFILTRATED | ALERTS IN MDE AND OTHER TOOLING | SYSTEMS ISOLATED | INCIDENT RESPONSE DEPLOYED | REPORTS MADE TO NCA, DSPT AND ICO | TIME SPENT TO REBUILD, SECURE AND ONBOARD TO NATIONAL TOOLING

How you can prevent attacks

Following these foundational activities would have significantly hindered or prevented the attacks

ONBOARD TO NATIONAL SERVICES
Enrol servers and devices onto MDE - for orgs where it was enabled; the attack was stopped in 20 mins, where it wasn't; the incident lasted 3 weeks and cost over £200k

PATCHING AND MAINTENANCE
Action critical vulnerabilities and High Severity Alerts quickly. Review and maintain your remote access solutions

ENABLE MFA AND REVIEW WEAK PASSWORDS
Review passwords on critical systems and separate out user and administrator privileges. Enable MFA on user accounts - especially privileged accounts and configure correctly

CONFIGURATION AND SEGMENTATION
Ensure software and applications are configured securely (not just relying on default configurations) and segment networks if possible

TESTING AND AWARENESS
Regularly test your business continuity plans and increase security education and awareness with things such as Immersive Labs, Simulated Phishing and Keep IT Confidential

GET CONNECTED
This is a team effort - join the Cyber Associates Network or Cyber Executives Network (for Board members) to learn, share and develop capability

Official - SENSITIVE

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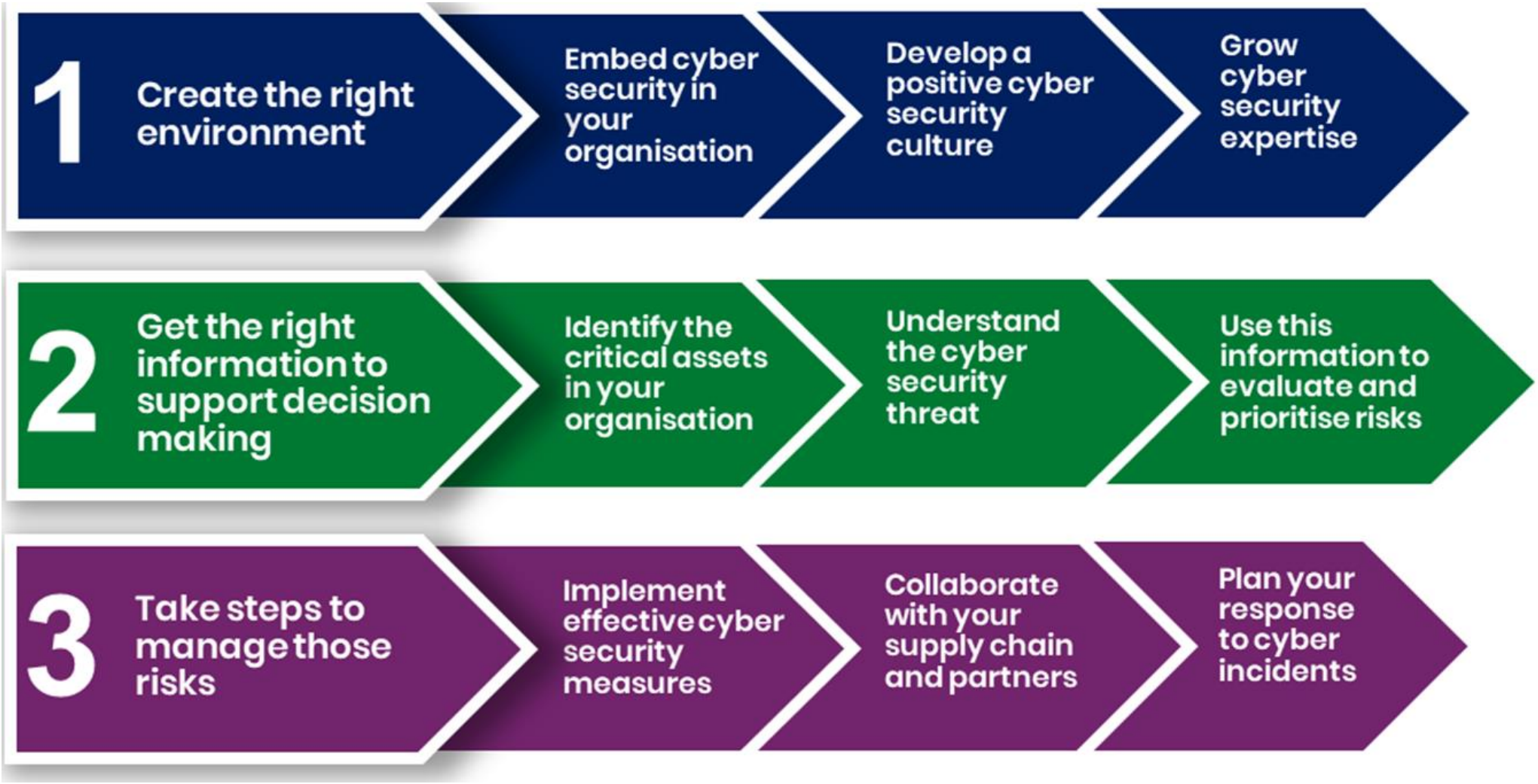
NCSC Cyber Toolkit for Boards



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Create the right environment

- Cyber security isn't just good IT, it underpins op erational resilience.
- A positive Cyber Security culture is essential be cause it's the people that make an environment secure, not just technology and processes.
- Cyber Skills are essential, including investing in your people, developing a pipeline of talent and bringing in external expertise.

Get the right information to support decision making

2 Get the right information to support decision making

Identify the critical assets in your organisation

Understand the cyber security threat

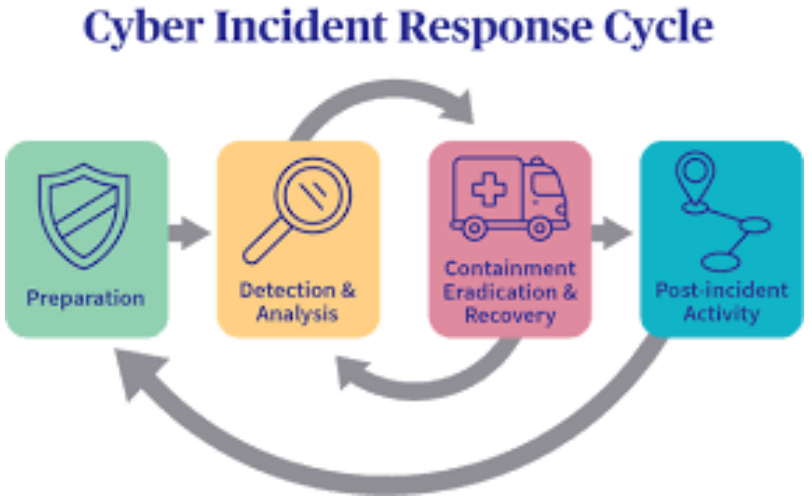
Use this information to evaluate and prioritise risks

- Understanding critical assets that business objectives depend upon is key to managing risk.
- Understand the Cyber threats faced by your organisat ion.
- All organisations make difficult decisions. Cyber risk management should inform and improve these decisi ons.

Take steps to manage those risks

3 Take steps to manage those risks | Implement effective cyber security measures | Collaborate with your supply chain and partners | Plan your response to cyber incidents

- Effective cyber security measures will reduce the likelihood of a significant incident.
- Organisations rely upon suppliers, and supply chain can b e large and complex. Building that picture is essential.
- Cyber Incidents have a huge impact on an organisation in terms of cost, productivity, reputation and patient care. Be prepared!!



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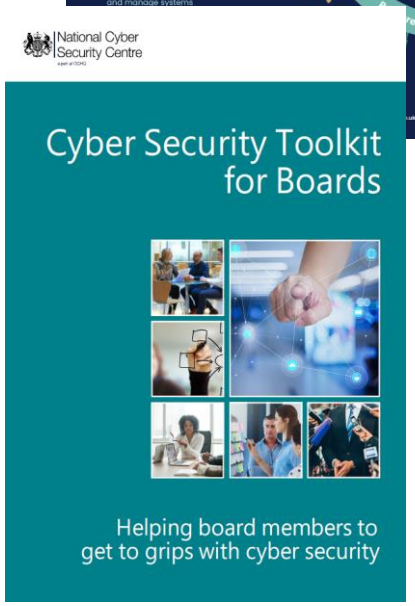
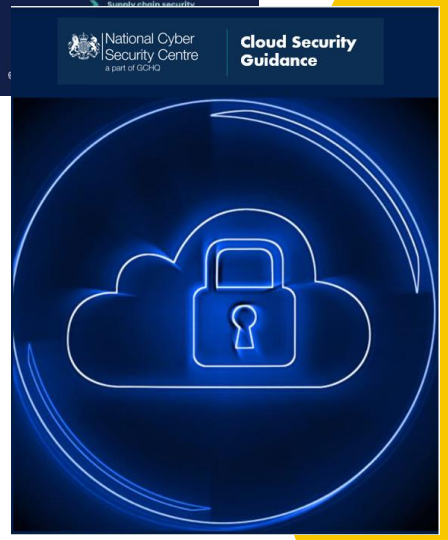
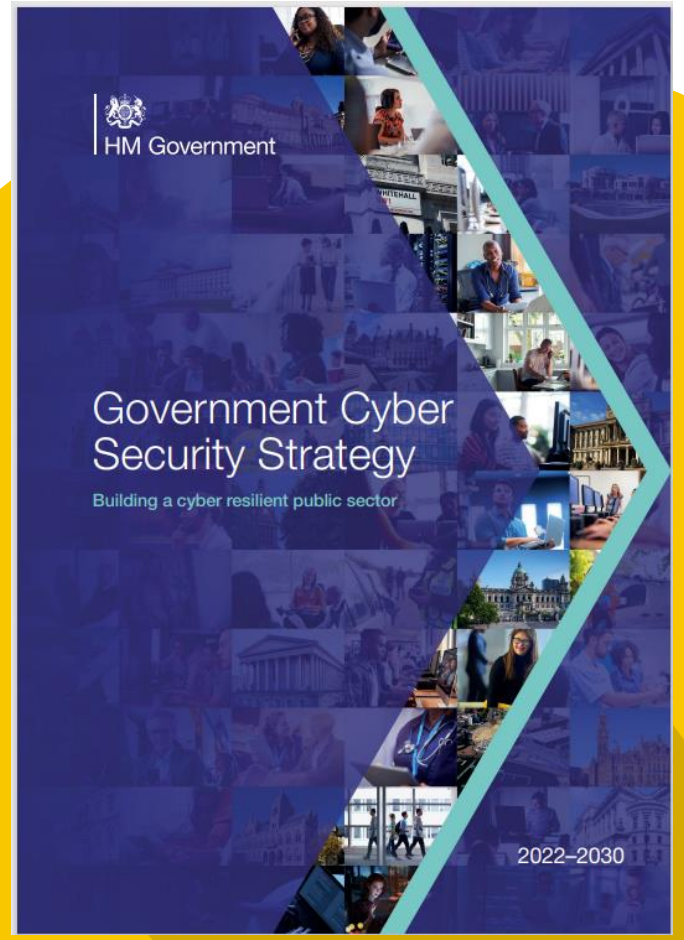
Cyber Security Strategy







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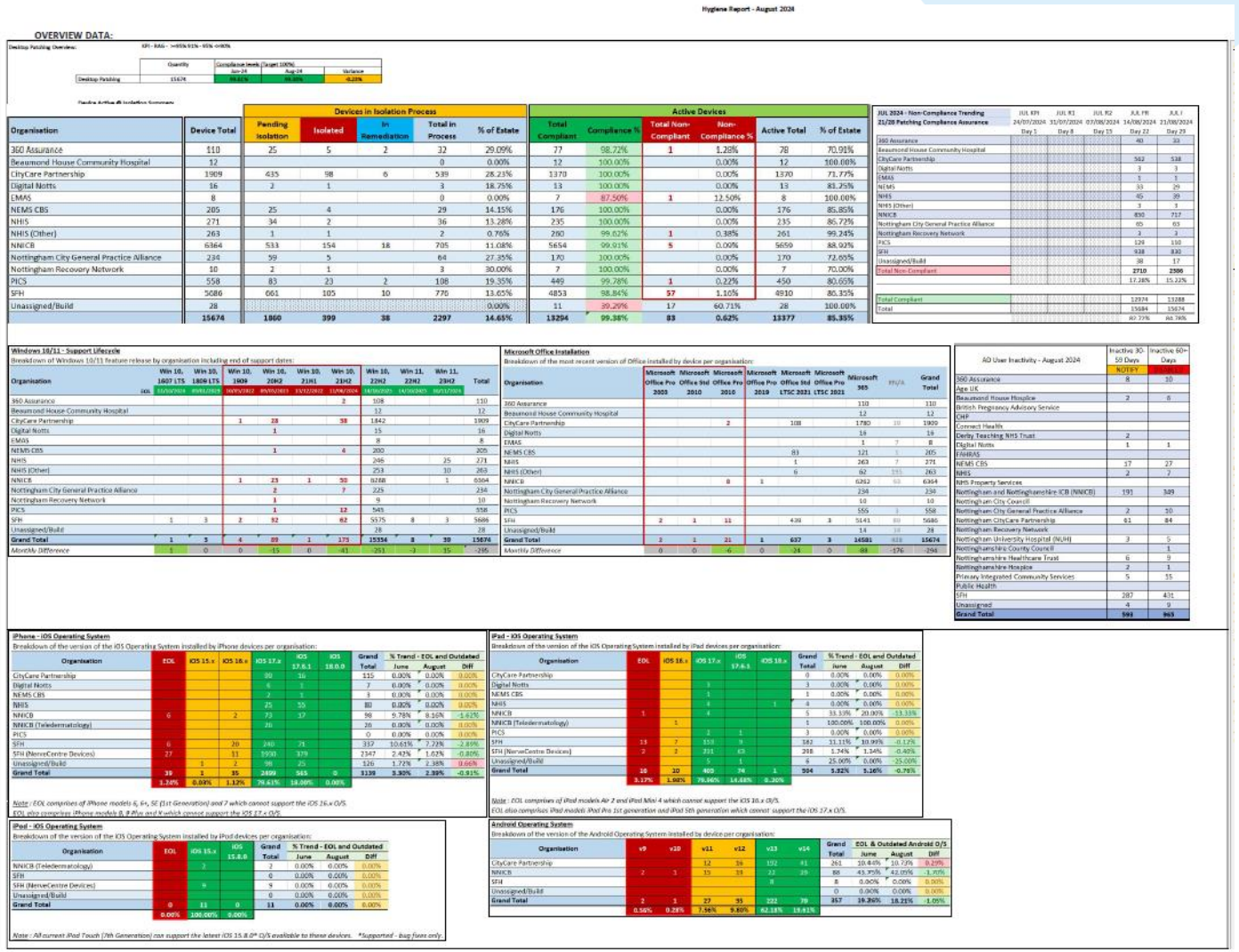
Cyber Assurance

- Cyber Security Assurance Programme Board
- Cyber Delivery Group
- System approach to software vulnerability management.
- Medical Devices assessment
- Cyber Essentials Plus/ISO 27001



DSPT (Data Security Protection Toolkit)

- Supports our cyber security posture
- CAF (Cyber Assurance Framework) alignment
- Organisational approach to risk management
- Asset management
- Penetration and behavioural testing (e.g. simulated phishing);
- More comprehensive due diligence over contracts in place with all third-pa rty organisations.
- Detecting cyber security events (security monitoring and proactive security event discovery)

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What can we all do?

1. Have strong passwords for accounts.
2. Use different passwords for different accounts.
3. Where possible use multifactor authentication.
4. Ensure data is securely backed up.
5. Ensure your devices have anti-virus installed and it is kept up to date.
6. Ensure your devices operating systems are kept up to date.
7. Install all updates as soon as they are available.
8. Never give your bank details or passwords to anyone.
9. Be very vigilant when receiving e-mails or texts that request information.

Weak Passwords…

TIME IT TAKES A HACKER TO BRUTE FORCE YOUR PASSWORD IN 2023

Number of Characters	Numbers Only	Lowercase Letters	Upper and Lowercase Letters	Numbers, Upper and Lowercase Letters	Numbers, Upper and Lowercase Letters, Symbols
4	Instantly	Instantly	Instantly	Instantly	Instantly
5	Instantly	Instantly	Instantly	Instantly	Instantly
6	Instantly	Instantly	Instantly	Instantly	Instantly
7	Instantly	Instantly	1 sec	2 secs	4 secs
8	Instantly	Instantly	28 secs	2 mins	5 mins
9	Instantly	3 secs	24 mins	2 hours	6 hours
10	Instantly	1 min	21 hours	5 days	2 weeks
11	Instantly	32 mins	1 month	10 months	3 years
12	1 sec	14 hours	6 years	53 years	226 years
13	5 secs	2 weeks	332 years	3k years	15k years
14	52 secs	1 year	17k years	202k years	1m years
15	9 mins	27 years	898k years	12m years	77m years
16	1 hour	713 years	46m years	779m years	5bn years
17	14 hours	18k years	2bn years	48bn years	380bn years
18	6 days	481k years	126bn years	2tn years	26tn years

HIVE SYSTEMS

› Learn how we made this table at hivesystems.io/password

Questions??

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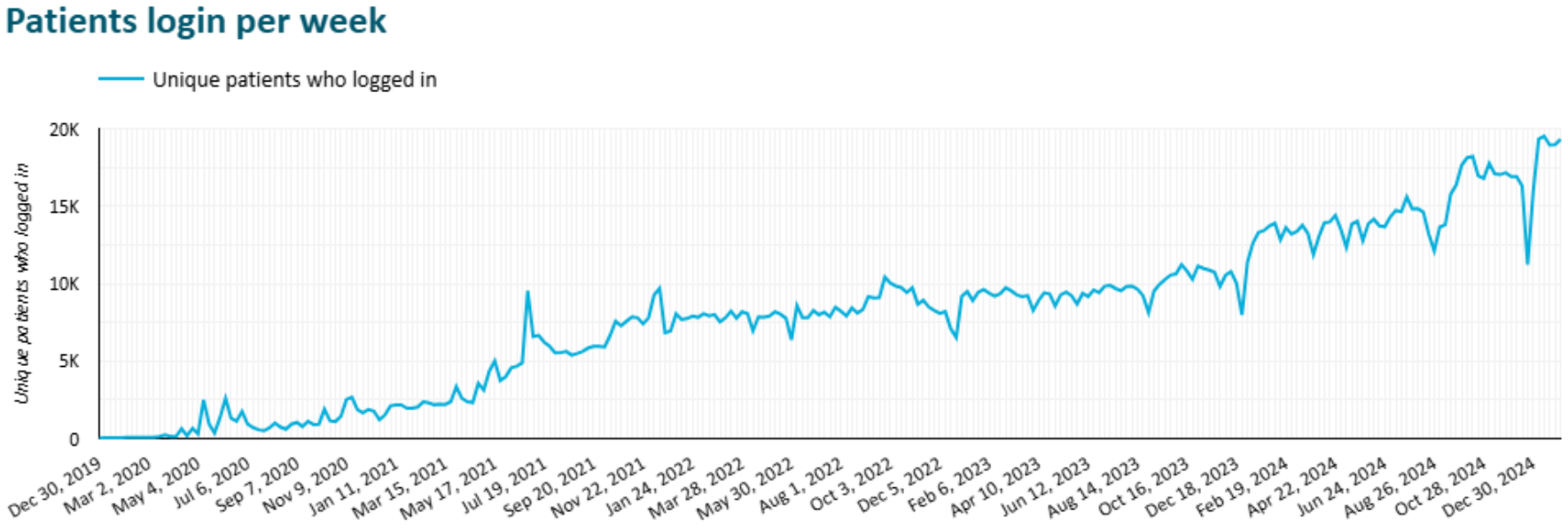
Public Facing Digital Services

1. Who has the NHS App?
2. What is a Patient Engagement Portal (PEP) eg Patients Know Best (PKB)
3. What do you use it for?
4. What would you like to see in it?



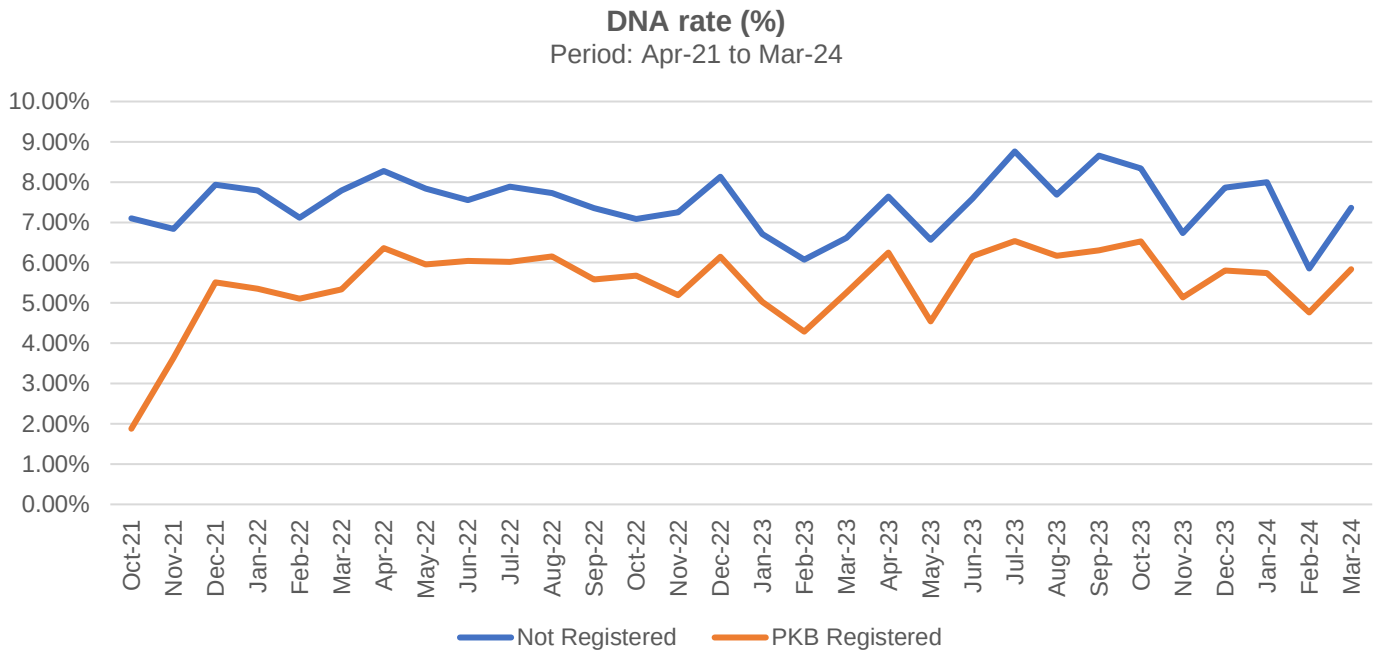
Current SFH Specific Activities

- About 60% of Nottinghamshire citizens have NHS App, 186k have PKB active.
- All Careflow Outpatient appointments visible in the NHS App and PKB (2.5million and counting).
- All Outpatient and Radiology appointment letters are sent to the NHS App instead of by post where registered.
- Clinical letters and leaflets across 21 services now in the NHS App.
- Support patients and families in Paediatric Epilepsy and Inflammatory Bowel Disease with asynchronous secure messaging, including video.
- Provide access to the Macmillan library.
- Support sign up and accessibility of Digital Services with Citizens & Staff.

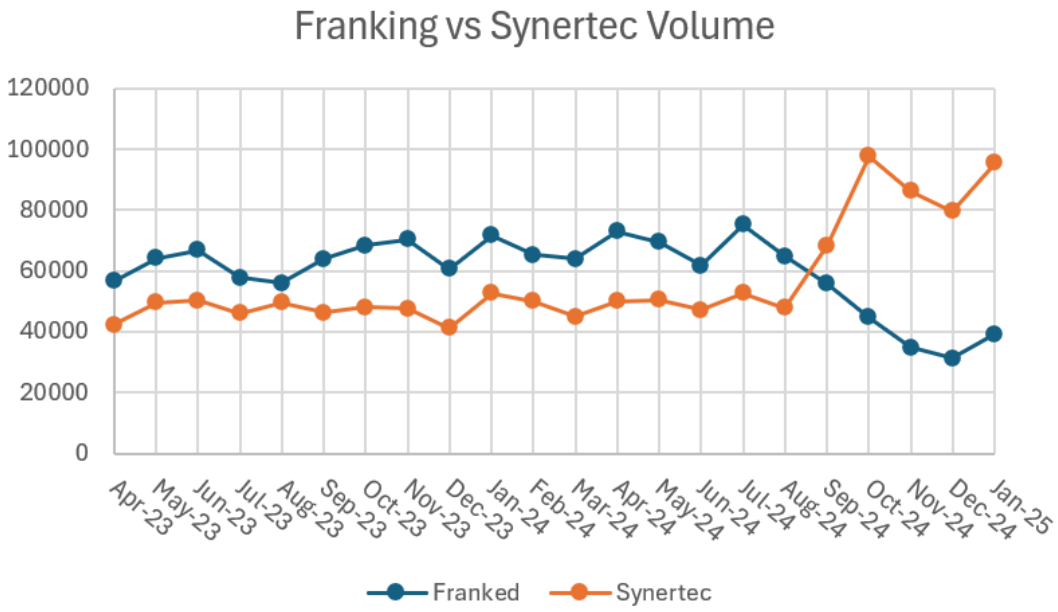
The Numbers

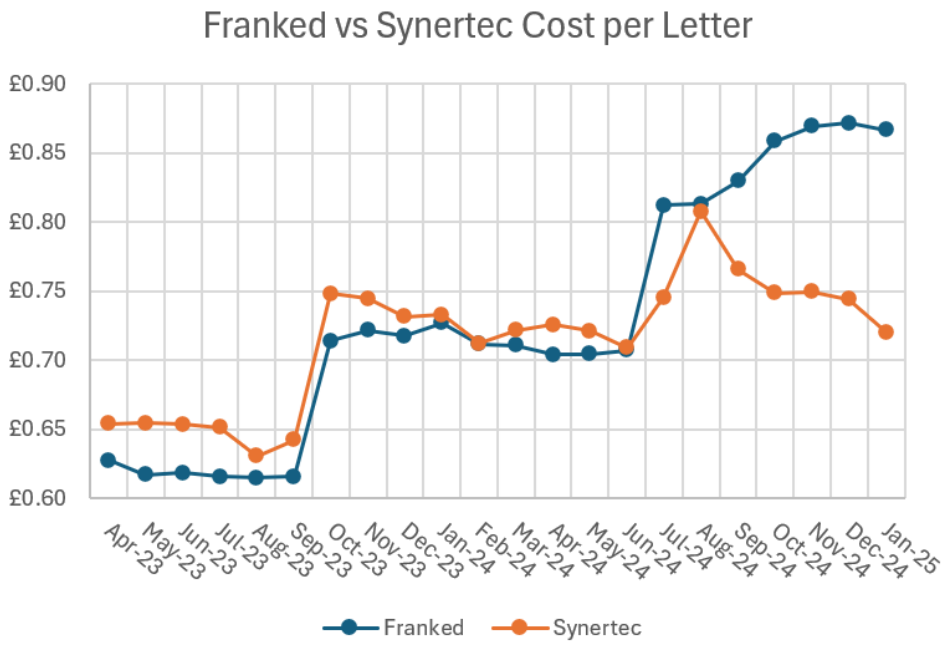
- We send about 600k Appointment letters
- We send about 440k clinical letters
- We have a digital rate of 33% uploaded
- 72% read in time
- We still expect to post 430k, some of which are patient letters
- Total cost to post through Synertec in February – 92p
- Total cost to post through franked mail in February – 95p
- Cost to send digitally 8p
- Value YTD is £131,185
- Carbon savings – 7000kg so far this year

Impact Of PEP On Missed Appointments



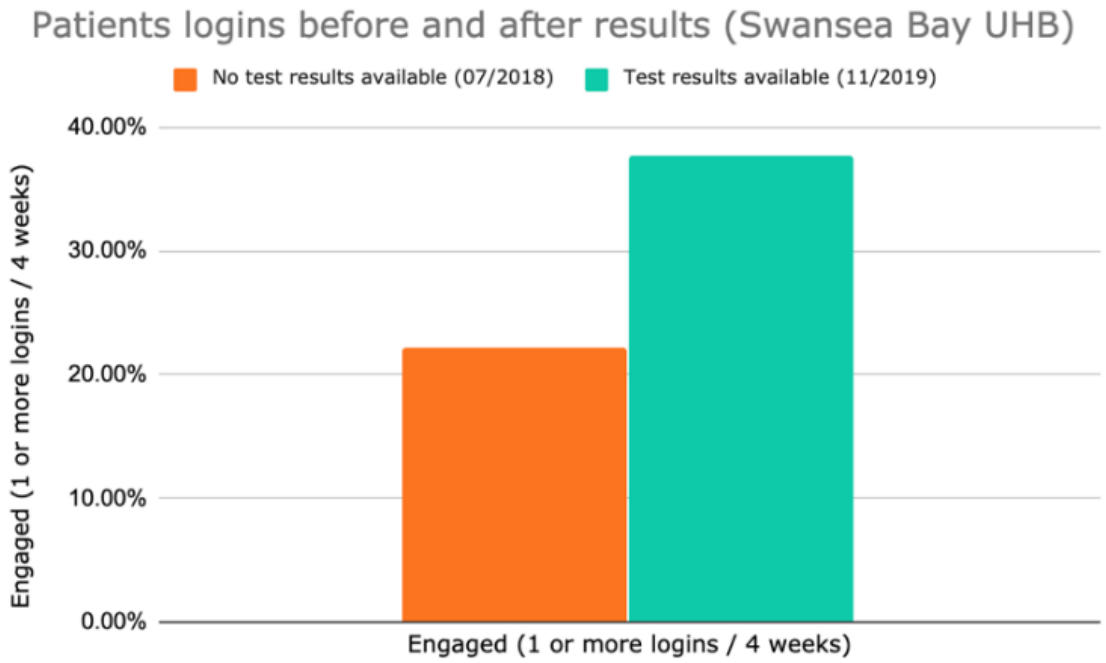
Impact On Finance





Next Steps

1. Move towards Digital First
2. Increase functionality
3. Improve comms and awareness
4. Test results
5. Removing duplication of letters
6. PIFU
7. Videos
8. More questionnaires
9. Messaging and notifications



Digital Inclusion Achievements 2024 – A Year in Review

This work is focused on ensuring that no one is left behind as new technologies are adopted.
It's crucial that none of our residents feel digitally excluded; we also need to support the health and care workforce to develop their digital expertise.

NATIONAL

- Presented at 4 national conferences and webinars, raising awareness of digital inclusion activity in Nottingham and Nottinghamshire.
- NHSE published its first funding opportunity, specifically for Digital Inclusion.

LOCAL

- Transitioned Digital Inclusion into its own strategic workstream.
- Established **Nottingham & Nottinghamshire Digital Inclusion Board** in May 2024; 7 meetings held to-date.
- Strengthened public and patient voice through our Citizens Digital Forum.

Events & Engagement

- Supported at 15 ad-hoc local healthcare / community events.

- **Get Online Week: October 2024**

15 Digital Health Hubs in GP surgeries with <55% NHS App uptake to help patients access digital tools.

135 people spoken to, 55 full NHS App registrations

OUR PROJECTS

Digital Inclusion Co-ordinators

- Nominated for ICB Health and Care Awards under the Equity category.
- Undertook external evaluation of the roles via Niche Consulting. Progressed an Options Appraisal to determine future approach.
- First DI Co-ordinator recruited to secondary care (SFH) in September 2024.
- **5,521** people supported to get online and improve their skills and confidence.
- **1,261 skills sessions** delivered to support NHS App and digital healthcare access

CVS Collaboration

CVS organisations are especially well-placed to help those who are digitally excluded. In 2024 Digital Notts:

- Supported **8 CVS organisations** to embed digital inclusion delivery within their service offering.
- **1,272** people support through the project and each CVS's initiatives
- **234** skills sessions delivered to support services users
- Trained **41** staff and volunteers as Digital Health Champions.
- **12** case studies produced.

Digital Health Literacy Course

Developed and launched a bespoke **Health and Digital Literacy eLearning** course in collaboration with the Patient Information Forum (PIF), for all ICS staff.

Digital Inclusion: Future Focus (2025/26)

Strategic Enablers

Digital Inclusion Board

Encourage adoption of the framework as a structured approach to assessing action on digital exclusion.

Integrate digital inclusion into organisational structures through circulation of board minutes / summary overviews.

Strategic Planning

Produce and embed a system wide Digital Inclusion strategic plan, that is joined up and has buy-in across all organisational partners.

Digital inclusion to be incorporated into organisational strategies where appropriate.

Digital Inclusion Workstream

Review and update programme KPI targets for 25/26, ensuring alignment with inclusive digital healthcare framework domains.

Obtain sustainable funding, working with National/ Local Funding Streams.

Operational Priorities

Digital Inclusion Coordinators

Implement enhanced KPI targets that are relevant / appropriate to the role.

Expand the project on a phased approach, starting with recruitment of a Community Digital Inclusion Coordinator role.

Further roll out of Primary and Secondary Care Coordinators.

CVS Collaboration

Continue to work with the CVS organisations currently on the Project.

Offer out further grants to enable collaborative working with new local organisations / groups.

Build a strong network of Digital Heath Champions (spanning wider than just CVS organisations).

Digital Skills Development

Gain greater understanding of workforce digital skills capability (SFH / NUH digital confidence surveys).

Increase take-up and completions of PIF Digital Health Literacy course.

Encourage improved utilisation of SDN course offerings.

NOTTS CARE RECORD

NOTTS
CARE RECORD

In Nottingham and Nottinghamshire, we are replacing our current "Health and Care Portal" with our Second Generation Care Record: The Notts Care Record.

Shared Care Records

- Connect **direct care data** from different health and care organisations, safely and securely
- Group data **around the person**, not organisation by organisation
- Enable the delivery of safe, high-quality, **integrated care**
- Improve **outcomes** and free up **time** for citizens and staff alike

NOTTS CARE RECORD

The Data Set

- Medication
- Observations
- Appointments
- Test results
- Medical conditions
- Allergies
- Referrals
- Admission and discharge summaries
- Documentation
- Safeguarding information

Gathered from:

- Mental Health Services
- Social Care Services
- Primary Care Services
- Community Health Services
- Acute Care Services

NOTTS CARE RECORD

Where we are now

We have data live from:

- ✓ NHSE's GP Connect (GP data)
- ✓ Nottinghamshire County Council (Social Care data)
- ✓ Doncaster Bassetlaw Teaching Hospitals (Acute data)
- ✓ Nottinghamshire Healthcare Trust (Mental Health data)

Over the coming weeks, data from the following partners will turn live:

- ✓ Nottingham University Hospitals (Acute data)
- ✓ Nottinghamshire Healthcare Trust (Community Health data)
- ✓ Nottingham and Nottinghamshire eHealthscope (GP and Community data)
- ✓ Sherwood Forest Hospitals (Acute data)

Partner organisations will make the record available to their teams over Spring and Summer

… and we will start a new tranche of projects to make the record even more useful!

NOTTS
CARE RECORD

Learn more or get in to uch

digitalnotts.nhs.uk/notts-care-record