

How to deliver a sustainable approach for digital transformation in healthcare



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Ref – thanks to ETHOS

10 Year Plan published 3.7.25

- [NHS 10 Year Plan](#)



Clinical Safety – Robust Governance Structure

- Strategies
- Policies
- Culture
- Shadow IT



Clinical Safety – The 3 Ds

- DTAC
- DCB Standards
- Datix

A 3D rendering of the text "3Ds" in a light blue, sans-serif font. The letters are thick and have a slight shadow underneath, giving them a three-dimensional appearance. The "3" and "D" are connected, and the "s" is separate.

DTAC

- Provides assurance to staff, patients and citizens that health tools meet the standards for:
 - Clinical Safety
 - Data Protection
 - Technical Security
 - Interoperability
 - Usability
 - Accessibility
- This is designed to be used at the point of procurement for due diligence to meet minimum baseline standards

DTAC

Risks of non-compliance with DTAC

- Regulatory and Governance breaches
- Patient safety risks
- Data security and privacy risks
- Financial and reputational impacts
- Procuring and commissioning impacts
- Operational risks

DCB0129 & DCB160

- Need to identify the potential hazards/harms and mitigate risks
- Legal requirement – DCB0129 & DCB0160
- Issued under Section 250 of the Health and Social Care Act
- For all technology where there is a risk of harm to patients
- Patient safety is the responsibility of all
- Applies to procurement, implementation, on-going use and decommissioning

[DCB129](#)

[DCB0160](#)

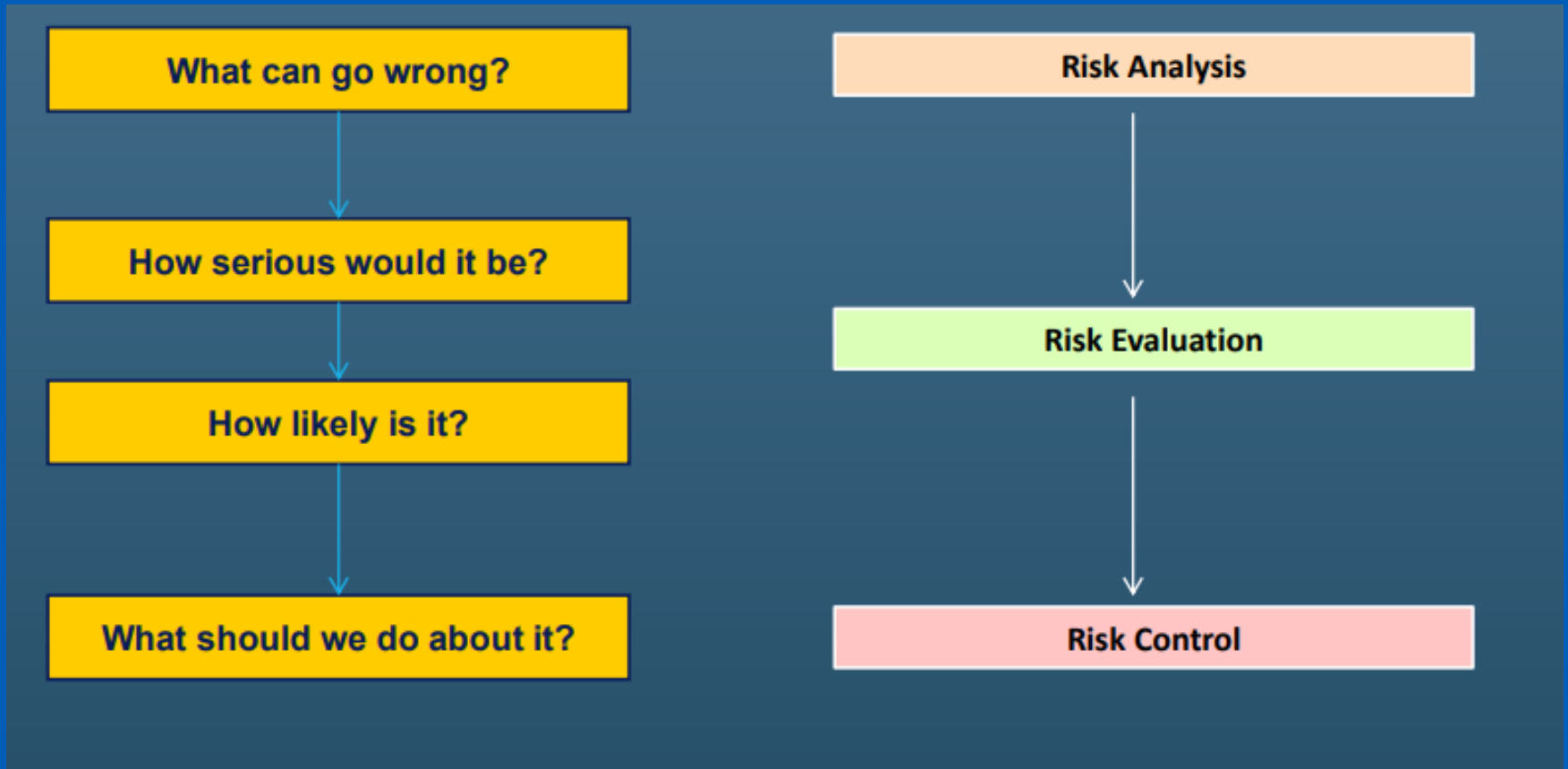
Free training for NHS staff available on ESR for Introduction to Digital Clinical Safety

[MS Teams](#)

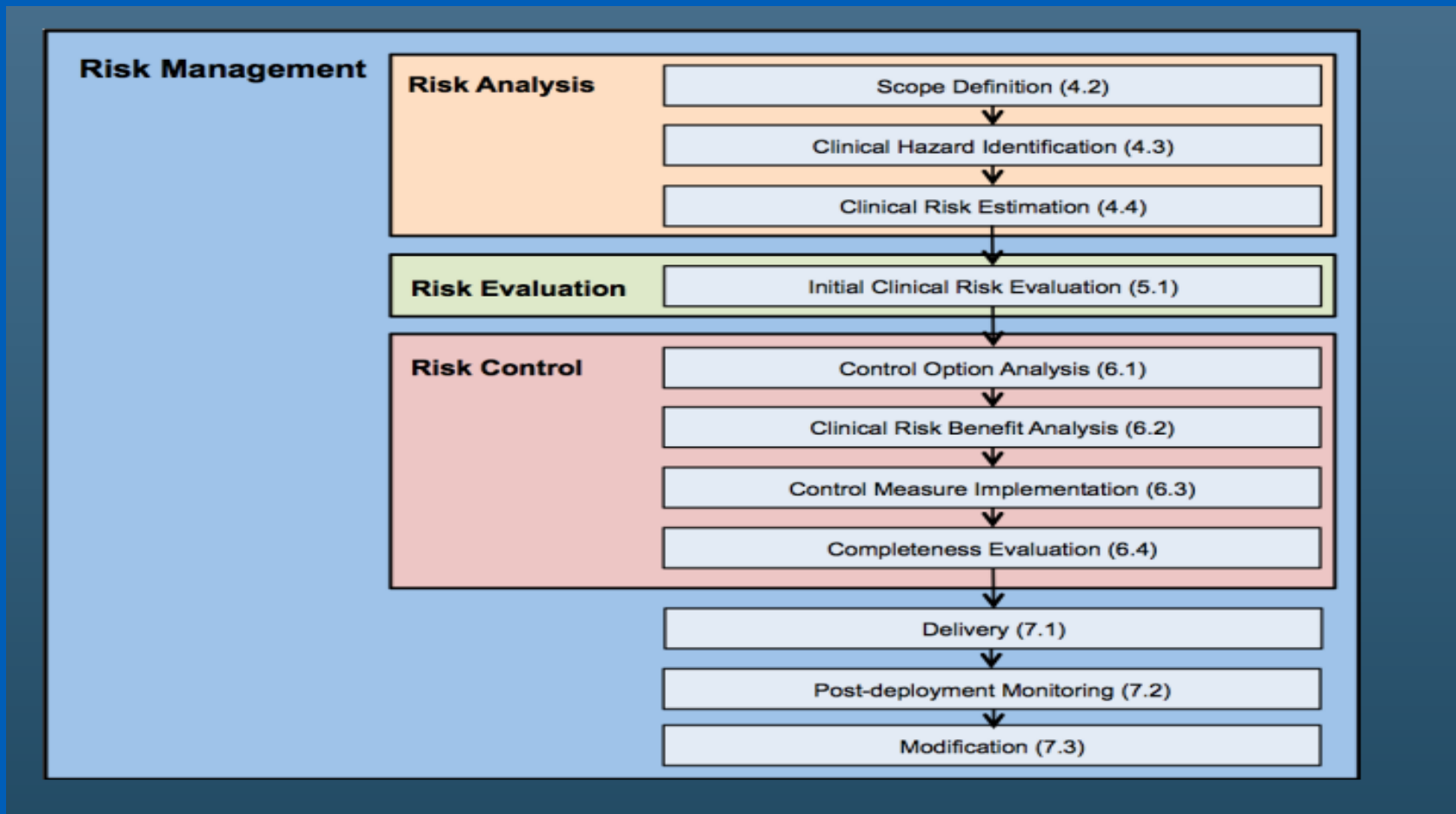
What is the difference between a hazard and a risk?



We need to ask ourselves:



Clinical Risk Management Process:



4 Ts of Risk



Terminate - strongest



Treat



Tolerate



Transfer - weakest

Clinical Risk Management Activities:



- Hazard Identification
- Clinical Risk Analysis
- Clinical Risk Evaluation
- Clinical Risk Control

Priorities of DCB0160

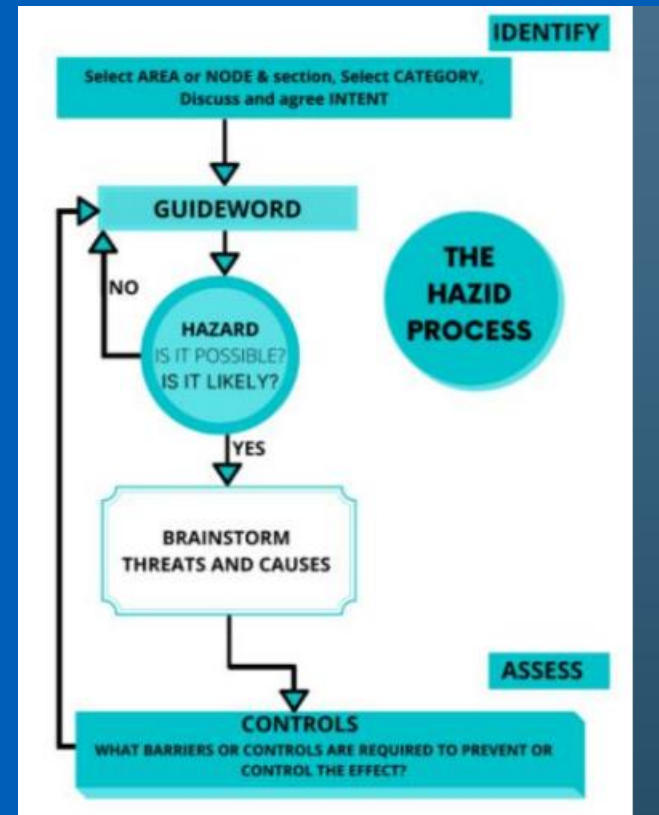


Hazard Assessment using HAZID

Focus on characteristics in the flow

Use key words: none, wrong, late, incomplete, or duplicate

Useful for initial risk identification



Hazard Assessment using SWIFT

Questions	
What happens if...	Incorrect / incomplete patient information is used?
Can a user...	Unintentionally retain sensitive patient data onto their device after exiting the MDT session?
Will a user know...	if the MDT decisions are appropriately communicated?
Does the system...	Recognise and allow appropriate clinicians to join?
Is it possible...?	That a user could be confused by the display of information?
Has anyone ever...?	Uses the system in a different way to which it has been designed?

Hazard Assessment using SWIFT

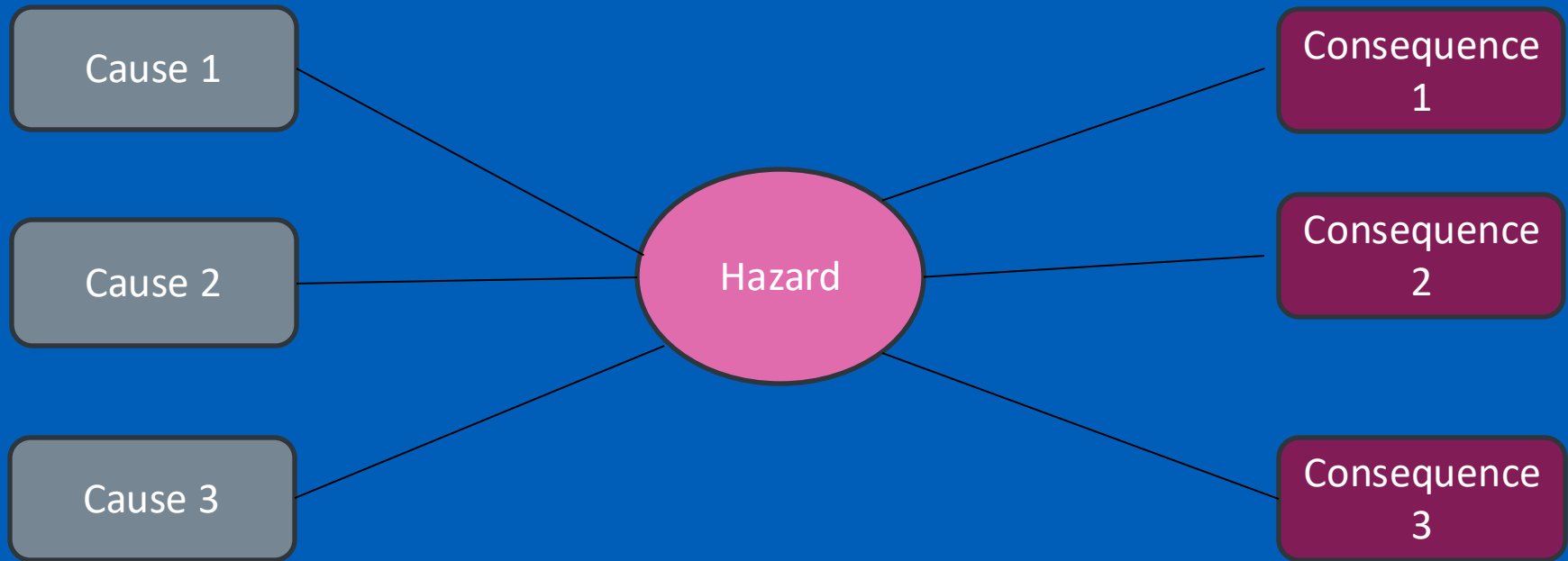
Business Process Lifecycle

- Care setting and clinical business process
- Number of patients exposed
- Solution dependency
- Detectability and clinical mitigation
- Anticipated behaviour
- Reliance on human factor mitigation
- Perceived trustworthiness
- Unpredicted utilisation.

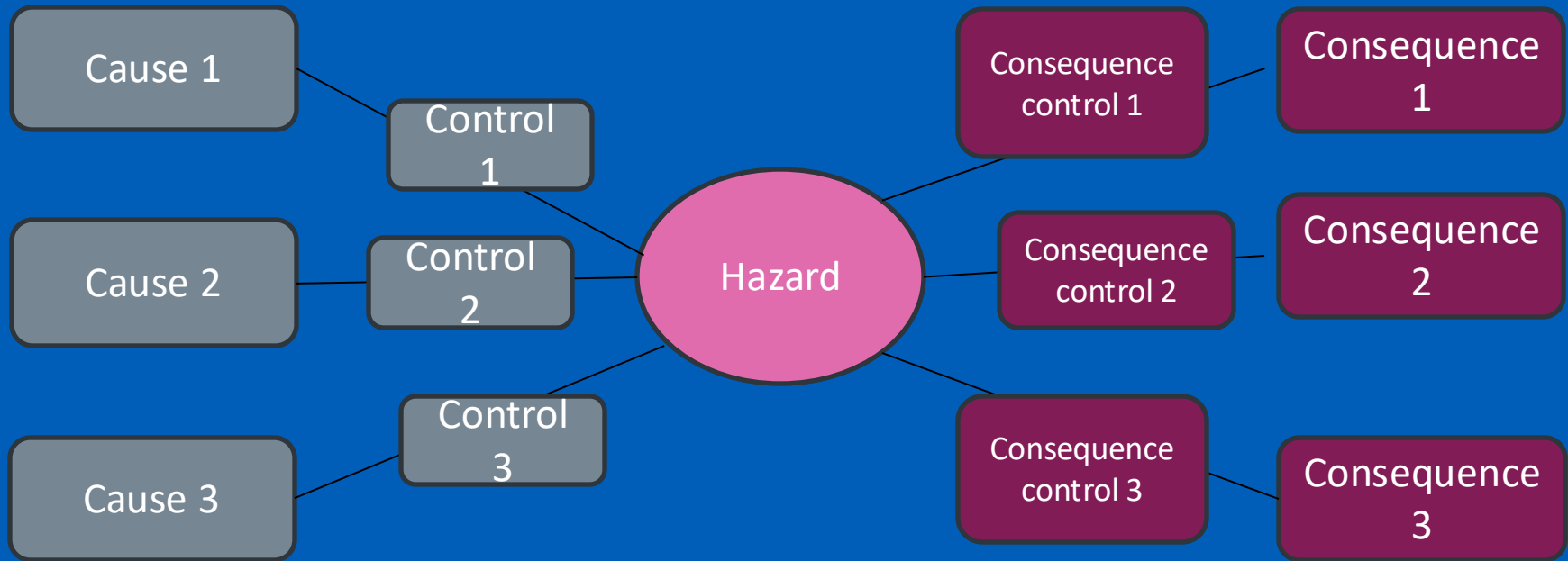
Functionality:

- Ergonomic Related Hazards
- Data Migration Hazards
- Data Item Definition Hazards
- Data Persistent Hazards
- Data Retrieval Hazards
- Data Display Hazards
- Data Transmission Hazards
- Data Receipt Hazards
- Data Validation Hazards
- Function Execution Hazards
- Algorithms (Calculation / Execution Hazards)
- System Availability Hazards
- Supporting Documentation Hazards
- System Security Hazards
- Workflow Hazards
- Client Localisation / Modification Hazards.

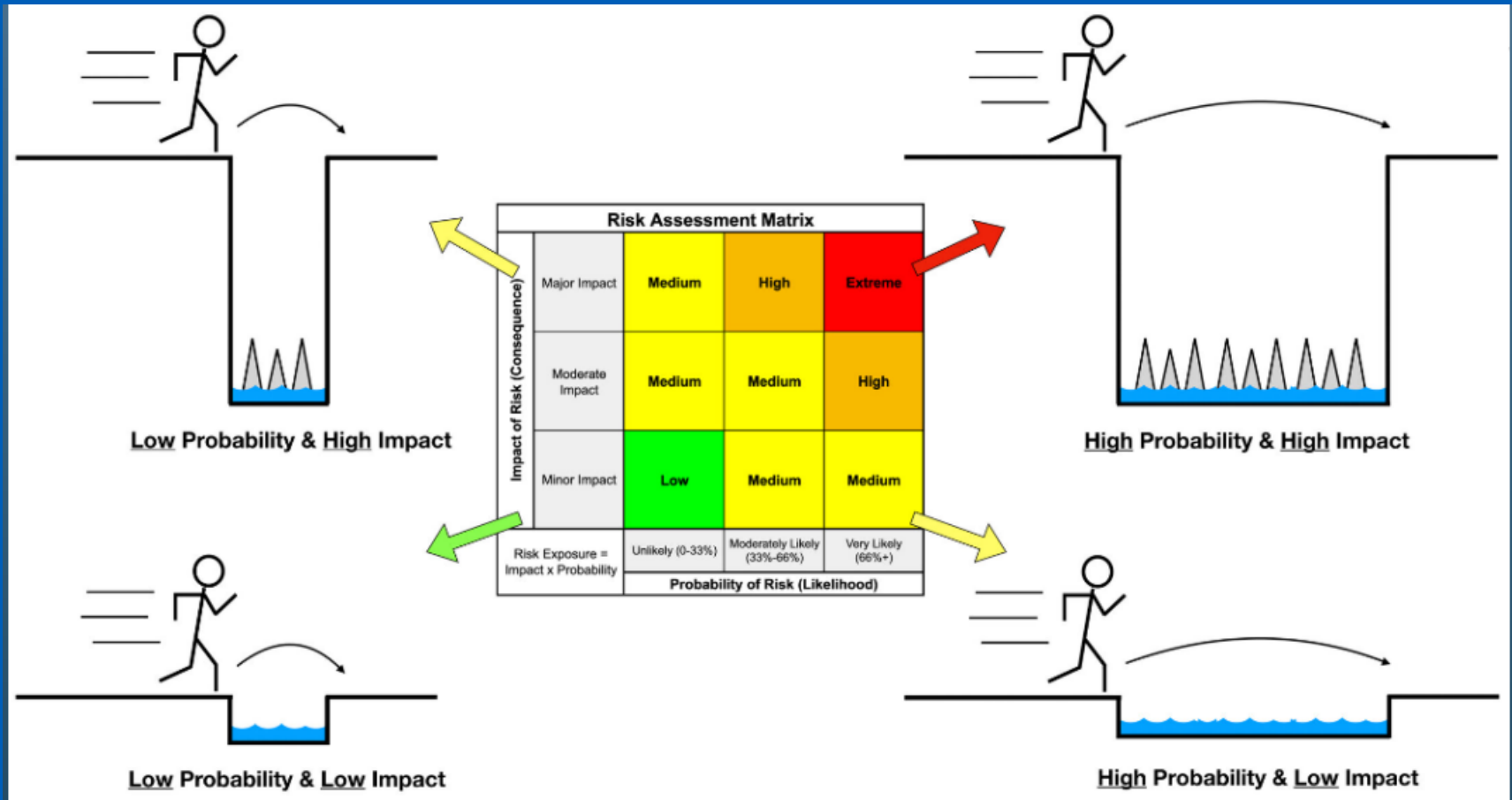
Bow Tie Assessment



Bow Tie Assessment: part 2 – Group Work



Risk Assessment



Severity classifications for DCB0160

Severity Classification	Interpretation	Number of Patients affected
Catastrophic	Death	Multiple
	Permanent life-changing incapacity and any condition for which the prognosis is death or permanent life-changing incapacity; severe injury or severe incapacity from which recovery is not expected in the short term.	Multiple
Major	Death	Single
	Permanent life-changing incapacity and any condition for which the prognosis is death or permanent life-changing incapacity; severe injury or severe incapacity from which recovery is not expected in the short term.	Single
	Severe injury or severe incapacity from which recovery is expected in the short term	Multiple
	Severe psychological trauma	Multiple
Considerable	Severe injury or severe incapacity from which recovery is expected in the short term	Single
	Severe psychological trauma	Single
	Minor injury or injuries from which recovery is not expected in the short term	Multiple
	Significant psychological trauma	Multiple
Significant	Minor injury or injuries from which recovery is not expected in the short term	Single
	Significant psychological trauma	Single
	Minor injury from which recovery is expected in the short term	Multiple
	Minor psychological upset; inconvenience	Multiple
Minor	Minor injury from which recovery is expected in the short term, minor psychological upset, inconvenience, any negligible severity	Single

Likelihood classifications for DCB0160

Likelihood Category	Interpretation
Very high	Certain or almost certain; highly likely to occur
High	Not certain but very possible; reasonably expected to occur in the majority of cases
Medium	Possible
Low	Could occur but in the great majority of occasions will not
Very Low	Negligible or nearly negligible possibility of occurring

Risk rating matrix for DCB0160 – Group Work

Likelihood	Very High	3	4	4	5	5
	High	2	3	3	4	5
	Medium	2	2	3	3	4
	Low	1	2	2	3	4
	Very Low	1	1	2	2	3
		Minor	Significant	Considerable	Major	Catastrophic
		Severity				

Risk acceptability definitions for DCB0160

5	Unacceptable level of risk.
4	Mandatory elimination or control to reduce risk to an acceptable level.
3	Undesirable level of risk. Attempts should be made to eliminate or control to reduce risk to an acceptable level. Shall only be acceptable when further risk reduction is impractical.
2	Acceptable where cost of further reduction outweighs benefits gained.
1	Acceptable, no further action required.

Additional controls must include:

Group Work

Design: Such as configuration or design features to mitigate against the risk

Testing: E.g. UAT testing, sand pit testing

Training: Staff will need to be trained in the new system and adequate staff numbers will need to be trained before 'Go Live'

Business Process Changes: SOPs & BCPs will need to be updated and shared

Residual risk evaluated

Review once all controls implemented – these need to be evaluated/proved

Rescore the severity, likelihood, risk rating and risk acceptability



Hazard log tips

Consequence seldom changes!
Focus on likelihood.

Implementation /
Deployment

SoP, Workflow,
Clinical / Patient Use

Manufacturer
Transferred Risk



Health organisation hazard logs should consist of typically 75% generic project related digital health implementation hazards, 20% hazards specific to the intended operation of the digital health product (using SoP's) and 5% risks transferred from the manufacturer relating to the intended safe use of the product.

Mitigation
All controls must be simply summarised as to why they provide the control. References to evidence where more detailed explanation can be found must be provided.

Worksheet _____ of _____										Date:					
Section / Task															
Description of section or task to be analysed (including inputs, outputs, descriptions of activities, resources (people, drugs, equipment) , controls and other comments										Team					
No	Hazard Name	Hazard Effect	Harm	Possible Causes	Existing Controls	Initial Risk Rating			Additional Controls				Residual Risk Rating		
						C	L	R	Design	Test	Training	Business Process Change	C	L	R
1															
2															
3															
4															
5															
6															

Governance and Maintenance

Governance:

Documents – Clinical Safety Case and Hazard Logs, SOPs, Policies etc should all be ratified.

Organisation should have a Risk Management Policy and Strategy with visibility at Board level

Maintenance:

Signed off and converted to PDF. Live documents

Reviewed at least annually, with updates/significant changes and incidences

What will the impact of AI be?

Same principles. However:

- Population used to develop AI? Generalisability?
- Ai in one area changing impacting another
- Over-reliance/confidence, risk of higher errors due to volume being processed (includes RPA)
- Hallucinations
- Data bias
- Impact on job roles
- Consent and patient perspective
- AVT guidance

Datix

- Legal requirement
- Breaches can lead to significant financial penalties
- Sanctions on the Trust would impact delivery of patient care
- Compliance of NHS contractual terms and conditions
- Risk of reputational damage and loss of trust in the organisation
- Non-compliance creates vulnerability to cyber attacks

Sustainability of Digital Solutions



Local situation

- SWOT analysis:
- Increasing NHS mail and MS Teams meetings
- Sources:
 - Informal discussions
 - Patient Engagement Sessions
 - National Staff Survey
 - Data/Reports
 - Research/Literature



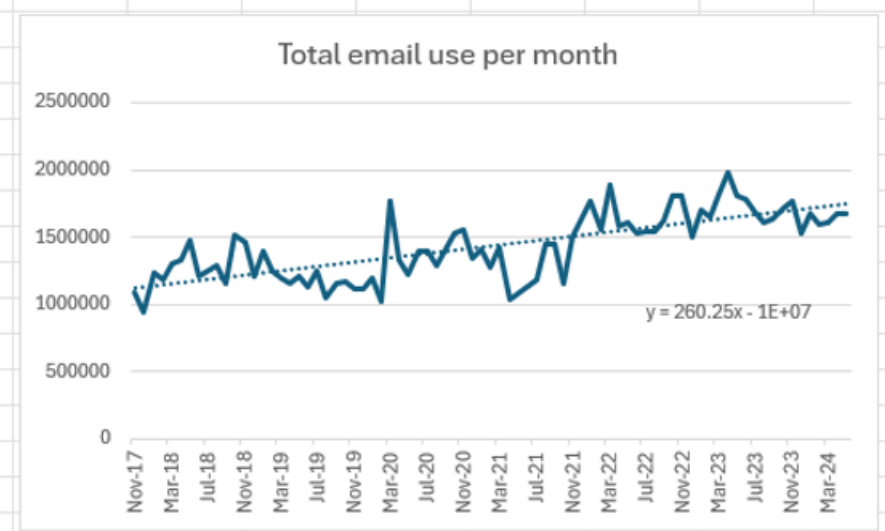
National situation

- NHS – work related stress
- ‘Shining a light on an additional clinical burden: work-related digital communication survey study – Covid-19 impact on NHS staff wellbeing’ (Bakhai et al 2022)
- Colleagues are calling for an effective solution to email technostress.

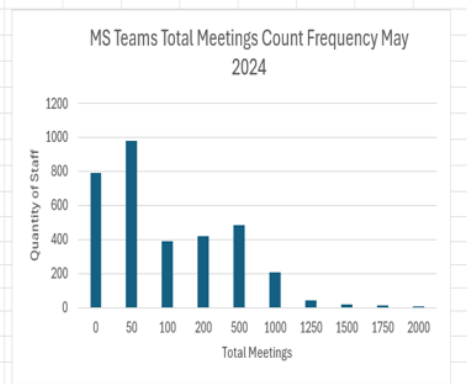
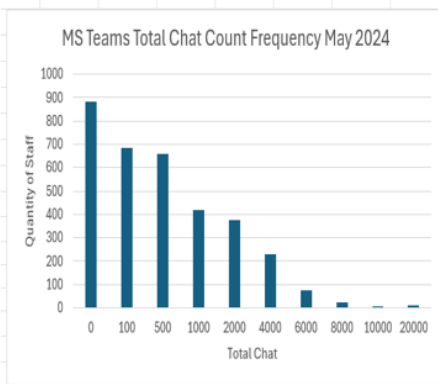


Local data

Email use is growing at approx. 260 emails per month



Estimated NHS mail usage (sent and received) 2017-2024

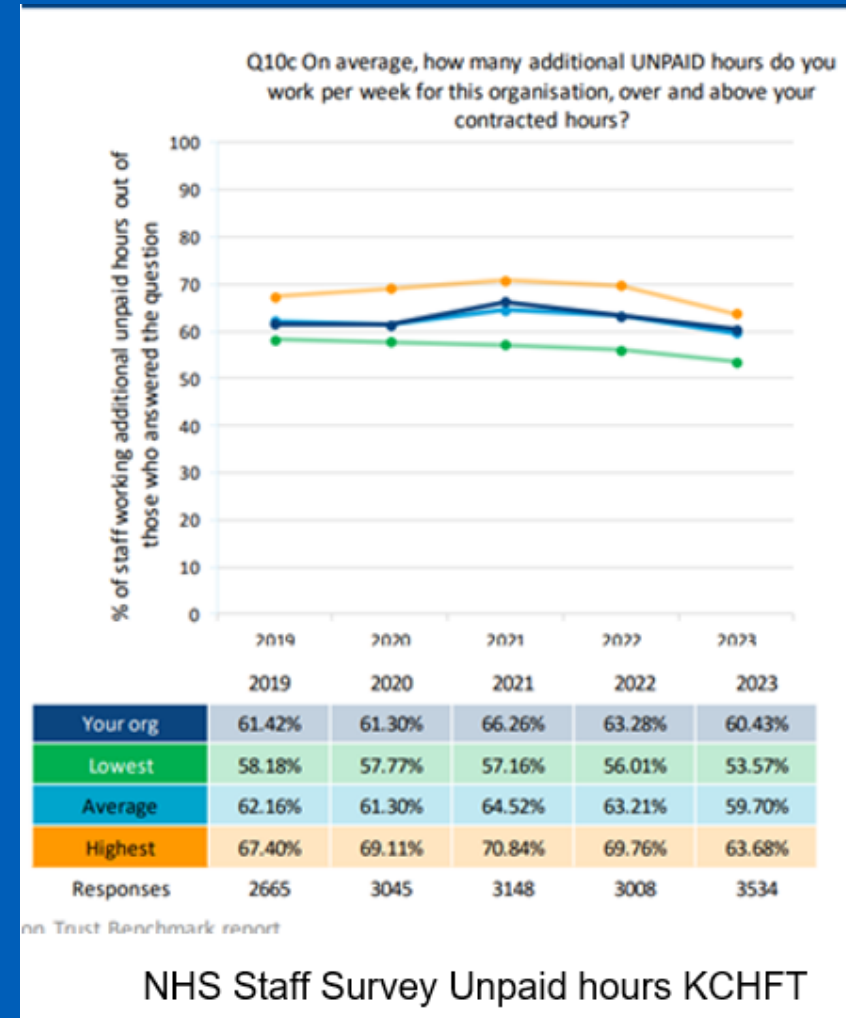
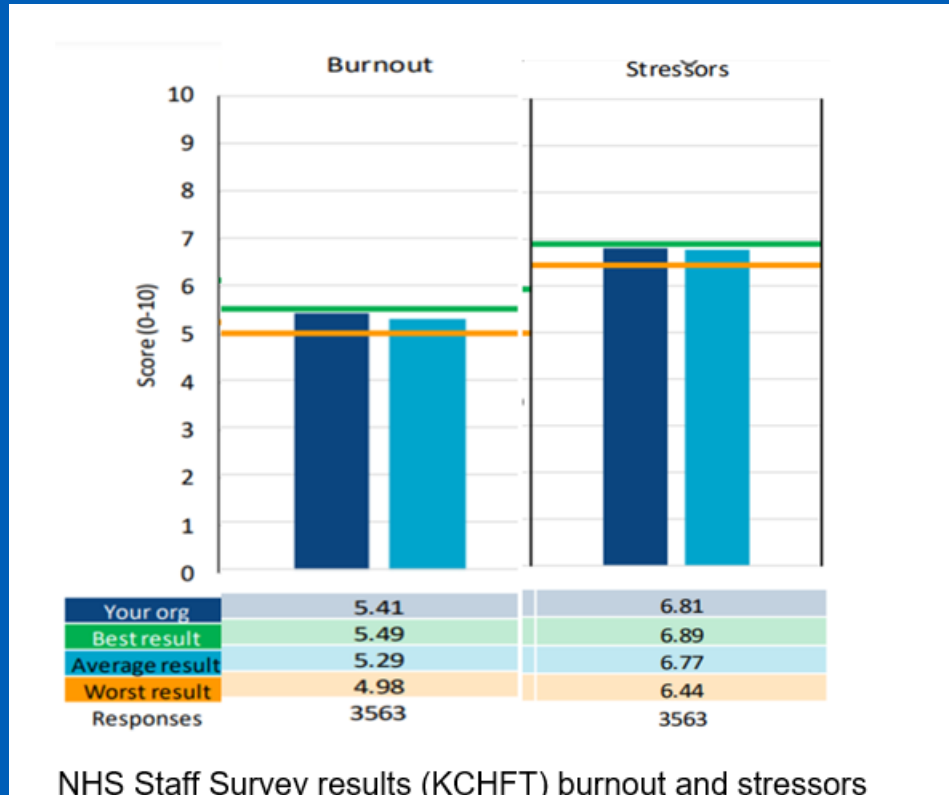


MS Teams Chat and Meeting Count per user May 2024

MS Teams – variable use

Confusion from multiple communication channels

Staff impact



How long does it take to recover from an interruption?



Patient impact

- Advancements in digital solutions (speed of change)
- Fear, anxiety
- Lack of patient and carer engagement with IT team
- Identified gap in Digital Maturity Assessment



Objectives – to reduce negative impacts

- Colleagues
 - Review use of emails and MS Teams
 - Identify areas of concern
 - Improve productivity without causing additional burden
 - Improve uptake of digital transformation
- Patients and carers
 - Identify areas of concern
 - Improve uptake of digital transformation
 - Reduce health inequalities from digital transformation
 - Improve patient engagement
- Bonus – positive impact on carbon footprint



Proposal – staff solutions

- Improve effectiveness of current digital solutions
- Easy quick win options
- Review guidance



Proposal – patient and carer solutions

- Digital forum for patients and carers
- Patient engagement and health inequalities teams
- Collaboration with partners/industry
- Volunteers



Return on investment

- Colleagues:
 - Reduced sickness, burnout, and turnover
 - Improved productivity
- Environmental:
 - Reduce Carbon Emissions
- Organisation:
 - Improve reputation
 - Increase digital maturity score
- Stakeholders:
 - Improve engagement/improved health outcomes
 - Improve trust
 - Improve collaboration with partner organisations, industry, and voluntary sector





**KCHFT Board &
Executives**



Patients & Carers



Unions



IT Teams



Staff Council

Stakeholders



**Staff (clinical &
admin)**



**Partner
Organisations**



**Third-party
Providers**



HR Dept



**Voluntary
Organisations**



**Quality
Improvement**



**Patient
Participation**



**Health
Inequalities**



Emails



Intranet Articles



Blogs



Team Meetings



Flomail/Newsletter



Screen Savers

Communication channels



Email signature banners



Health Bus



Patient participation events



External website



Social Media



Local Media



KCHFT magazine



Reduction in emails



Improved
Pulse Survey



Reduced sickness



Reduced burnout



Increased staff
satisfaction



Improved clinical
activity



Return on investment



Improved digital
maturity



Improved patient
satisfaction



Increased productivity



Reduced Turnover and
reduced cost



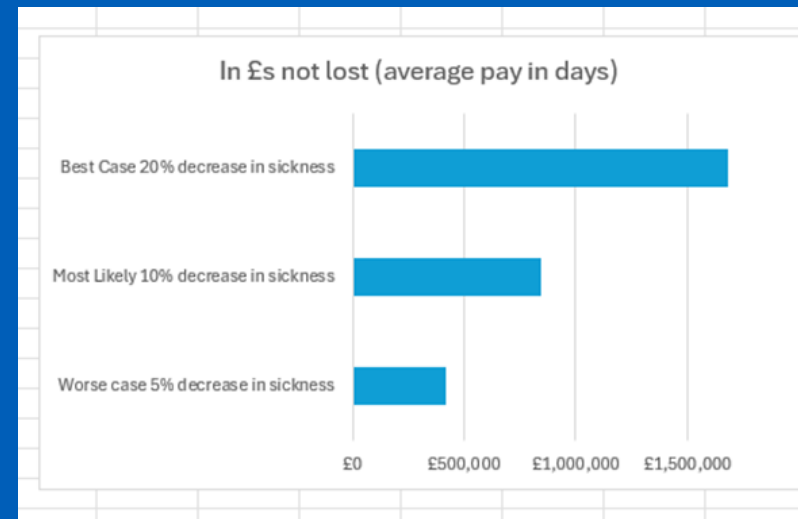
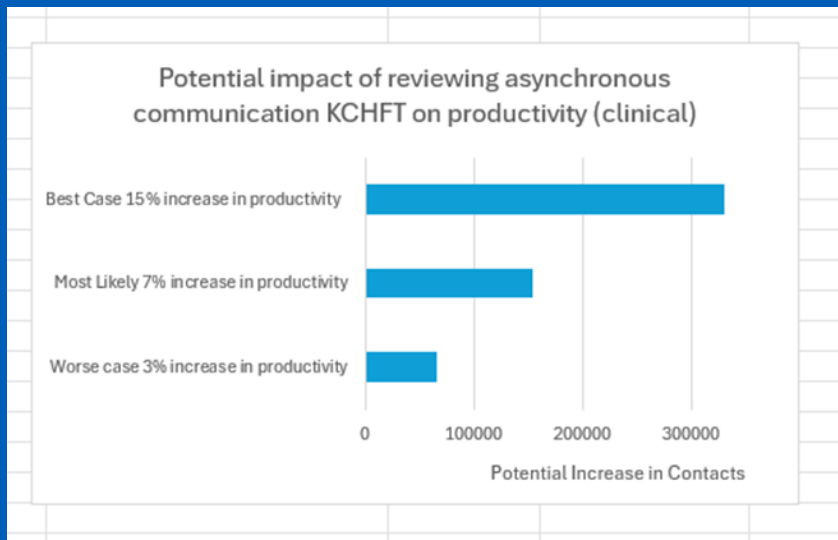
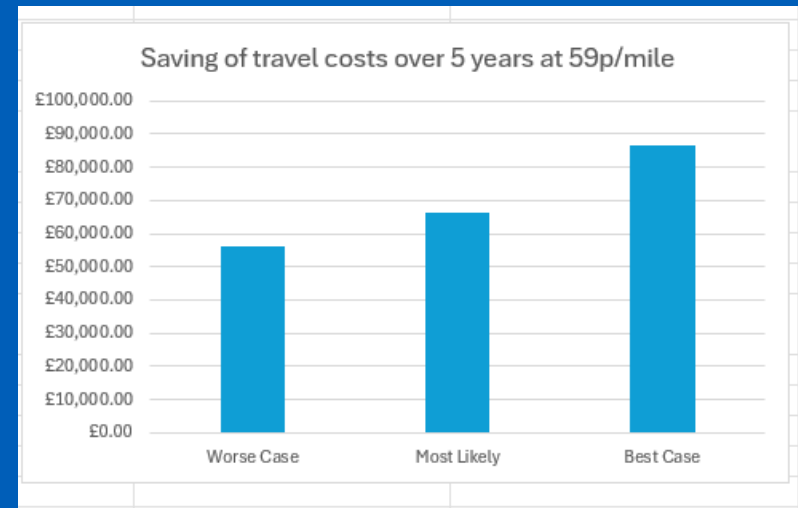
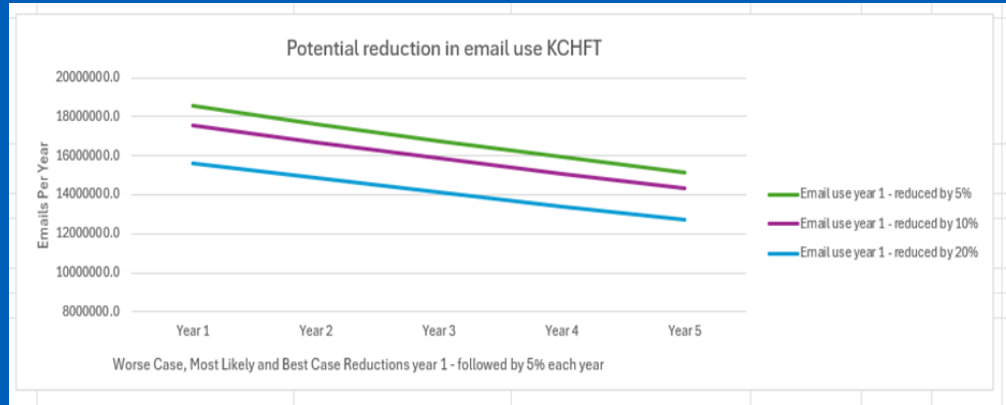
Improved patient
engagement



Reduction in missed
appointments

KPIs

Potential impact



Environmental impact

- How many patient related emails are unread every year?
- Approx 18-32 million (FOI 23-24)
- What is the carbon footprint of sending an email?
- 0.03g-50g
- What about storing all these unread emails?



Recommendations

- Pulse Survey (Jan to Feb 25)
- Change in culture/IT guidelines for staff – Right to Disconnect
- Training program
- Focus groups/engagement
- Volunteers
- Share learning



Pulse Survey Results

- 409 staff
- Lots of positives
- Negatives:
 - Frustration with slowness
 - Multiple logins
 - Too many meetings
 - Constant emails and chat
 - Lack of clarity on location of information
 - Lack of training
 - Improve colleague engagement



Outcome of research on interruptions with Community Nurses

- 6 interviews & FOI
- 5 interruption dimensions:
 - Technology mediated affecting workflow and communication
 - Spatial environment: travel and workspace
 - Clinical care complexities – adaptation
 - Psychological adaptation to manage multiple demands
 - Work-life balance



What can you do to reduce technostress?

- Start meetings at 5 past the hour
- Not reply to all
- Avoid 'double texting', cold calling, and urgent messages
- Speak to each other
- Construct succinct and appropriate emails
- Allocate time for focused work
- Take breaks







References

- Bakhtai, A. et al (2022), ‘Shining a Light on an additional clinical burden: work-related digital communication survey study – Covid-19 impact on NHS staff wellbeing’ Humanities and Social Sciences Communications, 9 (1) :414. [10.1057/s41599-022-01427-7](#) Epub 2022 Nov 18. PMID: 36439048; PMCID: PMC9676904.
- The King’s Fund (2024), Leadership and Workforce – Staff Shortages [//www.kingsfund.org.uk/insight-and-analysis/data-and-charts/staff-shortages](#)
- Mental Health UK (2024), ‘The Burnout Report’
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- Tarafdar, M, et al (2010), ‘Impact of technostress on end-user satisfaction and performance’, Journal of Management Information Systems, 27(3), 303–334, [https://www.tandfonline-com.chain.kent.ac.uk/doi/epdf/10.2753/MIS0742-1222270311?needAccess=true](#)

