

eHealth Commission Meeting

HYBRID CONFERENCE

April 16, 2025

April Agenda



Title	Start	Duration
 Call to Order Roll Call and Introductions Approval of March Meeting Minutes April Agenda and Objectives Kaakpema "KP" Yelpaala, Chair 	12:00	5 mins
 Announcements Welcoming Remarks OeHI Updates-eHealth Commission Updates Decision Items & Action Items Dianne Primavera, Lt. Governor and Director of the Office of Saving People Money on Health Care Stephanie Pugliese, Director, Office of eHealth Innovation (OeHI) All Commissioners and Advisors 	12:05	5 mins
Current & Emerging Threats in the Health Sector and Staying Safe Online Errol Weis, Chief Security Officer, Health Information Sharing and Analysis Center	12:10	1 hour
Public Comment Period	1:10	5 mins
 Closing Items Closing Remarks Open Discussion Recap Action Items Adjourn Public Meeting Kaakpema "KP" Yelpaala, Chair 	1:15	5 mins

Announcements



OeHI and eHealth Commission Updates



Current & Emerging Threats in the Health Sector and Staying Safe Online

Errol Weiss Chief Security Officer, Health-ISAC

April 2025

Learning Objectives

At the completion of this educational activity, the learner will be able to:

- Describe the top cyber threats facing the healthcare sector
- Use the information to influence cybersecurity budget and investment decisions
- Leverage practical steps and resources to improve your own cyber security posture

4,670

What is an ISAC?

- ISAC is short for "Information Sharing and Analysis Center"
- ISACs empower sharing and collaboration in critical infrastructure communities to prevent, detect and respond to cybersecurity and physical security events
- ISACs collect, analyze, and disseminate actionable threat information to their members and provide them with tools to mitigate risks and enhance resiliency









































About Health-ISAC

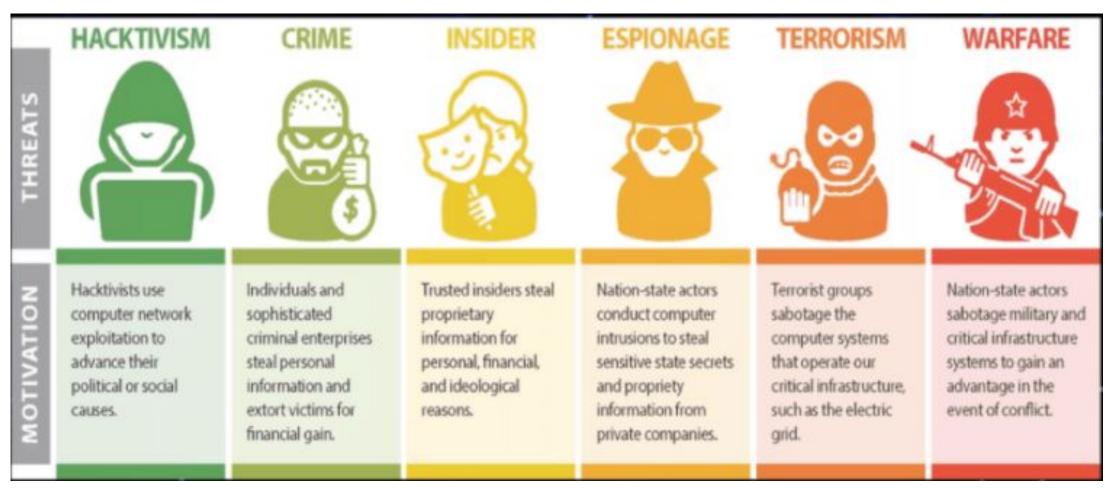
- Community of over 12,000 Global Security Analysts, built on trust and anonymity
- Members must be in the health sector and interested in providing value to the overall Health-ISAC eco-system by listening, sharing, and/or contributing
- Benefits







The Cyber Threat Spectrum



Source: FBI Cyber Division

Survey Results: Greatest Threats to Health Sector

Top Five Cyber Threats facing organizations in 2024:

- 1. Ransomware
- 2. Phishing/Spear Phishing
- 3. Compromised Credentials
- 4. Third Party/Partner Breaches
- 5. Data Breaches

Survey of 200+ healthcare Information Technology and security professionals

- Health-ISAC
- American College of Clinical Engineering (ACCE)
- Association for the Advancement of Medical Instrumentation (AAMI)

Key Takeaway

 Health sector organizations, regardless of budget, are most concerned about ransomware attacks

Current Threat Landscape

Hacktivism



- Hacktivists use computer network exploitation to advance their political or social causes
- Examples
 - Anonymous support for Occupy Wall Street (2011)
 - Panama Papers 11 million financial and legal records exposed corruption and secretive offshore companies (2016)
 - Revealed offshore holdings of 140 politicians and public officials around the world
 - More than 214,000 offshore entities connected to people in more than 200 countries
 - Hacktivist collective Anonymous took actions to support Black Lives Matter (BlueLeaks 2020)



Hacktivism: Healthcare Sector Targets



Hacktivism: Healthcare Sector Targets

Who is being targeted?

- Healthcare Providers
 - Gender reassignment surgery
 - Family planning and reproductive health / Abortions
 - COVID Vaccines
- Healthcare Insurers
 - Payers of services above

What are the risks?

- Exposure of sensitive Patient Health Information (PHI)
- Dis- / Mis-information campaigns
- Doxing targeted individuals
- In extreme cases, transcends to physical attacks

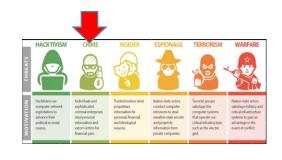
Cybercriminal Activity: Ransomware

- Health-ISAC tracking over 21,000 ransomware cases since 2020
 - In 2024: 5,744 events across all sectors
 - 476 ransomware incidents involving the healthcare sector (8.3%)
 - 2020 to 2024: 21,556 events across all sectors
 - 1,367 ransomware incidents involving healthcare sector (6.3%)

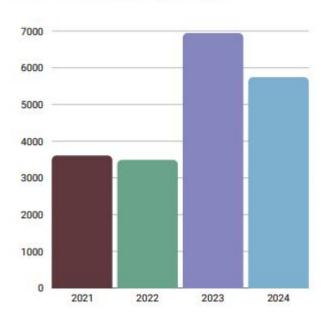
Top 5 Ransomware Actors Targeting Health Sector

- 1. Lockbit
- 2. INC Ransomware
- 3. Ransom Hub
- 4. BianLian
- 5. QiLin





Total Breaches Tracked: 21,556



Source: Health-ISAC Healthcare Heartbeat Q4 2024 https://health-isac.org/healthcare-heartbeat-2024-q4/



Ransomware Impacts on Healthcare

- Ambulances forced to divert
- Disrupted delivery of treatments
- Canceled elective procedures
- Delayed laboratory results
- Delays in scheduling appointments
- Downtime for Electronic Health Records management systems
- Patient records unavailable
- Leaked sensitive patient data
- Surrounding area hospitals overwhelmed







Change Healthcare Incident – Feb 2024

Root cause – lack of multifactor authentication on remote access servers

Patient Impacts

- Cancelled procedures
- Unable to fill prescriptions

Health Delivery Impacts

- Revenue losses
- Insurance payments interruptions, negative cash flow impact

Health-ISAC Recommendations

- Identify and analyze health sector systemic risks
- Determine key supplier and sector concentration risks
- Discern lessons learned and update Incident Response Plans
- Hold industry exercises to identify single points of failure and communication gaps

https://h-isac.org/health-isacs-response-to-the-change-healthcare-incident-and-recommendations-for-action/

Ascension Incident – May 8, 2024

Ascension

Patient Impacts

- Patient Diversions
- Delayed tests, imaging, lab results
- Cancelled procedures

Health Delivery Impacts

- Servers encrypted
- Data exfiltrated
- Backups compromised

Health-ISAC Response

- Received IOCs on May 9; shared with members at TLP:AMBER
- May 10 Released Black Basta Threat Advisory TLP:WHITE, updated with TLP:WHITE info from CISA CSA
- May 11 Ascension's statement updated sharing threat intelligence with Health-ISAC to help protect the community

Cybercriminal Activity: Ransomware Update



Encrypt your data and pay ransom to get decryption key





Steal your data and threaten to release it publicly unless you pay the ransom





Launch a Distributed Denial of Service (DDoS) at your website, rendering it useless, until you pay the ransom



When Cybercriminals Turn to Blackmailing Patients

- Evolution of ransomware extortion
- Alternative means of monetization
- Cases:
 - Vastaamo Psychotherapy Center– Finland
 - Fred Hutchinson Cancer Center US
 - The Center for Facial Restoration US
 - Multiple Plastic Surgery Practices in 2023 – US
- Cases targeting individuals may increase
 - Legislation prohibiting companies paying ransoms
 - More groups and individuals linked to cybercrime added to Sanctions Lists

Hacker seeks to extort Finnish mental health patients after data breach

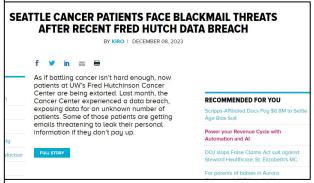
Tens of thousands of patients concerned by massive hack



Hackers Demand Ransom From Patients After Breaching Florida Clinic

Hackers are demanding patients of Florida provider Richard Davis, MD pay a ransom to prevent the release of their personal information following a breach of the clinic's server.







When Cybercriminals Turn to Blackmailing Patients

Vastaamo Psychotherapy Center- Finland

- •Sept / Oct 2020
- •30,000 patient records leaked
- Aleksanteri Kivimäki, 26 years old
- History of cybercrime, cyber-stalking and cyber-harassment starting as a teen
- Trial ended March 8, 2024
- •Found Guilty on April 30, 2024; sentenced to 6 years in prison



https://www.bloomberg.com/news/features/2024-04-22/a-massive-therapy-hack-shows-just-how-unsafe-patients-files-can-be



Bloomberg

Businessweek | Feature

How a Massive Hack of Psychotherapy Records Revealed a Nation's Secrets

Aleksanteri Kivimäki was a hacker wunderkind with a mean streak. Now he's on trial for the largest crime in Finland's history.

Lehigh Valley Health Network Incident – Jan 2023

Health Delivery Impacts

- BlackCat Ransomware
- LVHN refused to pay ransom

Patient Impacts

- Clinical photos posted online
- Breached sensitive Protected Health Information (PHI)
 - 135,000 patients and employees impacted
 - Personal information, medical record numbers, treatment and diagnosis information and health insurance information

Class Action Settlement

- LVHN agreed to a \$65 million settlement (Nov 2024)
- Some class members will receive up to \$70,000



Russian Ransomware Gangs Disrupt Patient Care

April 2024 - Octapharma

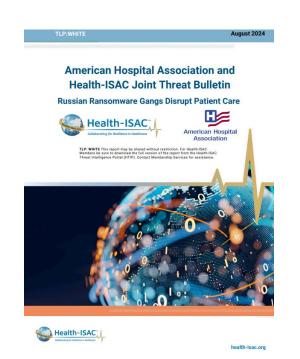
- •Blood plasma provider, outage closed over 190 donation centers in 35 states
- •BlackSuit Ransomware Gang
- Octapharma supplied 75% of plasma therapies

June 2024 - Synnovis

- •Lab services provider in UK, 800 operations delayed, 700 outpatient appointments rescheduled
- QiLin Ransomware Gang
- •900,000 Patient Records Exposed

July 2024 - OneBlood

- •Blood supplier for hospitals in Florida and neighboring states
- Ransom Hub Ransomware-as-a-Service



Observations

- Three critical third-party supply chain attacks in three months
- Russian ransomware cybercriminal gangs
- Operational impacts over a large geographic area

Recommendations

- Supply chain risk management
 - Health Industry Cybersecurity Supply Chain Risk Management Guide (<u>HIC SCRiM</u>)
- Alternative suppliers
- See <u>American Hospital Association</u> and <u>Health-ISAC Joint Threat Bulletin</u>



Notable Nation-State Activity

Russia

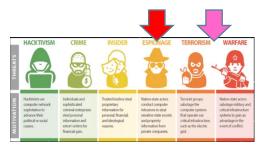
- APT 29 WINELOADER Campaign
 - Cross sector attacks including healthcare and pharmaceuticals, in the United States and Europe using WINELOADER malware; also targeted European diplomats, German political parties

China

- UTA 0178 Exploitation of Ivanti Vulnerabilities
 - Remote VPN exploitation for espionage and theft of intellectual property

North Korea

- Remote IT Worker Fraud
 - North Korean campaign to obtain remote jobs in NATO countries and extort them for money following employment



Why??

Provide strategic advantages in healthcare, biotechnology, and national security.

- Pharmaceutical and Biotechnology R&D
- Medical Device Technology
- Genomic Research
- Artificial Intelligence in Healthcare
- Infectious Disease
 Research

Notable Nation – North Korea

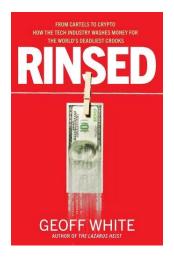
HACKTIVISM

| Notice | Notice

- Financially motivated and used to generate revenue for state and military objectives
- Espionage
- Ransomware
- Cryptocurrency Theft
 - Bybit Hack \$1.46 billion (Feb 2025)
 - Axie Infinity and Tornado Cash -- \$625 million heist (March 2022)



https://cloud.google.com/blog/topics/threat-intelligence/apt45-north-korea-digital-military-machine



https://geoffwhite.tech/



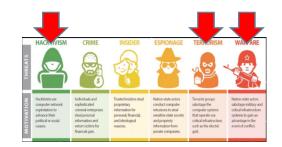
https://www.bbc.co.uk/programmes/w13xtvg9/episodes/downloads

Geopolitical Activity

- Russia/Ukraine War Escalation
- Threats to EU Infrastructure
- Middle East Escalation



KillNet DDoS / (Jan 2023) Distributed Denial-of-Service Attacks

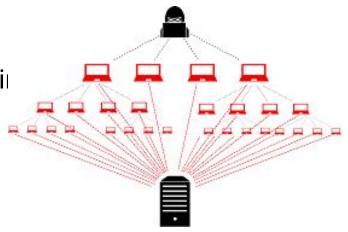


Who are they?

- Hacktivist Group targeting critical infrastructure globally including hospitals
- Ties to Russian Intelligence (GRU)
- Ties to Anonymous
- Ties to Anonymous Sudan
- Ties to Anonymous Russia

How to protect against their attacks?

- DDoS mitigation services
- Targeted Alerts
- Health-ISAC Information on DDoS, including mitigation strategies





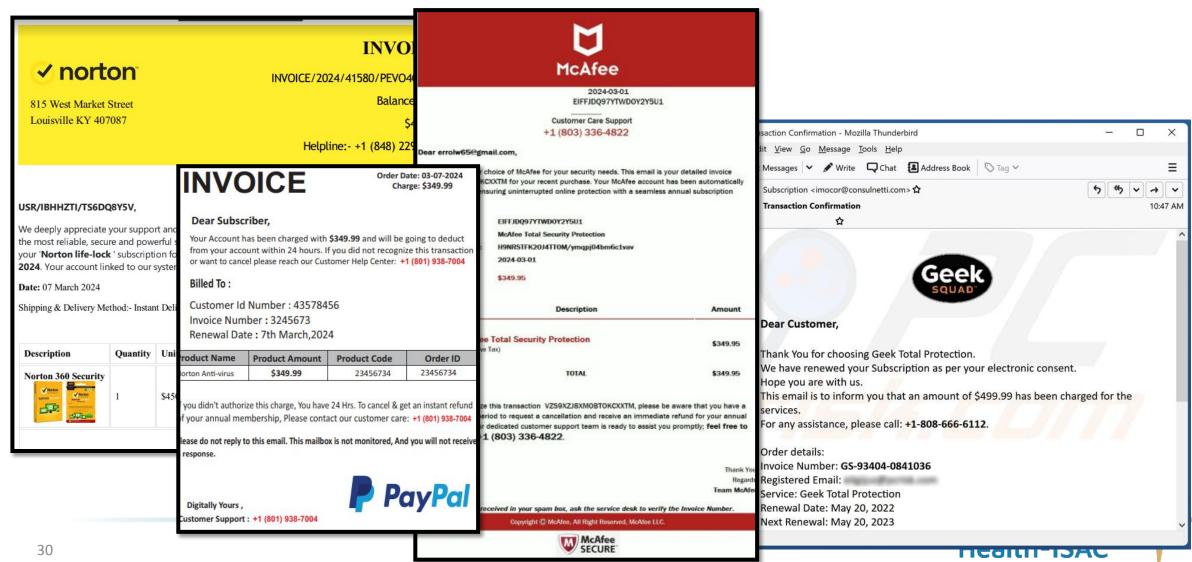


Recent Cyber Threats to Healthcare

Notable Tactics Targeting the Health Sector

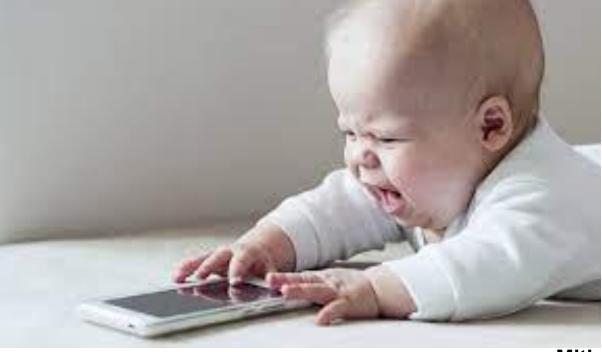
- Help Desk Targeting
 - Threat actors targeting help desk staff
- Telephone-Oriented Attack Delivery (TOAD) Campaigns
 - Malicious emails targeting health sector organizations
- Email Spam Bomb Campaigns
 - Victims added spam lists, then malicious actors pose as tech support to fix the problem, leading to malware delivery

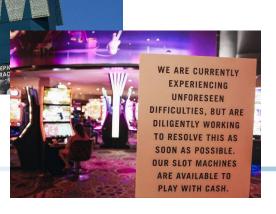
Call Back Scam or "Telephone-Oriented Attack Delivery (TOAD)"



Multi-Factor Authentication Fatigue









Mitigation Strategies

- Time-based one-time passwords
- Biometric authentication
- Context-aware authentication
- Adaptive authentication

Source: Proofpoint

Threats on the Horizon: Artificial Intelligence

Artificial What?

- Large Language Models
- Generative Al
- ChatGPT / Google Bard Gemini

Threats

- Adversarial Use
 - Perfect Phishing & Scams
 - Deep Fakes
- Data Loss
- Lack of Trust / Integrity
 - Al Poisoning
 - Al Hallucination



Current Cyber Threat Trends (March 2025)

Blended Threats Cyber-Physical Risks - chatter online discussing harm to health sector organizations and executives. While the likelihood of these attacks coming to fruition is low, it is recommended to take them seriously.

Remote IT Fraud Workers - ongoing campaign of fraudulent job applicants extort health sector organizations once employment is gained.

Credential Compromise - compromised healthcare sites serving commodity malware to unsuspecting patients and harvest information about their visitors, then distribute different payloads accordingly. The malware deployed often steals credentials from victim systems.

RMM Weaponization - ongoing use of remote monitoring and management (RMM) software like ScreenConnect to gain access to devices to steal sensitive information or deploy malware.

Procurement Fraud - threat actors targeting procurement teams via impersonation emails. These campaigns are fueled by business email compromise, wherein seemingly legitimate communications, sent from compromised third-party vendor contacts, are used to alter banking information to accounts controlled by threat actors.



Staying Safe On-Line

Quick Tips

Use Strong Passwords

- Do not reuse the same username / password combination across different sites
- Consider using a password manager















Use Multi-Factor Authentication (MFA)



Source: https://news.vanderbilt.edu/2020/04/08/enroll-in-multi-factor-authentication-to-protect-vanderbilt-systems-and-data/

Use Multi-Factor (or Two-Factor) Authentication!

Don't be a victim of cybercrime!

Amazon

https://www.amazon.com/gp/help/customer/display.html? nodeId=201596330



Apple

https://support.apple.com/en-us/HT204152

Dropbox

https://help.dropbox.com/account-access/enable-two-step-verification

eBay

https://accounts.ebay.com/acctsec/security-center

Facebook:

https://www.facebook.com/help/148233965247823



Gmail

http://www.google.com/intl/en-US/landing/2step/features.html

Linkedin

https://www.linkedin.com/help/linkedin/answer/531?lang=en



Microsoft / Outlook.com

http://windows.microsoft.com/en-us/windows/two-step-verification-faq

Paypal

https://www.paypal.com/us/webapps/mpp/security/security-protections

SnapChat

https://support.snapchat.com/en-US/ca/login-verification

Twitter

https://support.twitter.com/articles/20170431#

US Internal Revenue Service (IRS) (ID.me) https://www.irs.gov/payments/your-online-account

- Financial Institutions
- Online Retailers
- ... and more...

US Postal Service (USPS)
Go to "My Preferences" then "Security" to enable 2FA

US Social Security Administration (Login.gov or ID.me) https://www.ssa.gov/myaccount/MoreInformationAboutMFA.html

Yahoo!

https://help.yahoo.com/kb/SLN5013.html





Recommendations & Free Resources (Technical)

Health Industry Cybersecurity Practices (HICP) 2023 from the Health Sector Coordinating Council https://405d.hhs.gov/information#hicp

★ HIC

HICP Main Document - https://405d.hhs.gov/Documents/HICP-Main-508.pdf \Box Top 5 Threats

Technical Volume 1 (Small Healthcare Orgs) - https://405d.hhs.gov/Documents/tech-vol1-508.pdf

Technical Volume 2 (Medium & Large Healthcare Orgs) - https://405d.hhs.gov/Documents/tech-vol2-508.pdf

Top 10
Cybersecurity
Practices

More resources:

- Health Sector Coordinating Council https://healthsectorcouncil.org/
 - Cybersecurity for the Clinician Video Training Series https://healthsectorcouncil.org/cyberclinicianvideos/
 - HPH Sector Cybersecurity Framework Implementation Guide -https://aspr.hhs.gov/cip/hph-cybersecurity-framework-implementation-guide
 - Health Industry Cybersecurity Securing Telehealth and Telemedicine (HIC-STAT) https://healthsectorcouncil.org/securingtelehealth/
 - Health Industry Cybersecurity Supply Chain Risk Management Guide Version 2 (HIC-SCRiM-v2) https://healthsectorcouncil.org/HIC-SCRiM-v2/
 - Coordinated Healthcare Incident Response Plan https://healthsectorcouncil.org/wp-content/uploads/2023/07/HIC-CHIRP-FINAL_1.pdf

Recommendations & Free Resources

Health-ISAC - www.h-isac.org

- Annual Threat Report https://health-isac.org/health-isac-2025-health-sector-cyber-threat-landscape/
- Information on DDoS, including mitigation strategies https://health-isac.org/white-paper-distributed-denial-of-services-ddos-attacks/
- AHA & Health-ISAC / Preparing for the Next "SolarWinds" Event https://h-isac.org/preparing-for-the-next-solarwinds-event-2/

Health Sector Cybersecurity Coordination Center (HC3) - https://www.hhs.gov/about/agencies/asa/ocio/hc3

HHS 405(d) Aligning Health Care Industry Security Approaches - https://405d.hhs.gov/

HHS Office of the Assistant Secretary for Preparedness and Response (ASPR) - aspr.hhs.gov

Personal Tips for Staying Safe Online - https://www.youtube.com/watch?v=0QRC0QrVcZk

Multi-Factor Authentication and the best defense is a good offense

The Lazarus Heist Podcast and YouTube Series

https://www.bbc.co.uk/programmes/w13xtvg9/episodes/downloads

More About Health-ISAC

- Annual membership fees start at \$2,400
- Benefits



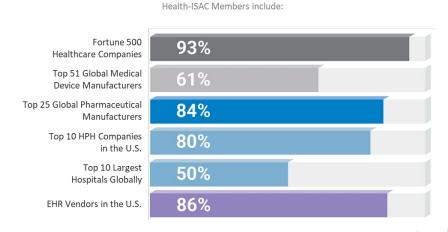






Visit Health-ISAC to learn more

www.health-isac.org



Questions?

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Health-ISAC 2025 Health Sector Cyber Threat Landscape Report https://health-isac.org/health-isac-2025-health-sector-cyber-threat-landscape/





Visit Health-ISAC to learn more www.health-isac.org





Public Comment Period



Closing Remarks