

# Cyber Security Best Practice Re-Wired

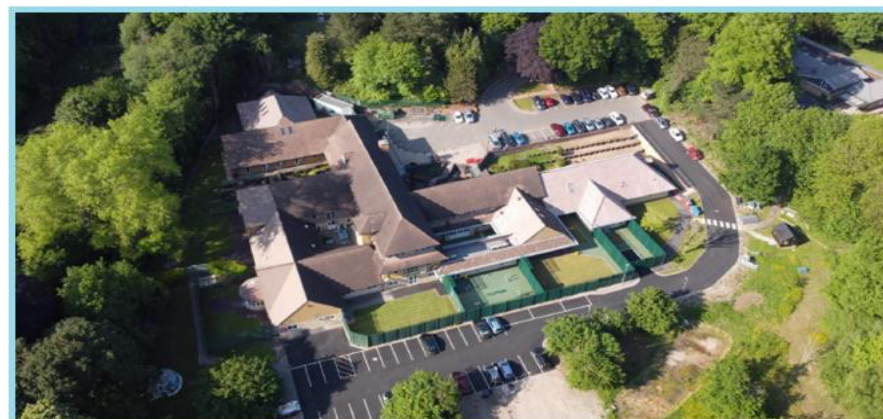
Daniel Ray  
Chief Technology Officer  
Birmingham Women's and Children's  
Hospital NHSFT

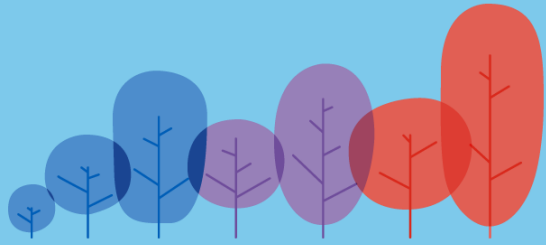


A unique Trust that has mental health, paediatrics, genetics and women's services within a single organisation.

**NHS**

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August 4<sup>th</sup> 2022

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# **NHS cyber attack hits patient care with records left in 'chaos' three months on**

**EXCLUSIVE**

Mental health practitioners and social care managers have revealed that patients' records are missing, safety has been compromised, and medication doses are at risk of being missed





# So What Was the Management Plan & What Happened?



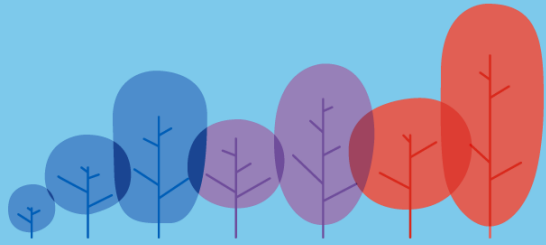
- Time
- What's the system impact length of outage?
- Hours, Days, Weeks, Months – the plans are different
- Which clinical systems function & capture the data needed?
- Which can we scale quickly and then extract data out of?



**50%**

of UK senior executives say they react to a disruption after the incident



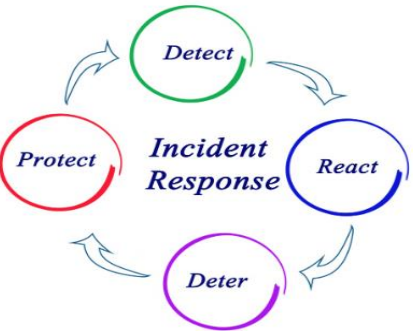


# How Did We Manage?

## Business Continuity Planning

[ˈbɪz-ˌnæs ˌkæn-tə-ˈnju-ə-tē ˈplɑ-nɪŋ]

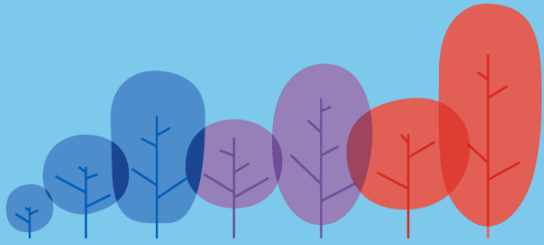
The process involved in creating a system of prevention and recovery from potential threats to a company.



- Mental Health EPR was taken out for 108 days.
- Stood up replacement functionality system in 2-3 weeks.
- Ensure close working with operational and clinical colleagues embedded in work flow & system decisions.
- Have a clear migration and stand up plan from replacement systems
- Create Legacy viewer on data held.
- Document document document!
- A number of decisions reviewed and audited post event
- Extract and re-load once the system was re-built and available
- Large amounts of manual entry and then re access.

**DATA  
ACCESS**

# Important Aspects We Have Implemented



- Cyber is a race that never ends.
- Vast majority of cyber vulnerabilities come in through human actions.
- We deliver mandatory annually updated cyber training for all staff.
- If staff do not complete the annual training they are locked out of their accounts.
- Deliver and create awareness of what current threats are, communicate them out to the organisation almost daily
- Know and understand business continuity plans



# Run Proper Unannounced Hack Days



- Get some external support to set it up
- Make sure its truly unannounced
- Only when services are faced with outage are some of the real key issues surfaced.
- Run through step by step on a pre planned scenario
- Ensure that it isn't just a technical exercise.
- Be clear on RPO & RTO timescales with the organisation
- Map out the planned approach following an outage -





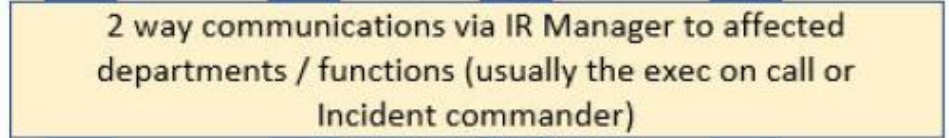
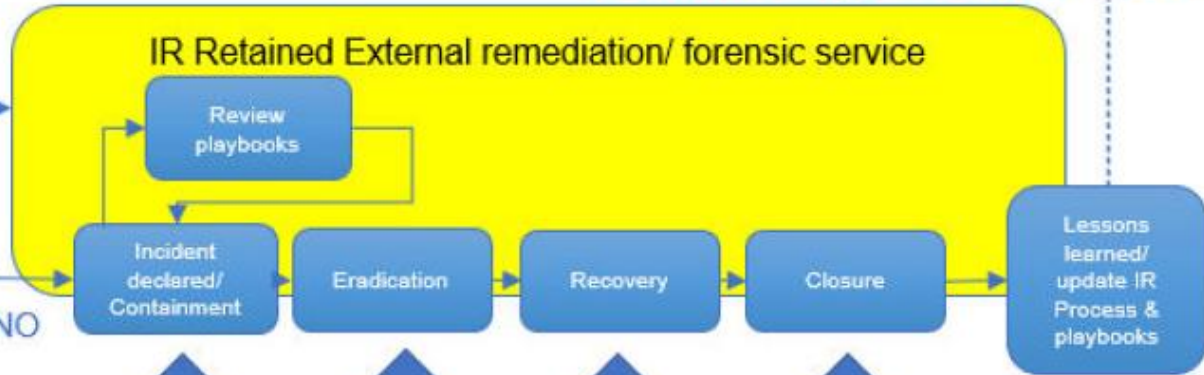
# Information Governance Team



# Incident Response Team Boundary



# ICT Operations



3 to 5

1 or 2

YES

NO







# Get Written Assurance



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Obtain signed assurance from suppliers for key systems

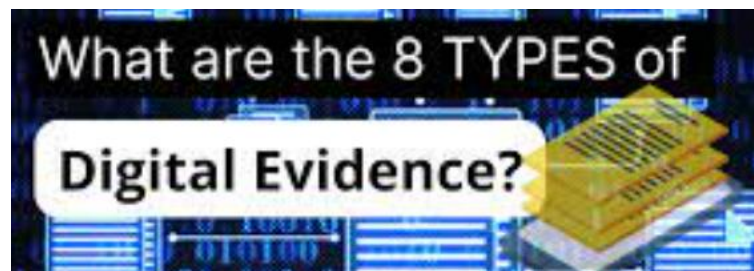
**Check the contracts!**

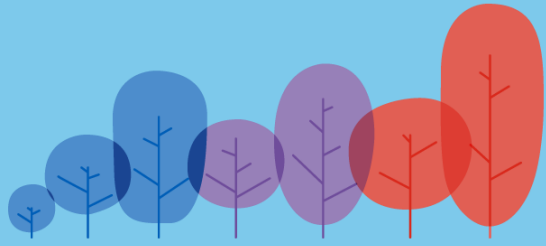
**What does it say in the contract for your key systems who is entering into an agreement or contract with the Trust for a re build / return should a cyber attack occur? .**

## Third Party Security Questionnaire

This document must be completed and signed by any third party

**DIGITAL EVIDENCE COLLECTION  
IN CYBER SECURITY**





# Ensure Key Access and Surveillance in Place



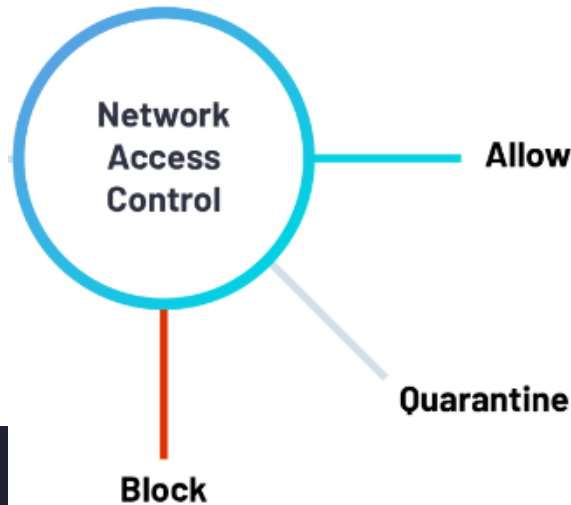
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Privileged Access Management (PAM)  
is a high priority in cyber security

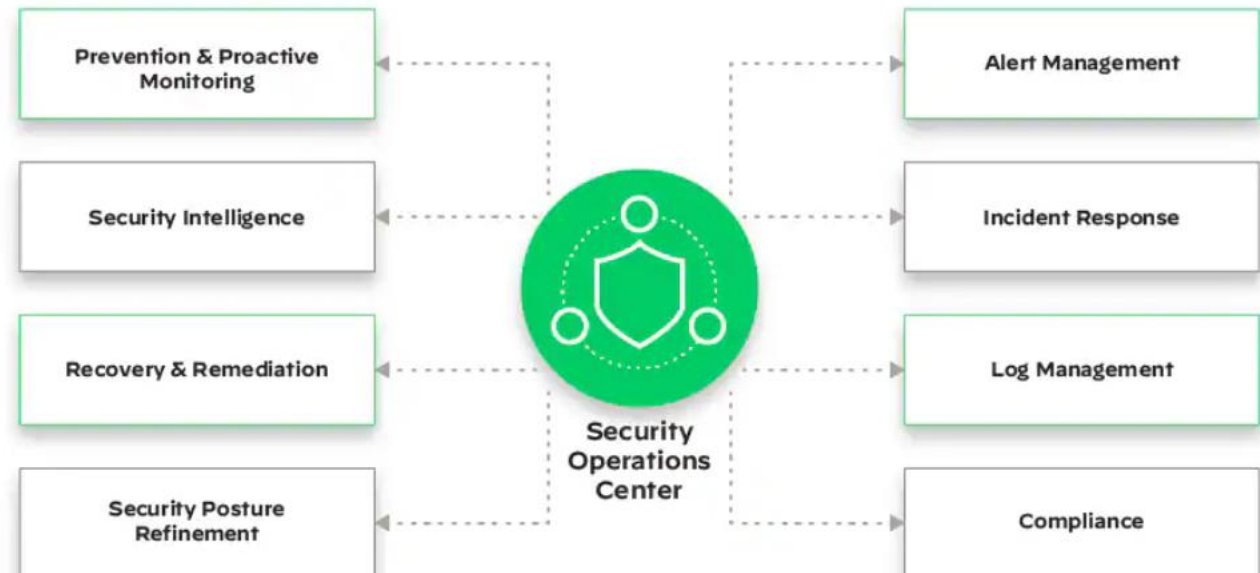


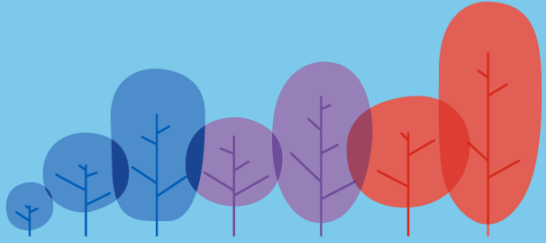
## PAM works to:

- Block malicious parties
- Grant access to only those required
- Monitor suspicious activity
- Adhere to regulation standards
- Centralize access to data and systems
- Prevent stolen credentials



## SOC FUNCTIONS



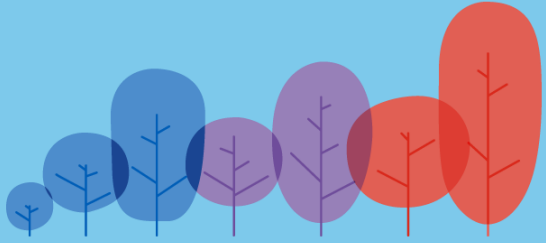


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# Finally Some Audience Participation







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Questions?