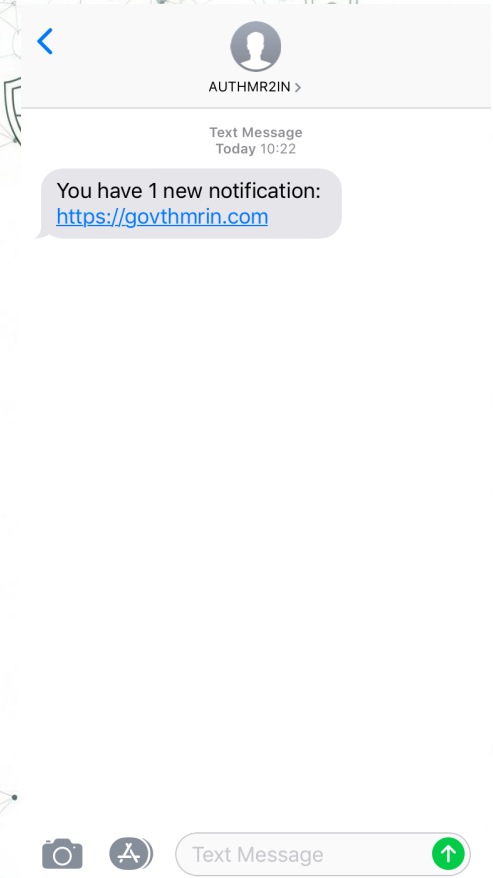
Când securitatea cibernetică eșuează: Costul uman în sistemul de sănătate Perspectiva NHS

Cpt. (R) Dr. Med. Remus Sferle



govthmrin.com

GOV.UK

HM Revenue & Customs

Welcome to GOV.UK

English | Cymraeg

Please provide your date of birth and national insurance number to continue

Date of Birth

National Insurance Number

It's on your National Insurance card, benefit letter, payslip or P60.
For example, QQ 12 34 56 C.

Continue

Not Secure — govthmrin.com

Surgery Code Map FileList Box ink

national insura... Your National I... National Benefi... HMRC launche... Report tax eva...

GOV.UK

HM Revenue & Customs

Tax Refund - Step 2

Please provide your personal details to continue

Full Name

Gofthal

Address

Town

Postcode

Phone Number

Mother's Maiden Name

Despre mine

Advitspace - director/cofondator

Certs: CompTIA Pentest+, Security +, Network +

Cyber Sec BCs (Honors) - The Open University

Chirurg Generalist - Spital de Urgență Londra

Medicină Militară - București



Remus Sferle

Surgeon 😷| Advitspace Co-Founder | CompTIA Pe...

National Health System (NHS) - Informatii Generale

Pacienți 63.9 mil (NHS digital - 2025)

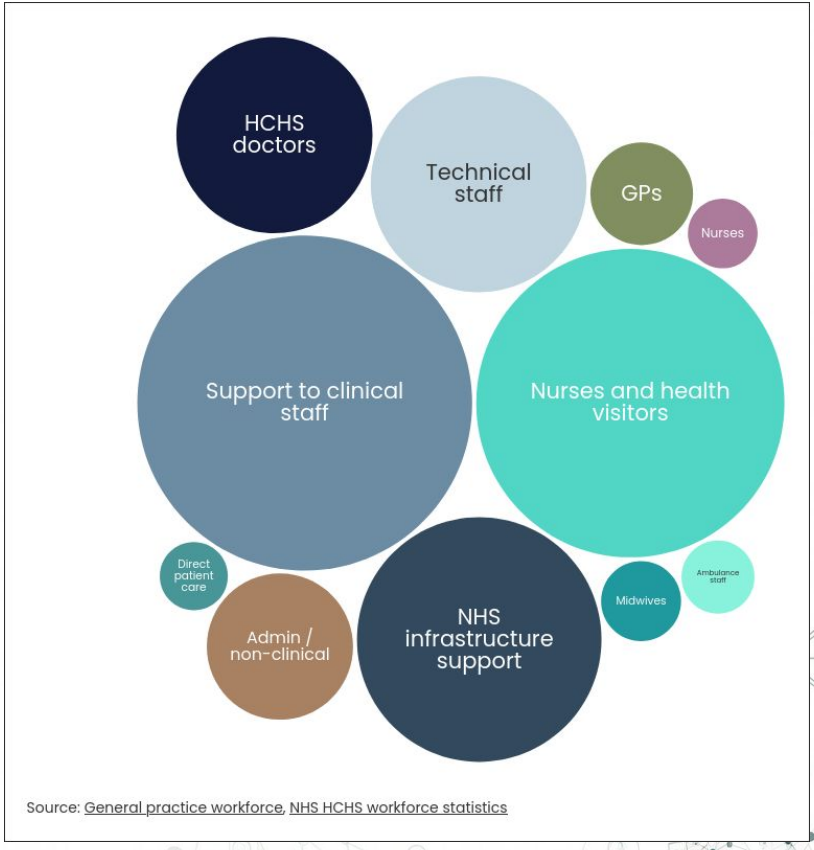
Trust-uri ~ 200

Devices ~ 1.4 mil

Personal ~ 1.4 mil

Personal tehnic ~ 160 000

Personal cyber ~ 3000



https://www.nhsconfed.org/
https://digital.nhs.uk/


Wana Decrypt0r 2.0
Ooops, your files have been encrypted!
English
What Happened to My Computer?
Your important files are encrypted.
Many of your documents, photos, videos, databases and other files are no longer accessible because they have been encrypted. Maybe you are busy looking for a way to recover your files, but do not waste your time. Nobody can recover your files without our decryption service.
Can I Recover My Files?
Sure. We guarantee that you can recover all your files safely and easily. But you have not so enough time.
You can decrypt some of your files for free. Try now by clicking <Decrypt>.
But if you want to decrypt all your files, you need to pay.
You only have 3 days to submit the payment. After that the price will be doubled.
Also, if you don't pay in 7 days, you won't be able to recover your files forever.
We will have free events for users who are so poor that they couldn't pay in 6 months.
How Do I Pay?
Payment is accepted in Bitcoin only. For more information, click <About bitcoin>.
Please check the current price of Bitcoin and buy some bitcoins. For more information, click <How to buy bitcoins>.
And send the correct amount to the address specified in this window.
After your payment, click <Check Payment>. Best time to check: 9:00am - 11:00am
Payment will be raised on
5/16/2017 00:47:55
Time Left
02:23:57:37
Your files will be lost on
5/20/2017 00:47:55
Time Left
06:23:57:37
About bitcoin
How to buy bitcoins?
Contact Us
bitcoin ACCEPTED HERE
Send $300 worth of bitcoin to this address:
12t9YDPgwueZ9NyMgw519p7AA8isjr6SMw
Copy
Check Payment
Decrypt

Wannacry 2017

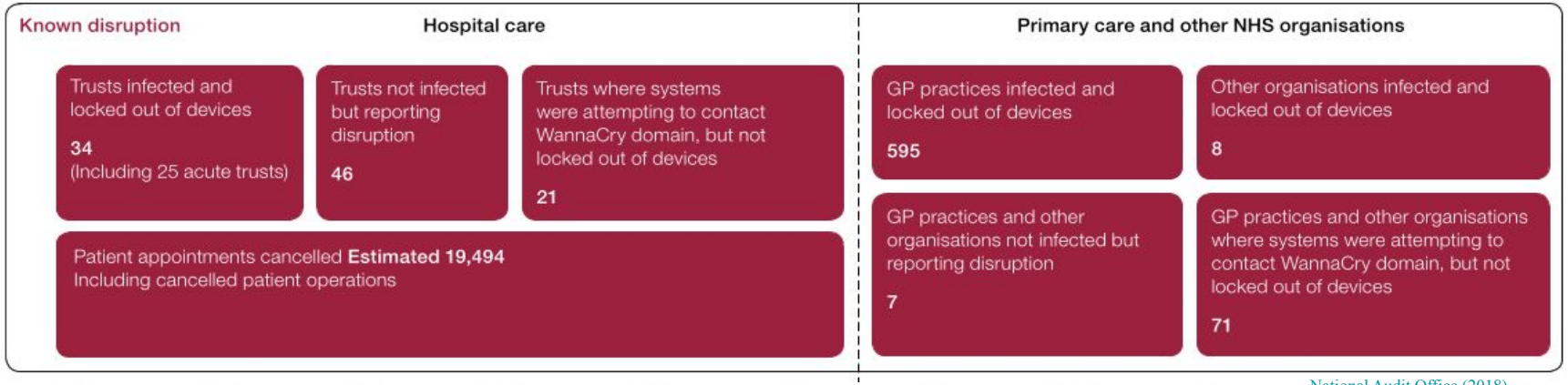
- Ransomware
- Eternal Blue - The Shadow Broker
- Posibila atribuție - Lazarus Group
- MS17-010 (Martie 2017)
- Nedirecționat către NHS
- Network worm - SMB
- 300 000 devices, 150 țări
- Marcus Hutchins - “killswitch” domain



Hacker News - 2017

https://digital.nhs.uk/cyber-alerts/2017/cc-1353
https://learn.microsoft.com
https://www.acronis.com

Impact



National Audit Office (2018)

Pagube 92 milioane £
Deficit servicii
- urgență ~ 1100
- planificate ~ 2200
- camera de gardă ~ 3800
- clinici anulate ~ 13500

Pacienti redirecționați
Diagnostice cancer intarziate
Revenit metode hârtie
Staff suprasolicitat
Durata 1 săptămână cu efecte resimțite ani de zile

https://www.nationalhealthexecutive.com
The Lancet - Ghafur et al., 2019

Răspuns

Înființare National CSOC

Cyber Handbook

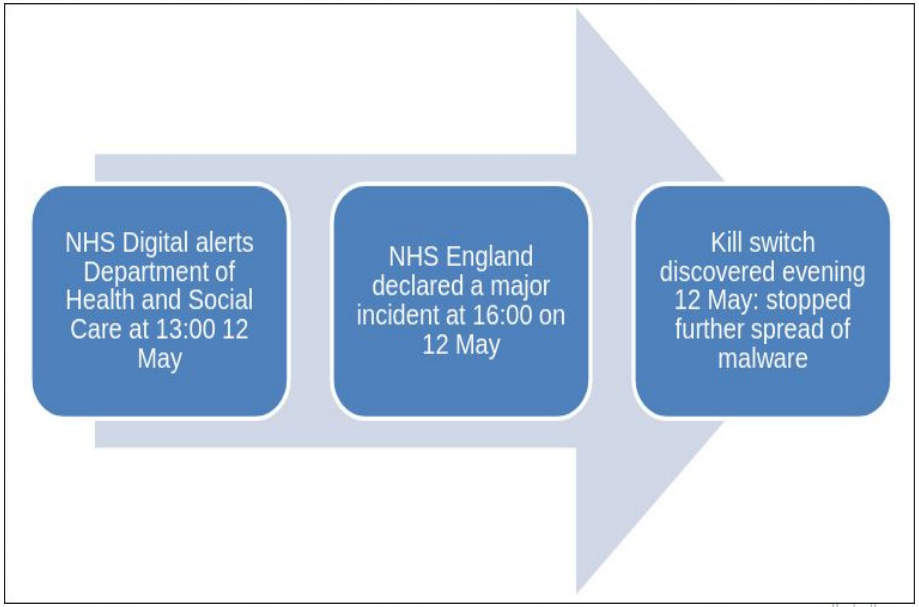
Investiții majore

Reevaluare roluri lideri NHS

Planuri de urgență noi

Pregătire staff

Canale clare de comunicații



NHS England - Lessons learned

Advanced - 2022

LockBit

Furnizor servicii

Absenta MFA

RDP

Citrix server

Extragere/criptare date

MITRE TACTICS AND TECHNIQUES

Initial access	Execution	Persistence	Privilege escalation	Defence evasion	Discovery	Lateral movement	Exfiltration	Impact
T1566 - Phishing	T1204 - User Execution	T1547 - Boot or logon autostart execution	T1134 - Access token manipulation	T1562 - Impair defences	T1083 - File and directory discovery	T1570 - Lateral tool transfer	T1567 - Exfiltration over web service	T1486 - Data encrypted for impact
T1078 - Valid accounts					T1135 - Network Share Discovery			T1489 - Service stop
								T1491 - Defacement

[a]Mapped from Trend Micro and Cybersecurity Infrastructure Security Agency.

Akinyemi, Sulaiman and Abosata, Cornell University, 2023

Impact

79404 persoane: nume, telefon, date medicale

890 instrucțiuni intrare în locuință (servicii ingrijire la domiciliu)

Blocare serviciu ambulanta NHS 111

Blocare software program staff

Blocare acces date pacienti



Sky News 2022

https://www.digitalhealth.net

Răspuns

Supply chain compromise

ICO amenda 3.07 mil lire

Costuri remediere 18 mil

Cooperare cu autoritatile

Verificarea furnizorilor de servicii



https://www.techfinitive.com
image: Google ImageFX

Synnovis - 2024

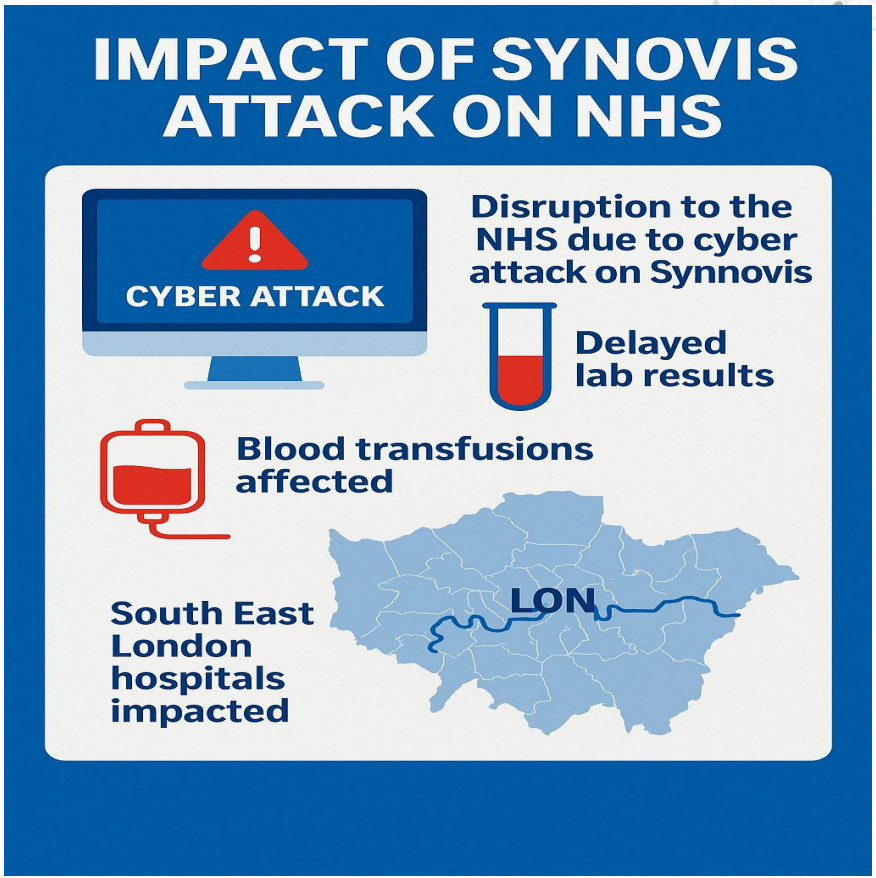
RaaS

Quillin

Ransom 50 mil $

400 Gb date

Pagube de 40 mil lire



Imagine generate cu chatGPT

Impact

300 mil interactiuni pacienti-sistem

Anulari operații/clinici

Afectare indirecta ~ 3000 spitale

Impact major - transfuzii sanguine

Deficit sange grup O negativ

Deces



IMAGE: SAMUEL HAGGER VIA UNSPLASH

Alexander Martin

June 25th, 2025

Cybercrime News

Ransomware attack contributed to patient's death, says Britain's NHS

therecord.media

Răspuns

NCA/NCSC propunere contraofensiva impotriva Quilin

Ransomware, urgență imediată - ministrul securității

Counter Ransomware Initiative

Propuneri legislative

UK to lead crackdown on cyber criminals with ransomware measures

Measures to tackle the threat of ransomware and protect businesses and critical services will be taken forward with industry following public consultation.

From: Home Office, National Cyber Security Centre and Dan Jarvis MBE MP

Published 22 July 2025

Concluzii

Mobilizare NHS/ICO/politic

Infrastructura critica

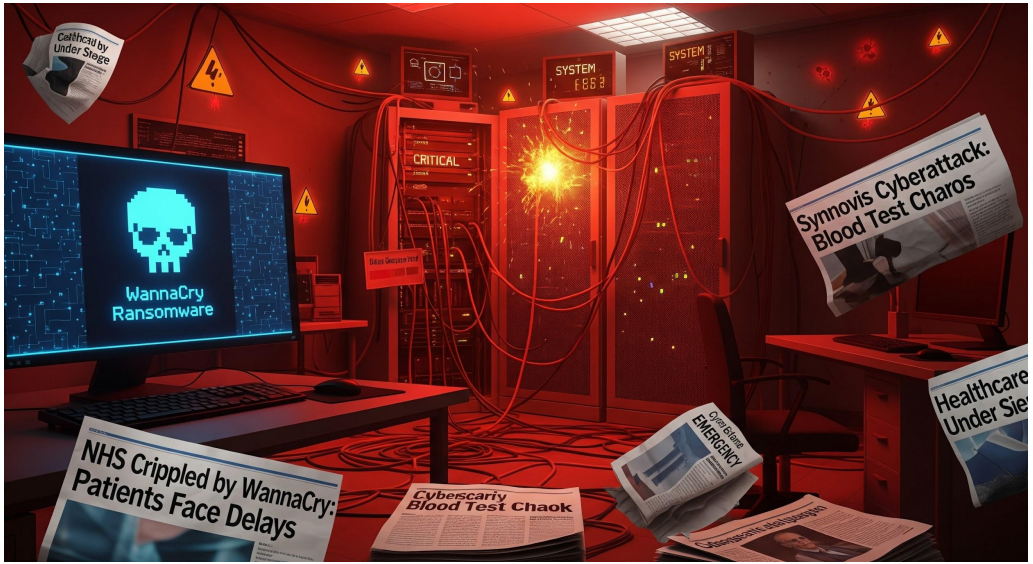
215 atacuri din 219 (ICO)

Personal medical sub presiune

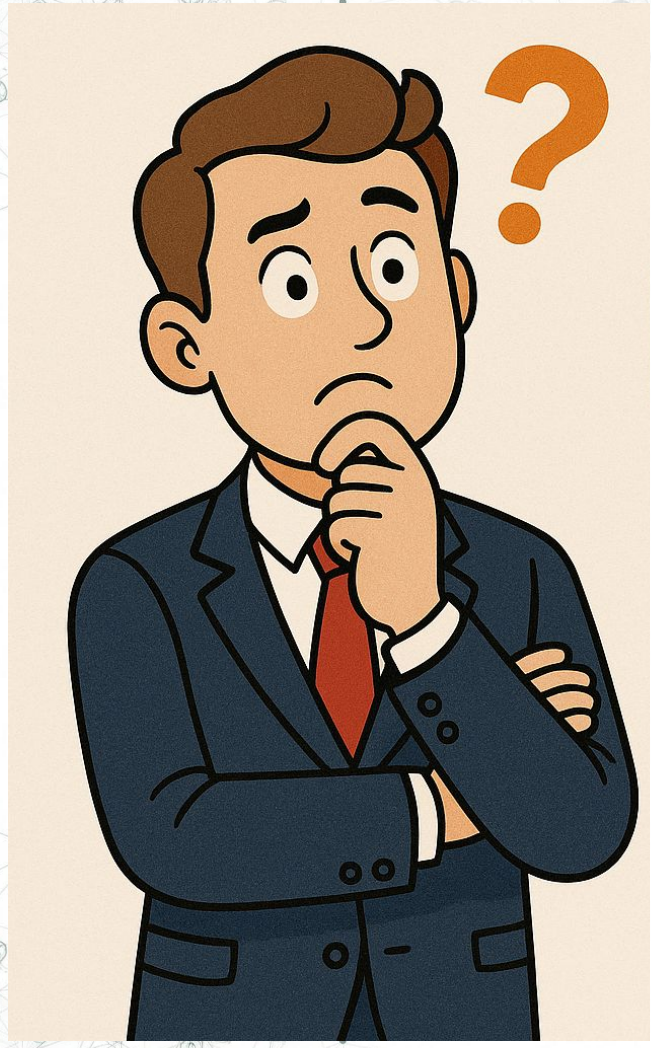
Buget insuficient - cyber

Dificil de aparat

Efecte directe -> deces



Imagine generate cu gemni



Întrebări?

Disclaimer: Opiniile exprimate sunt personale și nu reprezintă poziția oficială a niciunei instituții.

Referinte

Akinyemi, O., Sulaiman, R. and Abosata, N. (2023). *Analysis of the LockBit 3.0 and its infiltration into Advanced's infrastructure crippling NHS services*. [online] Available at: https://arxiv.org/pdf/2308.05565 [Accessed 3 Nov. 2025].

Bulut, M. (2023). *Key statistics on the NHS | NHS Confederation*. [online] www.nhsconfed.org. Available at: https://www.nhsconfed.org/articles/key-statistics-nhs [Accessed 2 Nov. 2025].

Ghafur, S., Grass, E., Jennings, N.R. and Darzi, A. (2019). The challenges of cybersecurity in health care: the UK National Health Service as a case study. *The Lancet Digital Health*, [online] 1(1), pp.10–12. doi:https://doi.org/10.1016/s2589-7500(19)30005-6.

Kaspersky (2017). *WannaCry ransomware used in widespread attacks all over the world*. [online] securelist.com. Available at: https://securelist.com/wannacry-ransomware-used-in-widespread-attacks-all-over-the-world/78351/ [Accessed 1 Nov. 2025].

Martin, A. (2024). *Critical incident declared as ransomware attack disrupts multiple London hospitals*. [online] Therecord.media. Available at: https://therecord.media/london-hospitals-ransomware-attack-critical-incident-declared [Accessed 1 Nov. 2025].

Martin, A. (2025). *Ransomware attack contributed to patient's death, says Britain's NHS*. [online] Therecord.media. Available at: https://therecord.media/ransomware-attack-contributed-patient-death-uk-nhs [Accessed 1 Nov. 2025].

MedTechNews (2025). *NHS Hack Spurs Tougher UK Cyber Rules*. [online] MedTechNews. Available at: https://medtechnews.uk/healthcare-data-breaches/nhs-hack-spurs-tougher-uk-cyber-rules/ [Accessed 1 Nov. 2025].

Mellor, C. (2024). *Ransomware attack on Synnovis paralyzes UK hospitals*. [online] Blocks and Files. Available at: https://blocksandfiles.com/2024/06/10/synnovis-ransomware/ [Accessed 2 Nov. 2025].

Microsoft (2017). *Microsoft Security Bulletin MS17-010 - Critical*. [online] learn.microsoft.com. Available at: https://learn.microsoft.com/en-us/security-updates/securitybulletins/2017/ms17-010 [Accessed 1 Nov. 2025].

National Audit Office (2018). *Investigation: WannaCry cyber attack and the NHS*. [online] National Audit Office. Available at: https://www.nao.org.uk/wp-content/uploads/2017/10/Investigation-WannaCry-cyber-attack-and-the-NHS.pdf [Accessed 30 Oct. 2025].

National Health Executive (2018). *WannaCry cyber-attack cost the NHS £92m after 19,000 appointments were cancelled*. [online] National Health Executive. Available at: https://www.nationalhealthexecutive.com/articles/wannacry-cyber-attack-cost-nhs-ps92m-after-19000-appointments-were-cancelled [Accessed 1 Nov. 2025].

Referinte 2

News, T.H. (2016). *Shadow Brokers reveals list of Servers Hacked by the NSA*. [online] The Hacker News. Available at: https://thehackernews.com/2016/10/nsa-shadow-brokers-hacking.html [Accessed 3 Nov. 2025].

NHS Digital (2017). *SMB EternalBlue and DoublePulsar Exploit*. [online] NHS Digital. Available at: https://digital.nhs.uk/cyber-alerts/2017/cc-1353 [Accessed 30 Oct. 2025].

NHS Digital (2025). *NHS Workforce Statistics - NHS Digital*. [online] NHS Digital. Available at: https://digital.nhs.uk/data-and-information/publications/statistical/nhs-workforce-statistics [Accessed 3 Nov. 2025].

Office, H. (2025). *UK to lead crackdown on cyber criminals with ransomware measures*. [online] GOV.UK. Available at: https://www.gov.uk/government/news/uk-to-lead-crackdown-on-cyber-criminals-with-ransomware-measures [Accessed 5 Nov. 2025].

Scroxton, A. (2024). *Advanced faces fine over LockBit attack that crippled NHS 111*. [online] ComputerWeekly.com. Available at: https://www.computerweekly.com/news/366599880/Advanced-faces-fine-over-LockBit-attack-that-crippled-NHS-111 [Accessed 1 Nov. 2025].

Sky News (2025). *Software provider fined £3m over ransomware attack that disrupted key NHS services*. [online] Sky News. Available at: https://news.sky.com/story/software-provider-fined-3m-over-ransomware-attack-that-disrupted-key-nhs-services-13336500 [Accessed 3 Nov. 2025].

Smart, W. (2018). *Lessons learned review of the WannaCry Ransomware Cyber Attack*. [online] Department of Health and Social Care. Available at: https://www.england.nhs.uk/wp-content/uploads/2018/02/lessons-learned-review-wannacry-ransomware-cyber-attack-cio-review.pdf [Accessed 2 Nov. 2025].

Sollof, J. (2022). *Major outage of multiple health and care systems provided by Advanced*. [online] Digital Health. Available at: https://www.digitalhealth.net/2022/08/advanced-major-outage/ [Accessed 3 Nov. 2025].

Winder, D. (2025). *Software provider fined £3 million for LockBit's NHS ransomware attack*. [online] TechFinitive. Available at: https://www.techfinitive.com/software-provider-fined-3-million-for-lockbits-nhs-ransomware-attack/ [Accessed 3 Nov. 2025].