ARIZONA TELEMEDICINE PROGRAM

SOUTHWEST TRC TELEHEALTH RESOURCE · CENTER™

Securing Telehealth:

Information Systems, Devices, Communications, and Practices

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Why do we need to secure telemedicine technologies and communications?

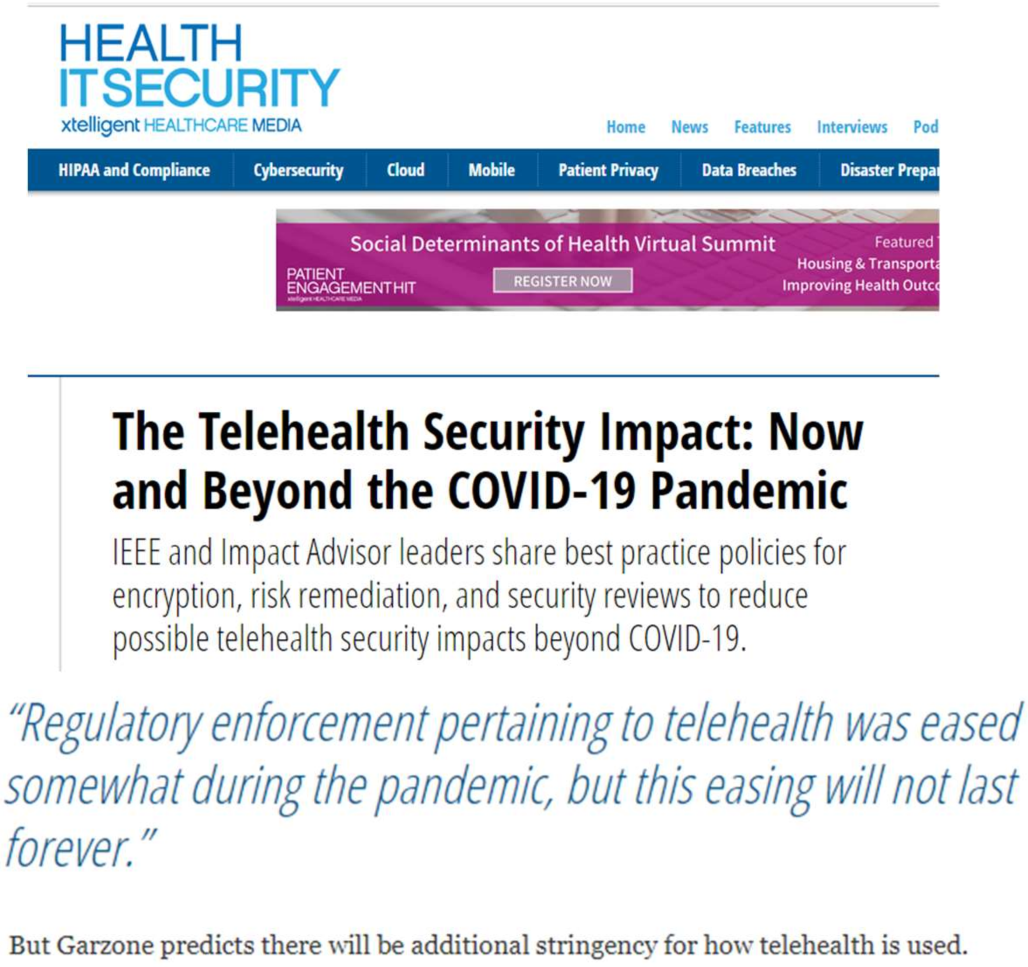
- Protect patients, business and business partners
- Good business practice to maintain confidentiality of patient information
  - Patients and business partners may lose trust in a healthcare provider if their information is compromised
- Laws such as Health Insurance Privacy and Accountability Act (HIPAA) require implementation of security measures to protect protected health information (PHI)
  - To guard against breaches of and unauthorized disclosures of PHI
- Securing telehealth is not just about privacy and maintaining confidentiality.
  - Also important:
    - Availability of data and technology to conduct telehealth operations
    - Integrity of data used to make patient care decisions via telehealth

Example Types of Telemedicine and Telehealth Communications (selected)

- Video conferencing
  - Face to face
    - provider to patient, provider to provider, multiple provider to patient, provider to multiple patients
  - Real-time medical imaging applications
- Audio only phone calls
- Remote auscultation using electronic stethoscopes
  - Remote provider playback of recordings or listening via live streaming
- Tele-eICU
  - Vital signs alerts and trends, remote intensivist directing local care team
- Diagnostic review of medical/health data
  - Patient history, medical imaging, lab values and other test results, prescriptions etc.
- Secure messaging
  - Provider to provider, provider to patient
- Remote patient monitoring (RPM)
  - Clinical provider monitors patient metrics such as activity, weight, blood pressure, electrocardiogram, and more
- AI and robotic assisted examination and diagnosis

What specific security measures are needed for telemedicine?

- The techniques used to secure telemedicine services are not, in general, unique to telemedicine
- HIPAA, for example, does not specify specific information security technologies
  - Technology is always advancing
  - Hackers are always looking for vulnerabilities
  - Organizations must implement reasonable and appropriate administrative, technical and physical controls to safeguard PHI
- Cybersecurity is all about controlling access to prevent unauthorized access to computers, mobile devices, networks and data while allowing authorized access for those that need it.
- When allowing business associates to work with your organization's patients' healthcare information, <u>Verify Their Security Practices</u>



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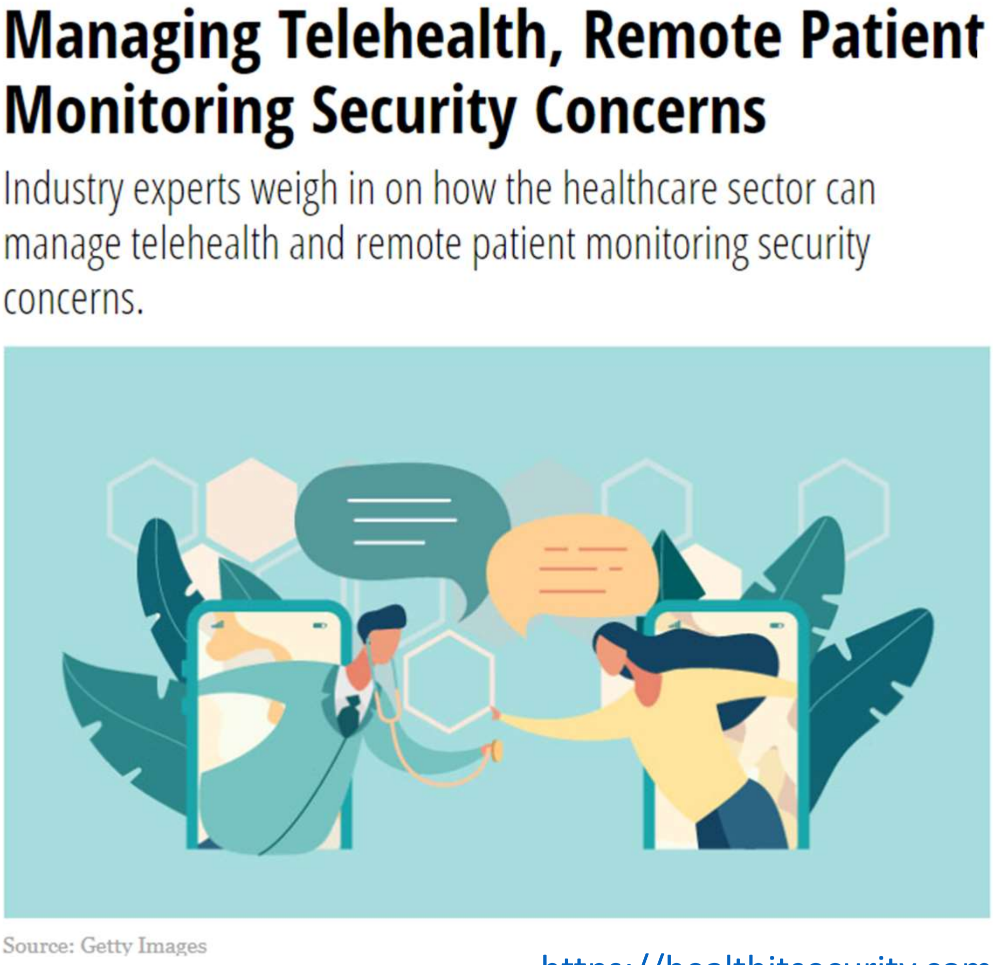
The Telehealth Security Impact: Now and Beyond the COVID-19 Pandemic

IEEE and Impact Advisor leaders share best practice policies for encryption, risk remediation, and security reviews to reduce possible telehealth security impacts beyond COVID-19.

> *"Regulatory enforcement pertaining to telehealth was eased somewhat during the pandemic, but this easing will not last forever."*

But Garzone predicts there will be additional stringency for how telehealth is used.

https://healthitsecurity.com/news/the-telehealth-security-impact-now-and-beyond-the-covid-19-pandemic



Managing Telehealth, Remote Patient Monitoring Security Concerns

Industry experts weigh in on how the healthcare sector can manage telehealth and remote patient monitoring security concerns.

Source: Getty Images

Jill McKeon

Assistant Editor

jmckeon@xtelligentmedia.com

HEALTH IT SECURITY
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"January 27, 2022 - As adoption increases, healthcare organizations, vendors, and providers will continually be tasked with managing telehealth and remote patient monitoring (RPM) security concerns. Although these technologies existed before, the pandemic prompted the need for safe and secure telehealth and RPM solutions that could be deployed on a larger scale.

But that rapid drive toward telehealth naturally comes with security risks. While they may not outweigh the tremendous benefits that telehealth offers to both patients and providers, security concerns must be considered carefully."

https://healthitsecurity.com/features/managing-telehealth-remote-patient-monitoring-security-concerns

Managing Telehealth, Remote Patient Monitoring Security Concerns

January 27, 2022

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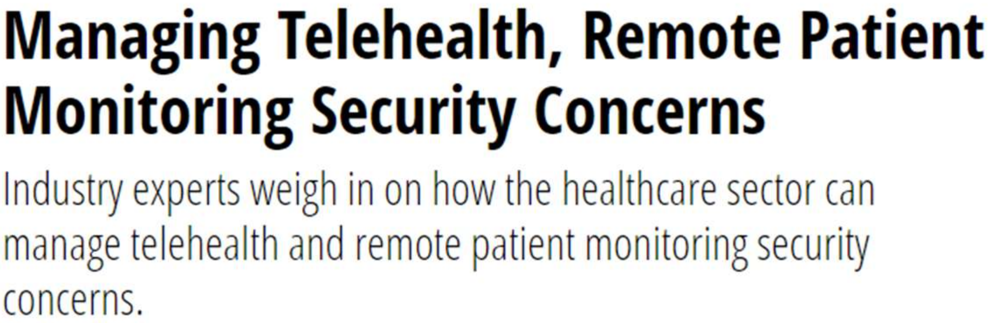
TELEHEALTH SECURITY CONCERNS

“If you're in a hospital, all the technology that is used to monitor you and take care of you is all within the confines of the hospital's firewall. It's a tightly controlled technology IT environment, and all the equipment inside can be very tightly secured,” Shah explained.

“The minute you take some part of that technology and send it home with the patient, suddenly you have to open up holes in your defense system so that the technology from the home can send data to the central systems where the clinicians can actually provide the care.”

Because data is being transmitted back and forth, and network security often cannot be guaranteed, cybercriminals may be able to attack healthcare organizations via the home or hospital environment. The increasing number of access points expands the surface and scope for cyberattacks and provides an unsuspecting entry point for hackers.

https://healthitsecurity.com/features/managing-telehealth-remote-patient-monitoring-security-concerns



Managing Telehealth, Remote Patient Monitoring Security Concerns

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"A recent survey conducted by Arlington Research and commissioned by Kaspersky found that over 80 percent of surveyed **healthcare providers globally harbor concerns about data security and privacy**.

More than half of respondents reported experiencing cases where patients refused to participate in telehealth services because they did not trust that the technology would protect their privacy and security.

In addition, 70 percent of respondents said that their practice used outdated legacy operating systems, exposing them to security vulnerabilities. Despite these concerns, respondents largely agreed that telehealth would add the most value to the healthcare sector in the next five years compared to any other technology.

https://healthitsecurity.com/features/managing-telehealth-remote-patient-monitoring-security-concerns

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January 27, 2022

MITIGATING RISK AND MANAGING CONCERNS

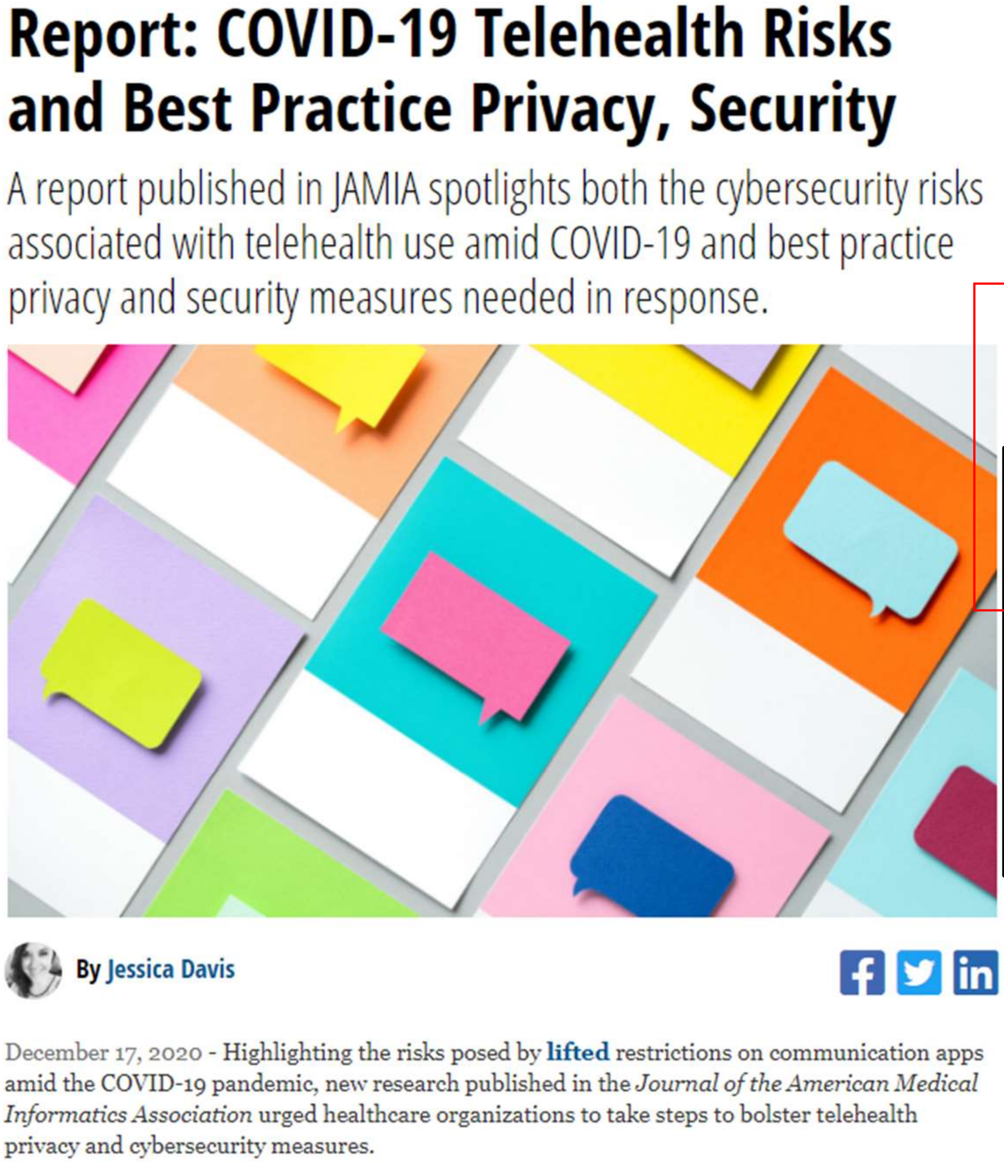
“Healthcare organizations should always make sure that the tools they use to communicate are as protected as they can be, even when on an un-trusted device,” Wollnik suggested.

Maintaining **endpoint security** and **BYOD policies** across the organization’s network is crucial to overall cybersecurity and telehealth security. Identity management and **zero trust tactics** can also contribute to a comprehensive cybersecurity program.

In addition to implementing key technical safeguards, Wollnik recommended that healthcare organizations **evaluate telehealth vendors carefully and have frequent discussions about data privacy and security**.

“When evaluating a vendor, one of the primary questions becomes data handling,” Wollnik continued.
Healthcare organizations should ensure that they know how third-party vendors are interacting with and storing their data. Those conversations will naturally come up as organizations go through the process of creating and signing a **business associate agreement**, (BAA) which requires business associates handling **protected health information** (PHI) to adhere to HIPAA regulations.
“Vendors need to recognize that yes, the customer is the healthcare provider, but it is patients whose data they're actually holding,” Wollnik emphasized.
“And they are the ultimate beneficiaries and potential victims if anything goes sideways.”
Regular patching by vendors, technical safeguard implementation by healthcare organizations, and proper cyber hygiene by providers can ensure that telehealth and RPM technologies are secure.

https://healthitsecurity.com/features/managing-telehealth-remote-patient-monitoring-security-concerns

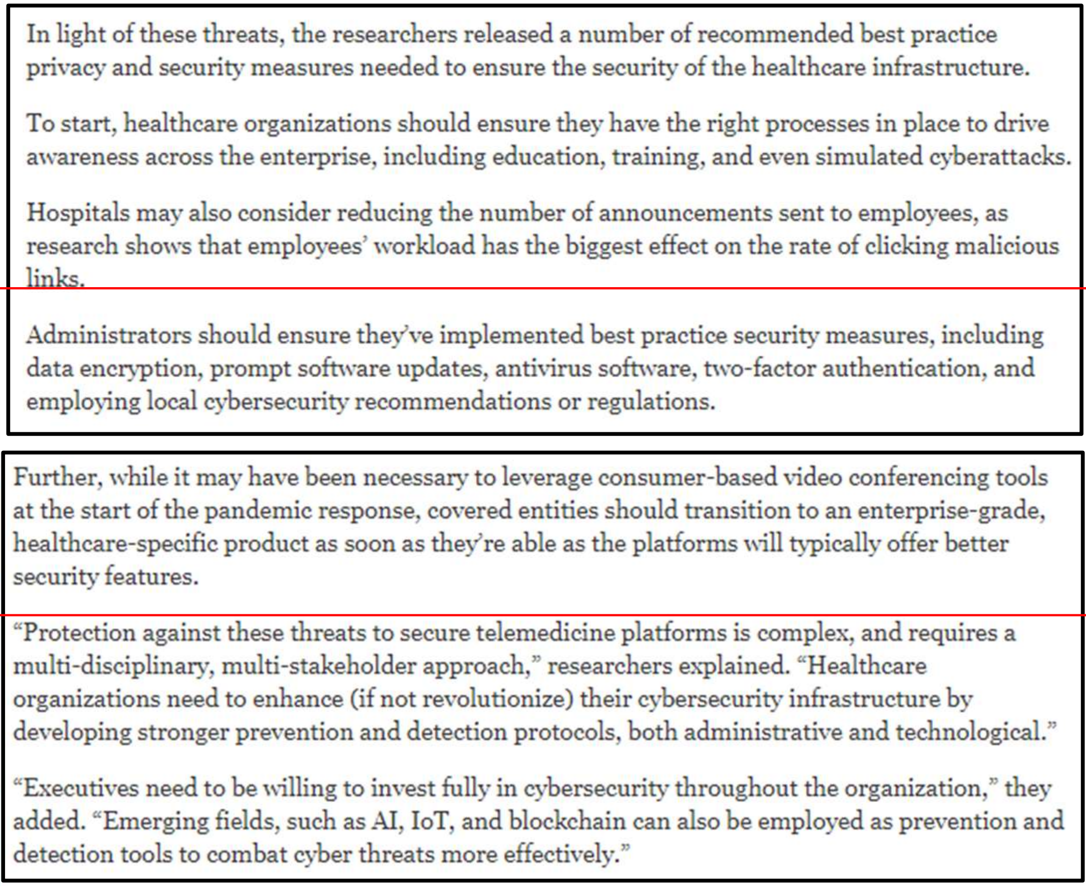


Report: COVID-19 Telehealth Risks and Best Practice Privacy, Security

A report published in JAMIA spotlights both the cybersecurity risks associated with telehealth use amid COVID-19 and best practice privacy and security measures needed in response.

By Jessica Davis

December 17, 2020 - Highlighting the risks posed by lifted restrictions on communication apps amid the COVID-19 pandemic, new research published in the *Journal of the American Medical Informatics Association* urged healthcare organizations to take steps to bolster telehealth privacy and security measures.



In light of these threats, the researchers released a number of recommended best practice privacy and security measures needed to ensure the security of the healthcare infrastructure.

To start, healthcare organizations should ensure they have the right processes in place to drive awareness across the enterprise, including education, training, and even simulated cyberattacks.

Hospitals may also consider reducing the number of announcements sent to employees, as research shows that employees' workload has the biggest effect on the rate of clicking malicious links.

Administrators should ensure they've implemented best practice security measures, including data encryption, prompt software updates, antivirus software, two-factor authentication, and employing local cybersecurity recommendations or regulations.

Further, while it may have been necessary to leverage consumer-based video conferencing tools at the start of the pandemic response, covered entities should transition to an enterprise-grade, healthcare-specific product as soon as they're able as the platforms will typically offer better security features.

"Protection against these threats to secure telemedicine platforms is complex, and requires a multi-disciplinary, multi-stakeholder approach," researchers explained. "Healthcare organizations need to enhance (if not revolutionize) their cybersecurity infrastructure by developing stronger prevention and detection protocols, both administrative and technological."

"Executives need to be willing to invest fully in cybersecurity throughout the organization," they added. "Emerging fields, such as AI, IoT, and blockchain can also be employed as prevention and detection tools to combat cyber threats more effectively."

https://healthitsecurity.com/news/report-covid-10-telehealth-risks-and-best-practice-privacy-security

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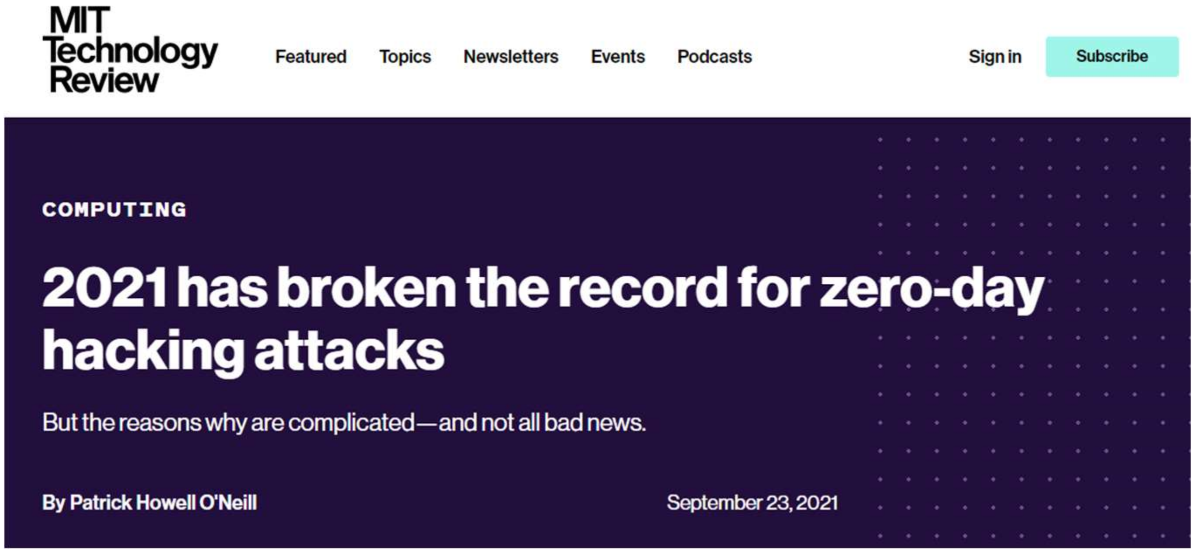
Telehealth: Visit Metacommunications and Metadata

- Data communicated about the telehealth visit
  - Email, text or voice messages containing PII such as scheduling messages
  - Direct links to telehealth visit session
    - Is the same link used for more than one patient?
    - Can someone else who has the link intrude on a live telehealth visit?
- Data logged about the telehealth visit
  - PII or PHI such as patient name, email address, ip address, etc.
  - Is the telehealth visit recorded?
    - By provider?
    - By patient?



MIT Technology Review

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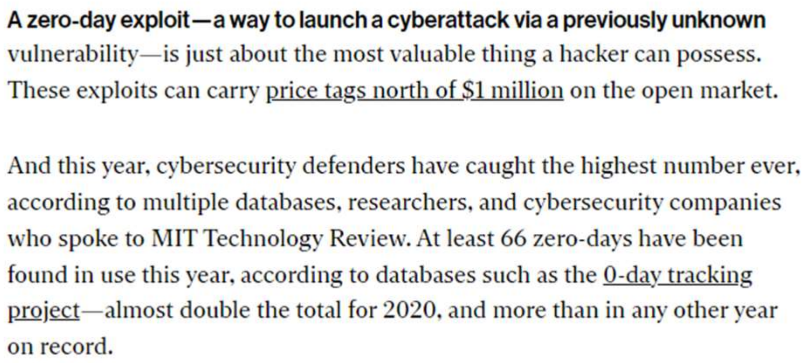
COMPUTING

2021 has broken the record for zero-day hacking attacks

But the reasons why are complicated—and not all bad news.

By Patrick Howell O'Neill

September 23, 2021



A zero-day exploit—a way to launch a cyberattack via a previously unknown vulnerability—is just about the most valuable thing a hacker can possess. These exploits can carry price tags north of $1 million on the open market.

And this year, cybersecurity defenders have caught the highest number ever, according to multiple databases, researchers, and cybersecurity companies who spoke to MIT Technology Review. At least 66 zero-days have been found in use this year, according to databases such as the 0-day tracking project—almost double the total for 2020, and more than in any other year on record.

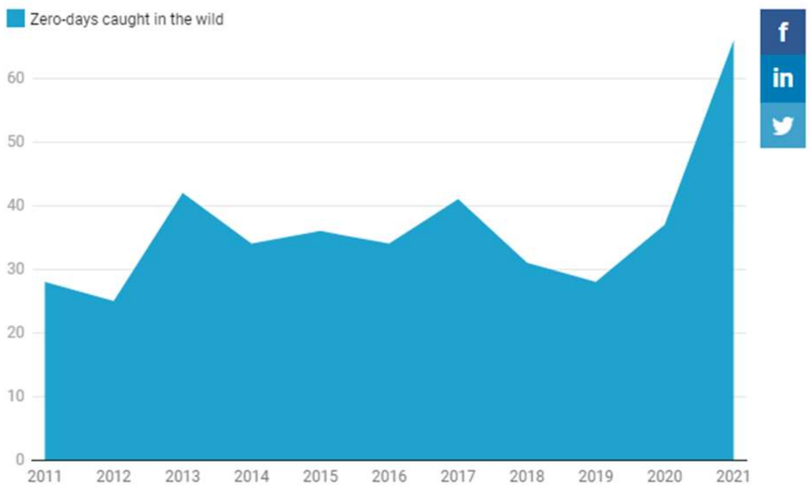
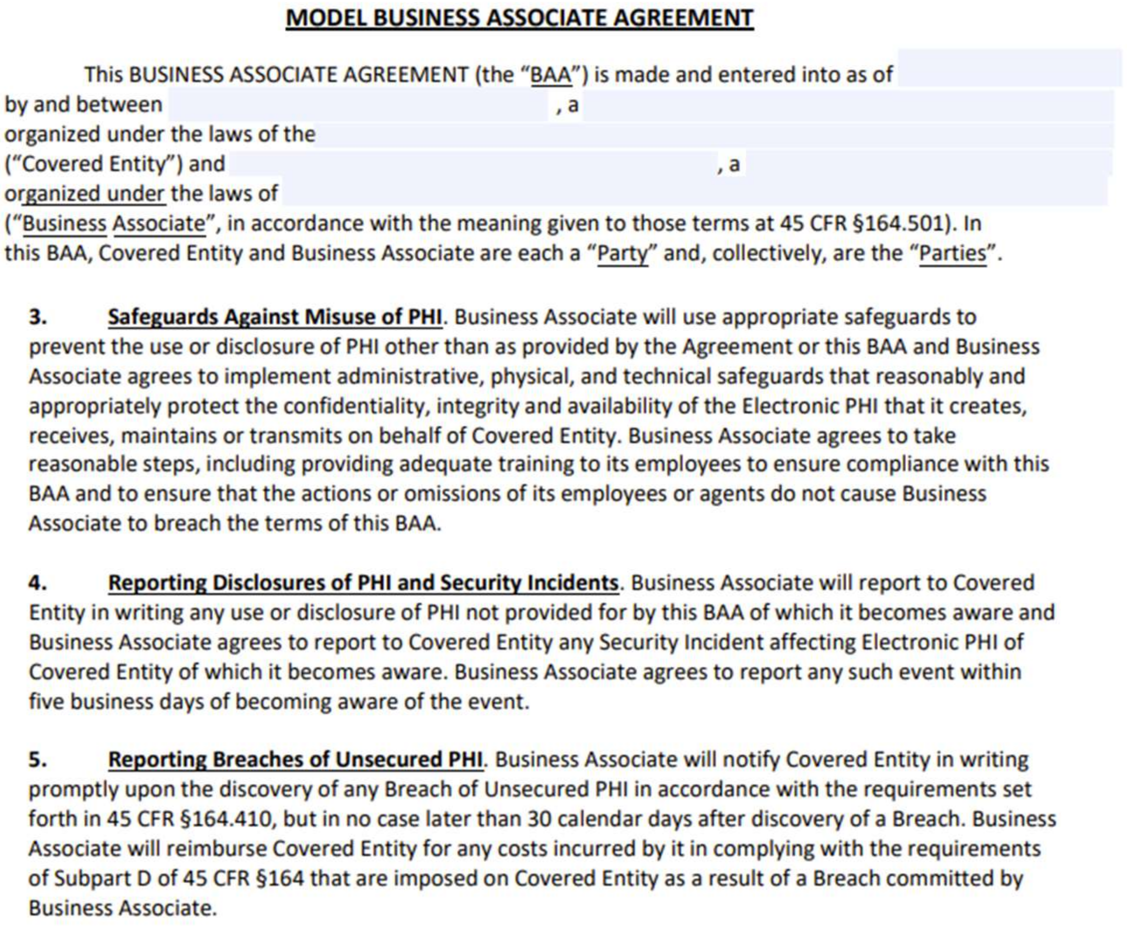


Chart: Patrick Howell O'Neill • Source: Zero-day tracking project • Get the data • Created with Datawrapper

https://www.technologyreview.com/2021/09/23/1036140/2021-record-zero-day-hacks-reasons/



MODEL BUSINESS ASSOCIATE AGREEMENT

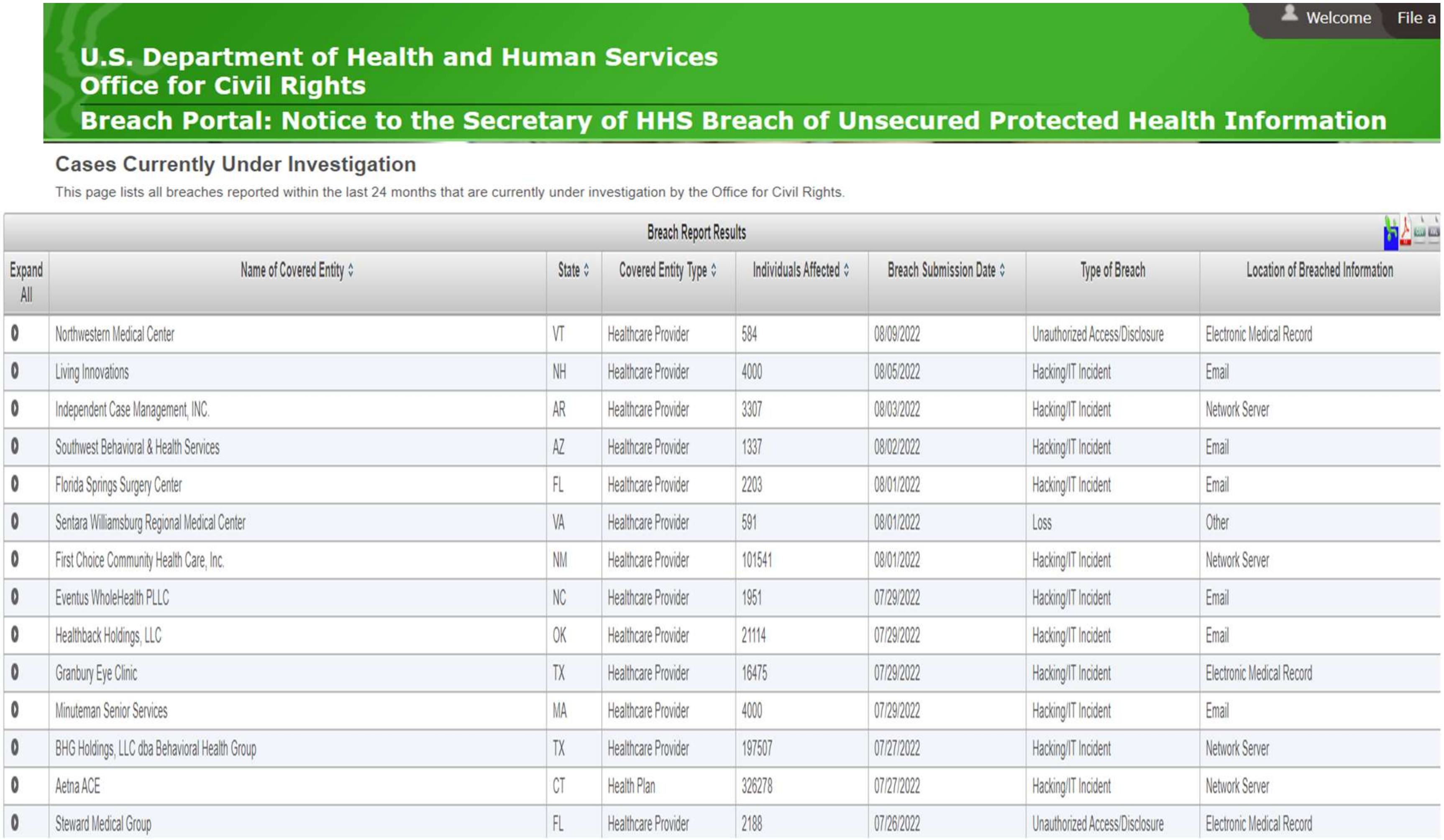
This BUSINESS ASSOCIATE AGREEMENT (the "BAA") is made and entered into as of
by and between , a
organized under the laws of the
("Covered Entity") and , a
organized under the laws of
("Business Associate", in accordance with the meaning given to those terms at 45 CFR §164.501). In this BAA, Covered Entity and Business Associate are each a "Party" and, collectively, are the "Parties".

3. **Safeguards Against Misuse of PHI**. Business Associate will use appropriate safeguards to prevent the use or disclosure of PHI other than as provided by the Agreement or this BAA and Business Associate agrees to implement administrative, physical, and technical safeguards that reasonably and appropriately protect the confidentiality, integrity and availability of the Electronic PHI that it creates, receives, maintains or transmits on behalf of Covered Entity. Business Associate agrees to take reasonable steps, including providing adequate training to its employees to ensure compliance with this BAA and to ensure that the actions or omissions of its employees or agents do not cause Business Associate to breach the terms of this BAA.

4. **Reporting Disclosures of PHI and Security Incidents**. Business Associate will report to Covered Entity in writing any use or disclosure of PHI not provided for by this BAA of which it becomes aware and Business Associate agrees to report to Covered Entity any Security Incident affecting Electronic PHI of Covered Entity of which it becomes aware. Business Associate agrees to report any such event within five business days of becoming aware of the event.

5. **Reporting Breaches of Unsecured PHI**. Business Associate will notify Covered Entity in writing promptly upon the discovery of any Breach of Unsecured PHI in accordance with the requirements set forth in 45 CFR §164.410, but in no case later than 30 calendar days after discovery of a Breach. Business Associate will reimburse Covered Entity for any costs incurred by it in complying with the requirements of Subpart D of 45 CFR §164 that are imposed on Covered Entity as a result of a Breach committed by Business Associate.

https://www.hhs.gov/sites/default/files/model-business-associate-agreement.pdf



U.S. Department of Health and Human Services
Office for Civil Rights

Breach Portal: Notice to the Secretary of HHS Breach of Unsecured Protected Health Information

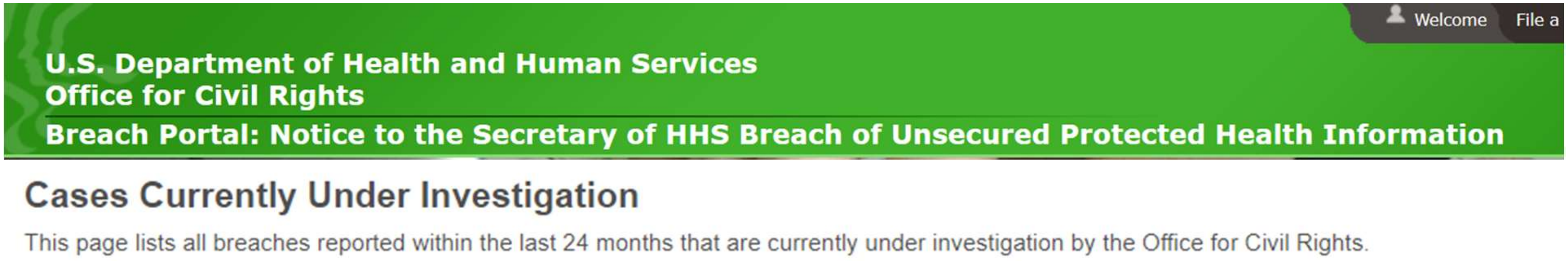
Cases Currently Under Investigation

This page lists all breaches reported within the last 24 months that are currently under investigation by the Office for Civil Rights.

Breach Report Results

Expand All	Name of Covered Entity ⇕	State ⇕	Covered Entity Type ⇕	Individuals Affected ⇕	Breach Submission Date ⇕	Type of Breach	Location of Breached Information
0	Northwestern Medical Center	VT	Healthcare Provider	584	08/09/2022	Unauthorized Access/Disclosure	Electronic Medical Record
0	Living Innovations	NH	Healthcare Provider	4000	08/05/2022	Hacking/IT Incident	Email
0	Independent Case Management, INC.	AR	Healthcare Provider	3307	08/03/2022	Hacking/IT Incident	Network Server
0	Southwest Behavioral & Health Services	AZ	Healthcare Provider	1337	08/02/2022	Hacking/IT Incident	Email
0	Florida Springs Surgery Center	FL	Healthcare Provider	2203	08/01/2022	Hacking/IT Incident	Email
0	Sentara Williamsburg Regional Medical Center	VA	Healthcare Provider	591	08/01/2022	Loss	Other
0	First Choice Community Health Care, Inc.	NM	Healthcare Provider	101541	08/01/2022	Hacking/IT Incident	Network Server
0	Eventus WholeHealth PLLC	NC	Healthcare Provider	1951	07/29/2022	Hacking/IT Incident	Email
0	Healthback Holdings, LLC	OK	Healthcare Provider	21114	07/29/2022	Hacking/IT Incident	Email
0	Granbury Eye Clinic	TX	Healthcare Provider	16475	07/29/2022	Hacking/IT Incident	Electronic Medical Record
0	Minuteman Senior Services	MA	Healthcare Provider	4000	07/29/2022	Hacking/IT Incident	Email
0	BHG Holdings, LLC dba Behavioral Health Group	TX	Healthcare Provider	197507	07/27/2022	Hacking/IT Incident	Network Server
0	Aetna ACE	CT	Health Plan	326278	07/27/2022	Hacking/IT Incident	Network Server
0	Steward Medical Group	FL	Healthcare Provider	2188	07/26/2022	Unauthorized Access/Disclosure	Electronic Medical Record

https://ocrportal.hhs.gov/ocr/breach/breach_report.jsf



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Breach Portal: Notice to the Secretary of HHS Breach of Unsecured Protected Health Information

Cases Currently Under Investigation

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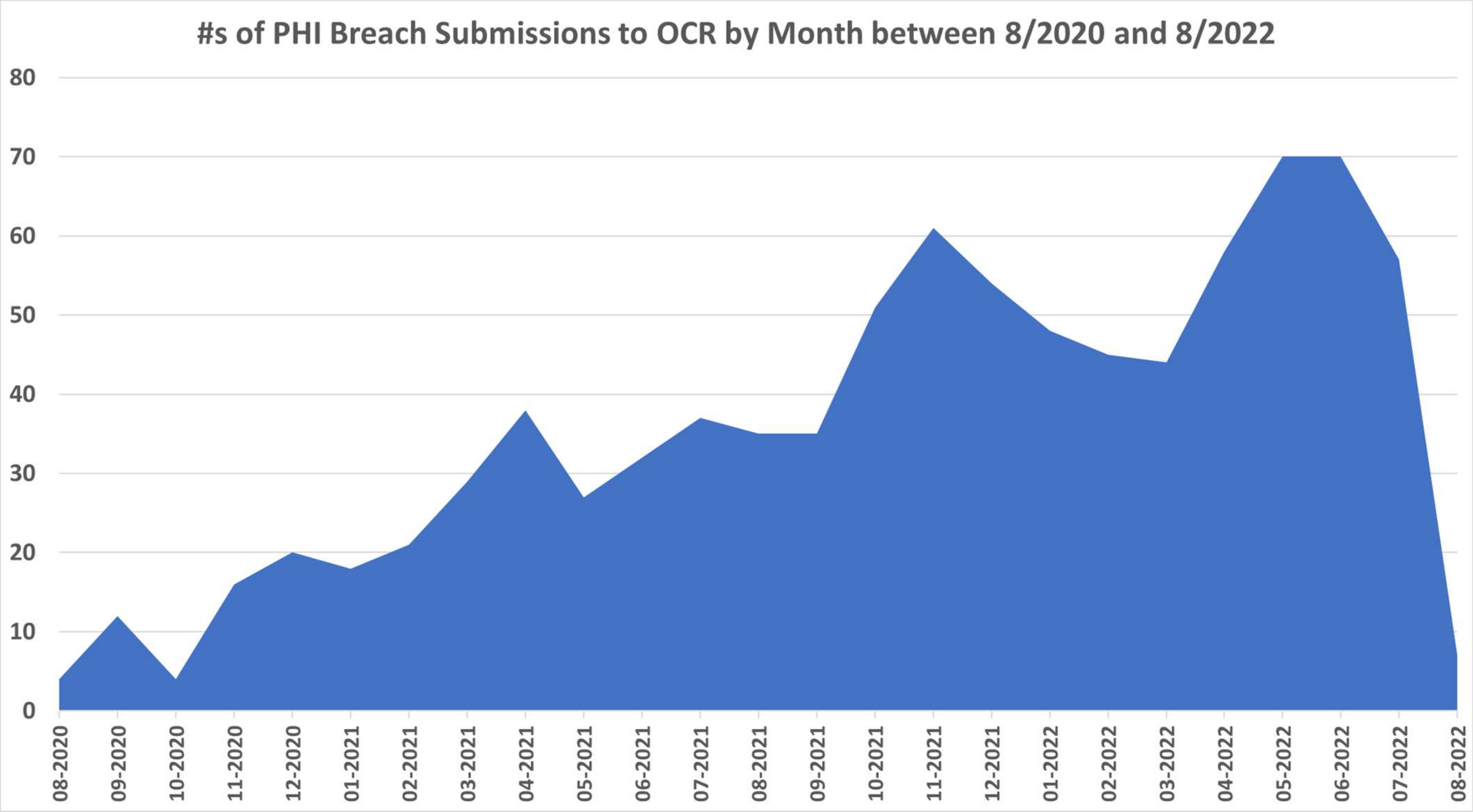
As of August 14, 2022 ~893 active investigations of breaches involving > 68,700,000 people's protected health information (PHI). An additional ~4000 previous investigations are now in archive status.

https://ocrportal.hhs.gov/ocr/breach/breach_report.jsf


#s of PHI Breach Submissions to OCR by Month between 8/2020 and 8/2022
80
70
60
50
40
30
20
10
0
08-2020
09-2020
10-2020
11-2020
12-2020
01-2021
02-2021
03-2021
04-2021
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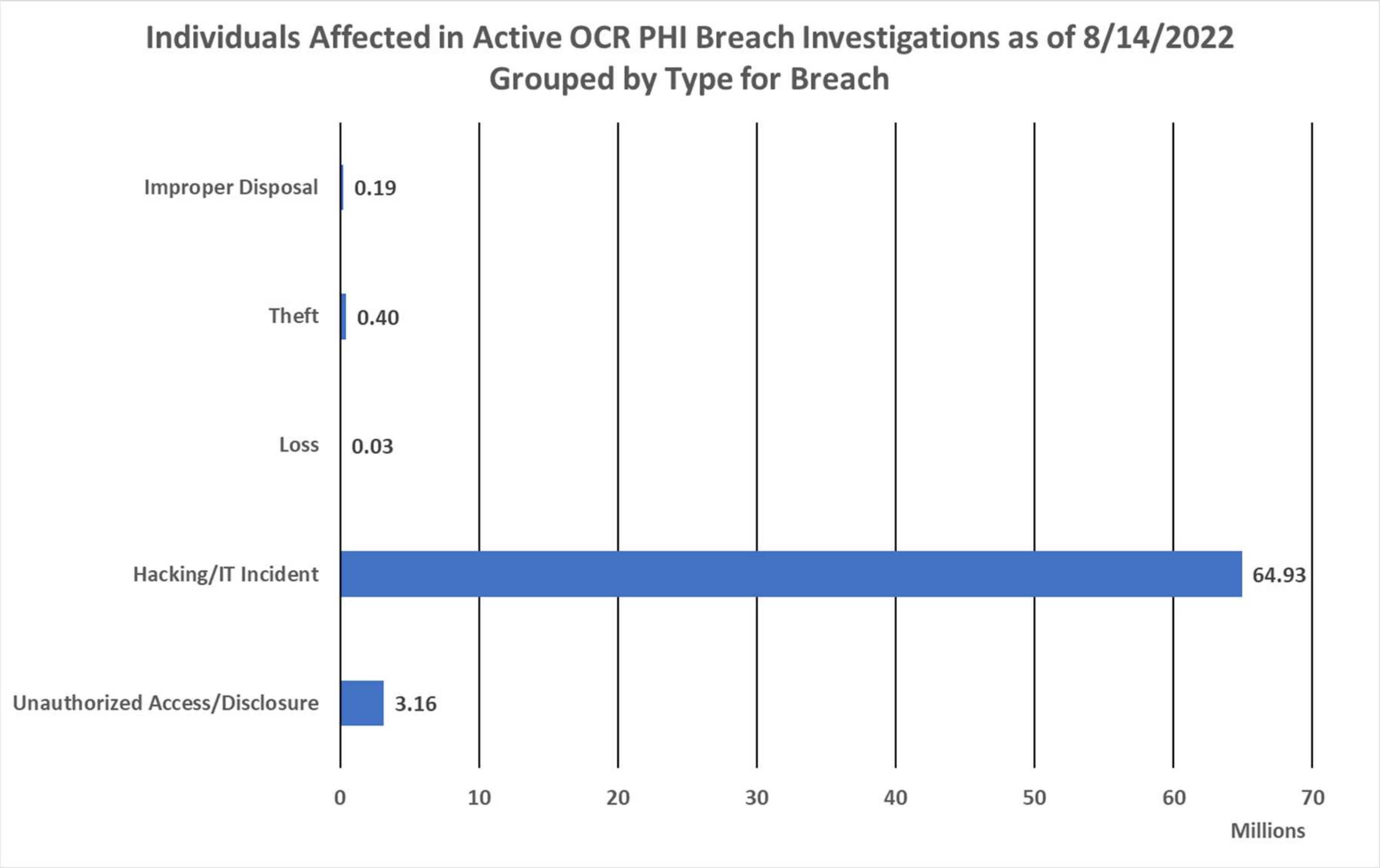
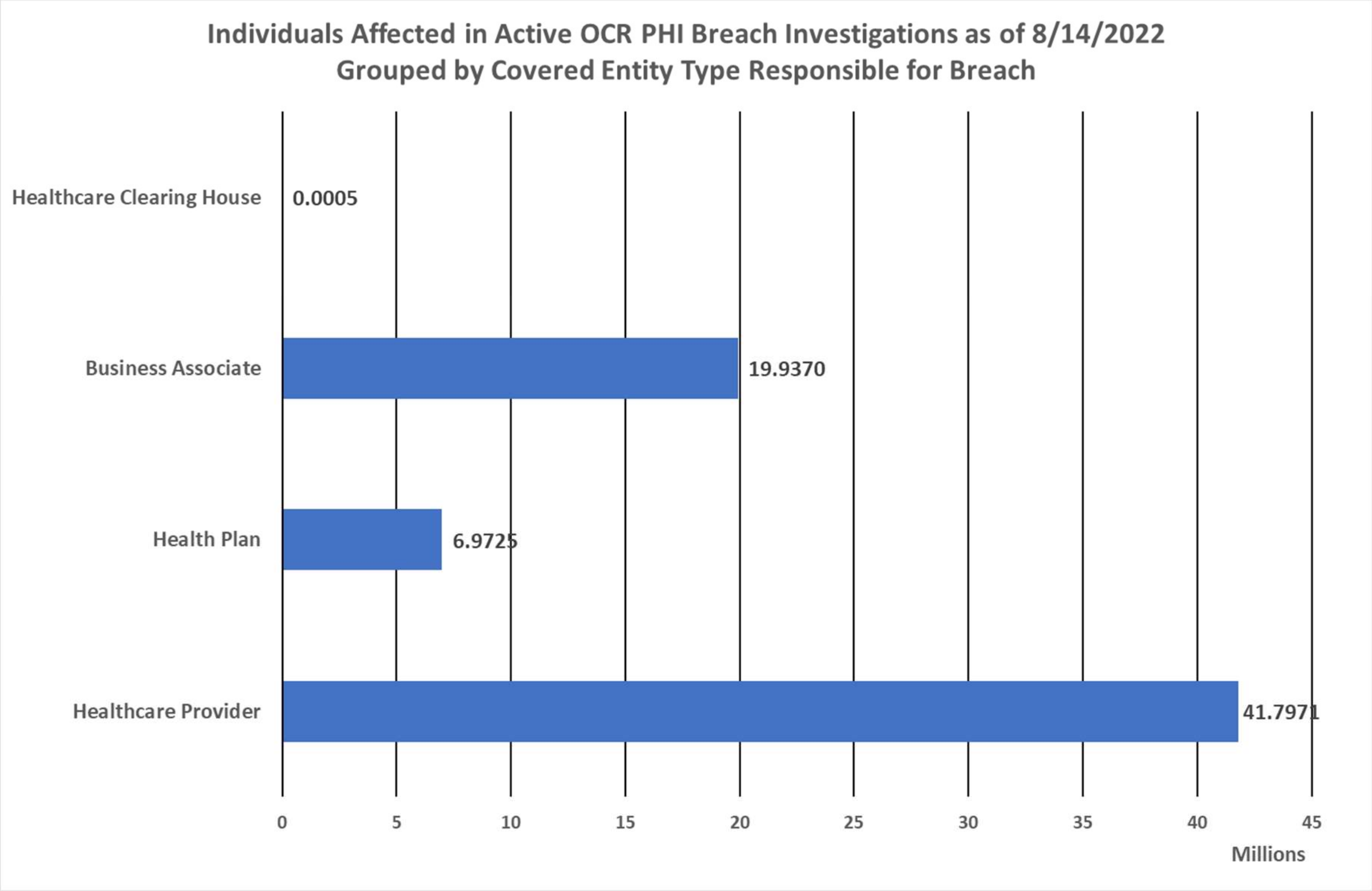


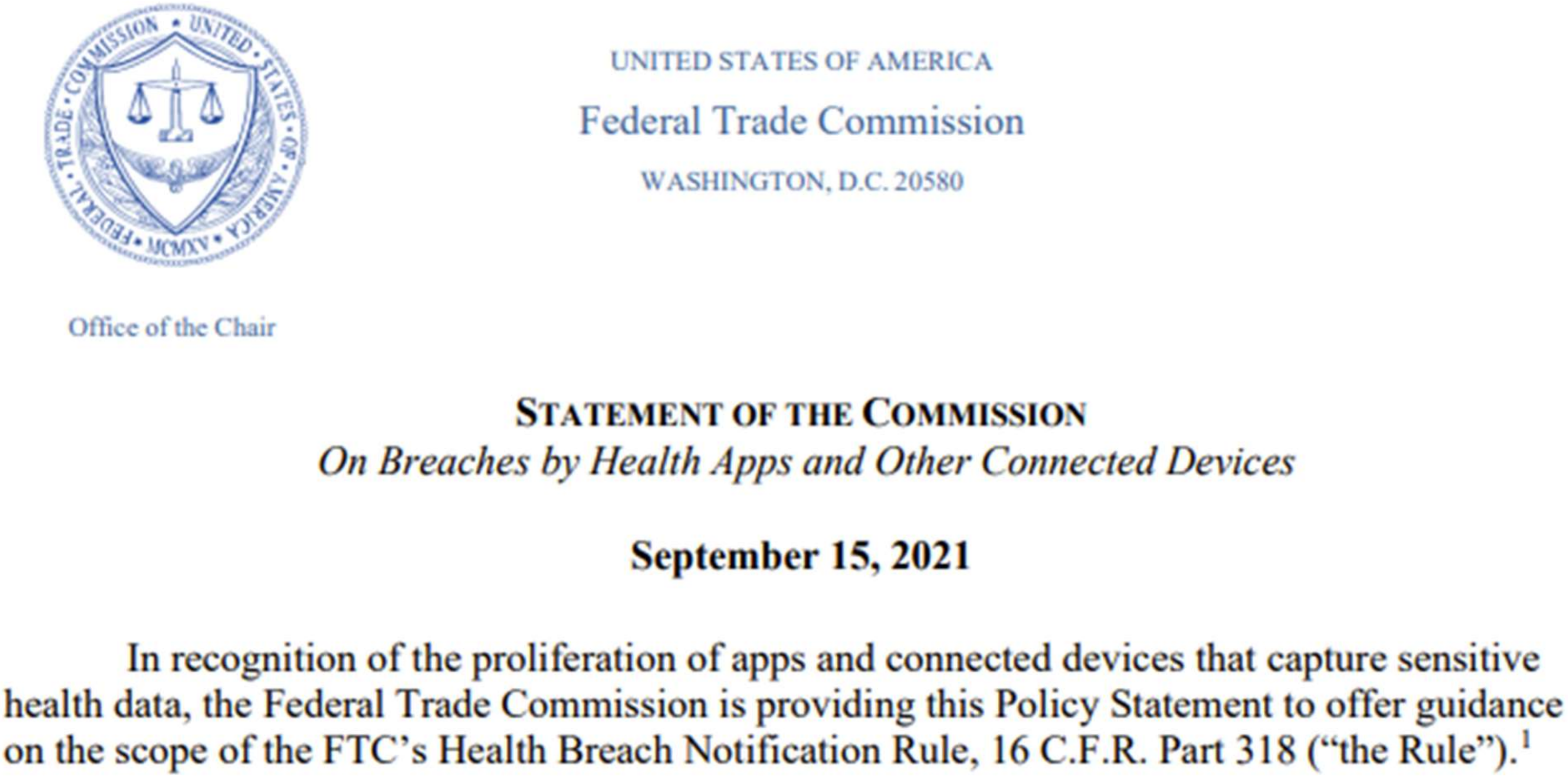
Data source: https://ocrportal.hhs.gov/ocr/breach/breach_report.jsf



Data source: https://ocrportal.hhs.gov/ocr/breach/breach_report.jsf

Individuals Affected in Active OCR PHI Breach Investigations as of 8/14/2022 Grouped by Location of Breached Information

Location of Breached Information	Individuals Affected
Network Server	53,926,154
Email	9,762,944
Other	1,754,876
Electronic Medical Record	1,011,331
Desktop Computer, Laptop, Network Server	500,000
Electronic Medical Record, Network Server	470,219
Paper/Films	408,856
Email, Other	212,509
Desktop Computer	160,597
Other Portable Electronic Device	143,541
Electronic Medical Record, Other	59,960
Network Server, Other	46,954
Laptop, Other, Other Portable Electronic Device	37,636
Email, Network Server	36,974
Laptop	33,032
Desktop Computer, Electronic Medical Record, Laptop, Network Server	29,227
Email, Laptop	28,332
Desktop Computer, Network Server	25,555
Laptop, Other	24,000
Desktop Computer, Electronic Medical Record, Network Server	13,530
Desktop Computer, Electronic Medical Record, Laptop, Other Portable Electronic Device	3,300
Other, Other Portable Electronic Device	2,869
Laptop, Network Server	2,716
Desktop Computer, Electronic Medical Record	2,371
Desktop Computer, Other Portable Electronic Device	2,287
Network Server, Paper/Films	2,000
Electronic Medical Record, Email, Paper/Films	1,748
Desktop Computer, Laptop, Other Portable Electronic Device	1,580
Electronic Medical Record, Laptop, Network Server	823
Desktop Computer, Electronic Medical Record, Laptop	601
Desktop Computer, Electronic Medical Record, Email, Network Server, Paper/Films	500



UNITED STATES OF AMERICA

Federal Trade Commission

WASHINGTON, D.C. 20580

Office of the Chair

STATEMENT OF THE COMMISSION

On Breaches by Health Apps and Other Connected Devices

September 15, 2021

In recognition of the proliferation of apps and connected devices that capture sensitive health data, the Federal Trade Commission is providing this Policy Statement to offer guidance on the scope of the FTC's Health Breach Notification Rule, 16 C.F.R. Part 318 ("the Rule").[1]

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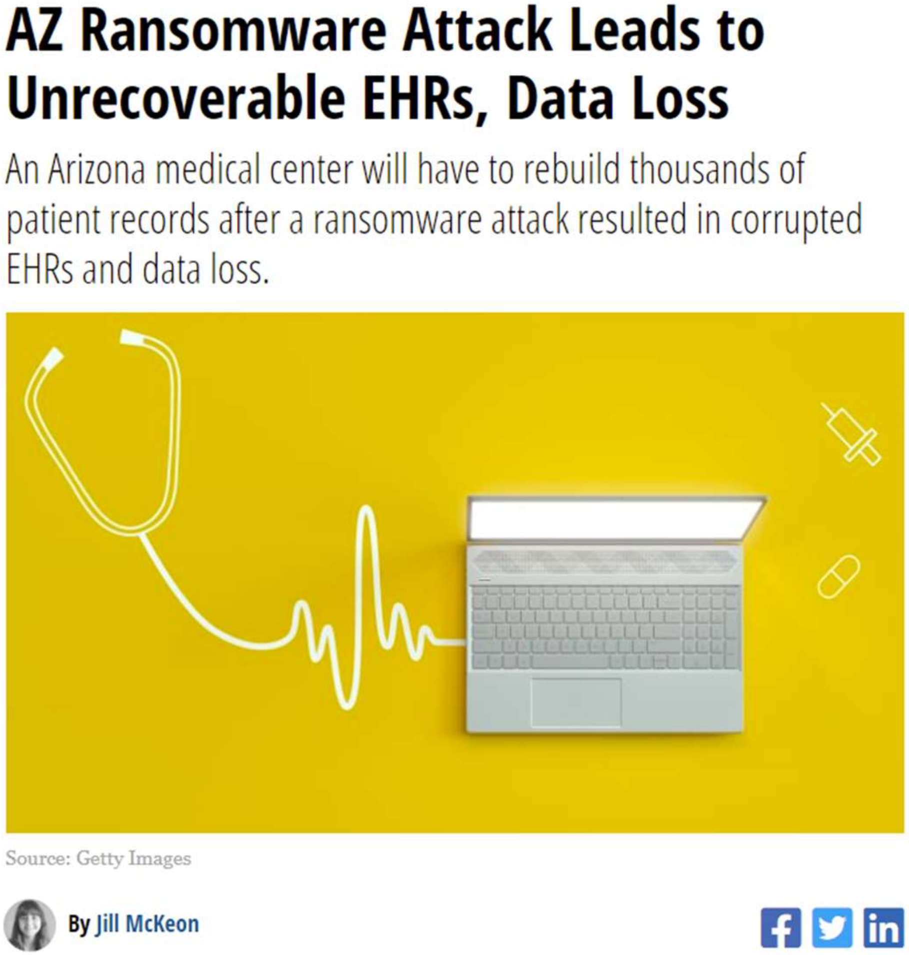

AZ Ransomware Attack Leads to Unrecoverable EHRs, Data Loss

An Arizona medical center will have to rebuild thousands of patient records after a ransomware attack resulted in corrupted EHRs and data loss.

Source: Getty Images

By Jill McKeon

https://healthitsecurity.com/news/az-ransomware-attack-leads-to-unrecoverable-ehrs-data-loss

Arizona Telemedicine Program

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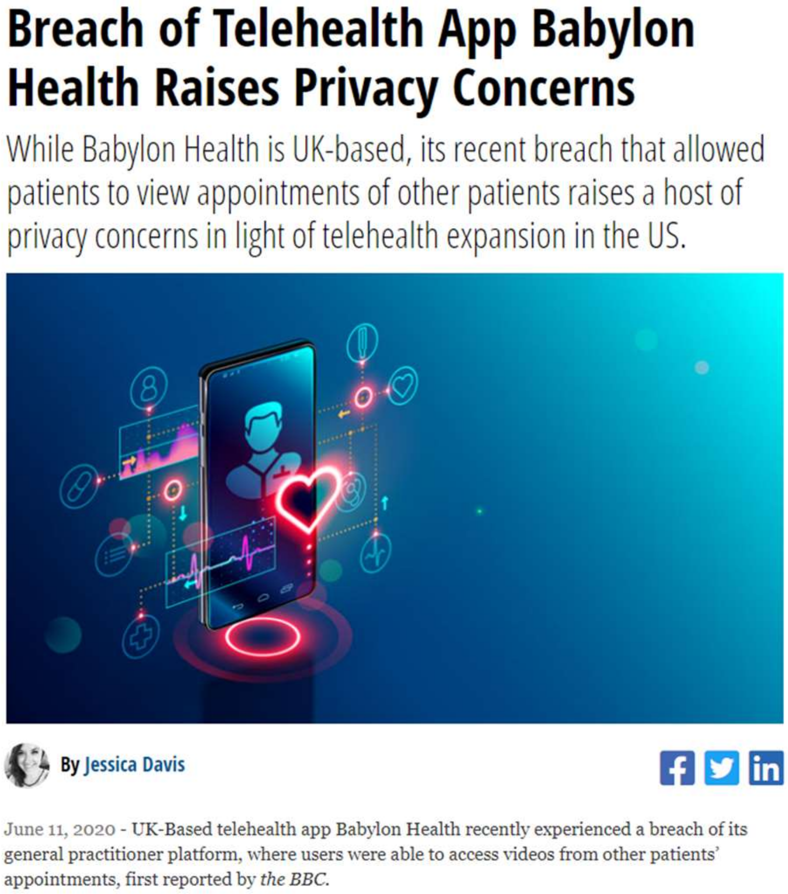


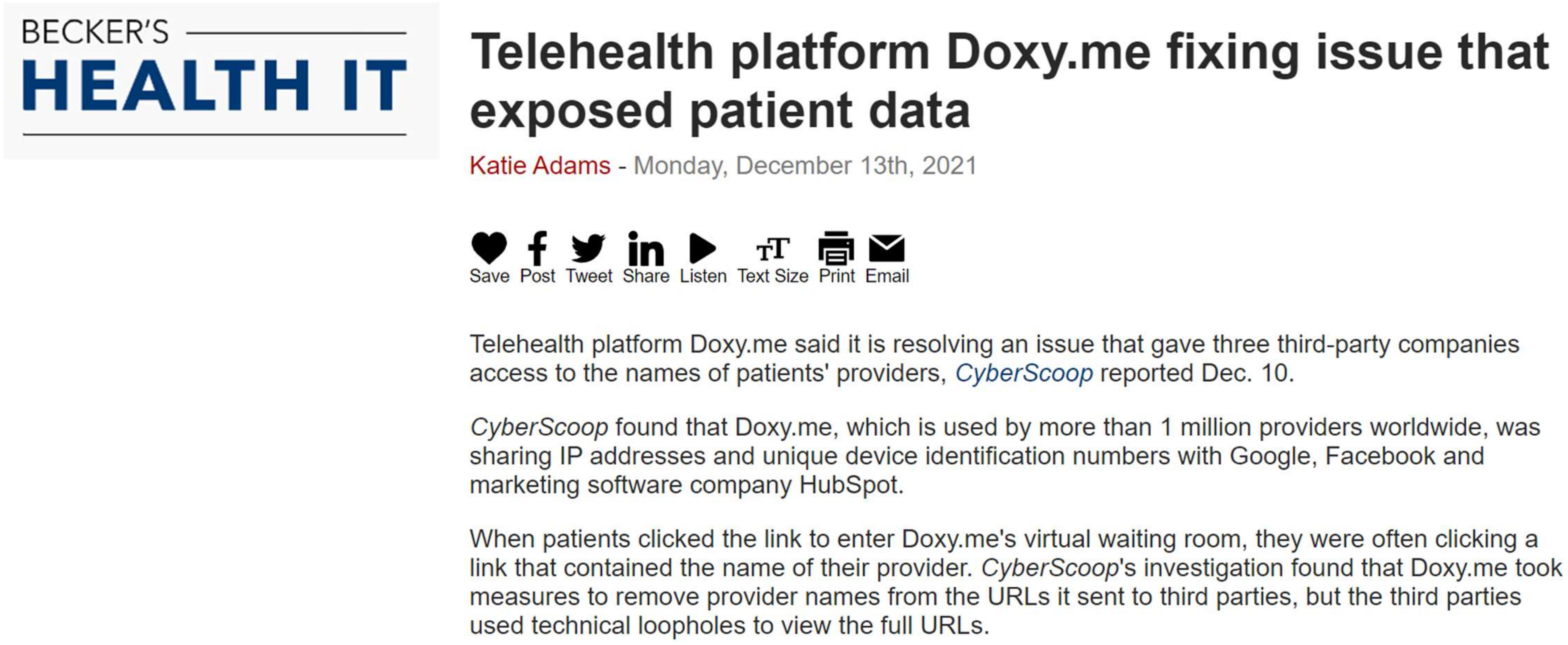
Breach of Telehealth App Babylon Health Raises Privacy Concerns

While Babylon Health is UK-based, its recent breach that allowed patients to view appointments of other patients raises a host of privacy concerns in light of telehealth expansion in the US.

By Jessica Davis

June 11, 2020 - UK-Based telehealth app Babylon Health recently experienced a breach of its general practitioner platform, where users were able to access videos from other patients' appointments, first reported by *the BBC.*

https://healthitsecurity.com/news/breach-of-telehealth-app-babylon-health-raises-privacy-concerns



Telehealth platform Doxy.me fixing issue that exposed patient data

Katie Adams - Monday, December 13th, 2021

Telehealth platform Doxy.me said it is resolving an issue that gave three third-party companies access to the names of patients' providers, *CyberScoop* reported Dec. 10.

CyberScoop found that Doxy.me, which is used by more than 1 million providers worldwide, was sharing IP addresses and unique device identification numbers with Google, Facebook and marketing software company HubSpot.

When patients clicked the link to enter Doxy.me's virtual waiting room, they were often clicking a link that contained the name of their provider. *CyberScoop*'s investigation found that Doxy.me took measures to remove provider names from the URLs it sent to third parties, but the third parties used technical loopholes to view the full URLs.

https://www.beckershospitalreview.com/cybersecurity/telehealth-platform-doxy-me-fixing-issue-that-exposed-patient-data.html

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HealthITSecurity › Latest Health Data Breaches

Latest Health Data Breaches News

https://healthitsecurity.com/topic/latest-health-data-breaches

Third-Party Data Breaches, Unauthorized Email Access Cause PHI Exposure

February 4, 2022 - Third-party data breaches, unauthorized email access, and cyberattacks aimed at small outpatient facilities continue to impact the healthcare sector. Threat actors are increasingly leveraging Ransomware-as-a-Service (RaaS) models, software vulnerability exploits, and double extortion over traditional data encryption, a recent Abnormal Security report found. Healthcare organizations...

Healthcare Ransomware Outages: Scripps, Ireland HSE, and NZ Hospitals

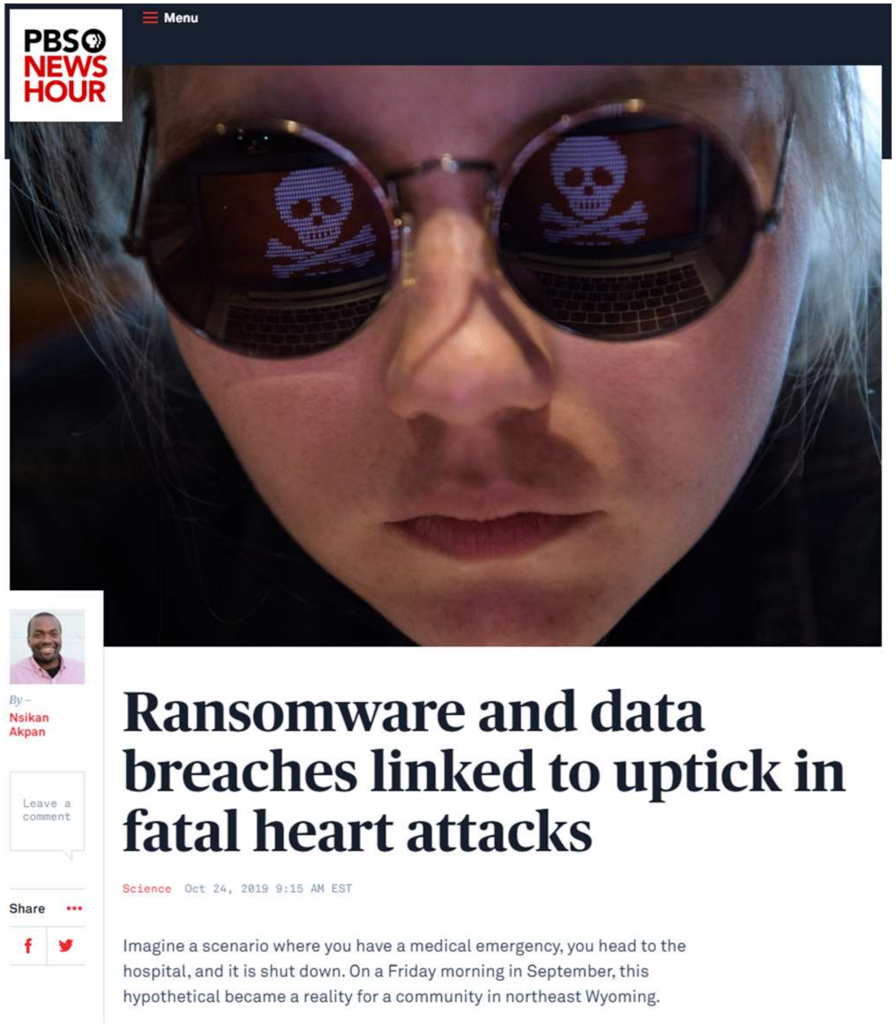
May 18, 2021 by Jessica Davis
Healthcare remains a key target for ransomware hacking groups, as seen in recent research data and multiple hospital system outages. Scripps Health is continuing recovery efforts two weeks after an attack, while Ireland's health...

Scripps Health EHR, Patient Portal Still Down After Ransomware Attack

May 10, 2021 by Jessica Davis
Scripps Health is continuing to operate under EHR downtime procedures and its website and patient portal remain offline, nine days after a ransomware attack struck its servers. The California Department of Health (CDPH) has since confirmed...

Ransomware Hits Scripps Health, Disrupting Critical Care, Online Portal

May 03, 2021 by Jessica Davis
Scripps Health in San Diego was hit by a ransomware attack over the weekend, forcing the health system into EHR downtime. Some critical care patients were diverted and the online patient portal has been taken offline, according to...



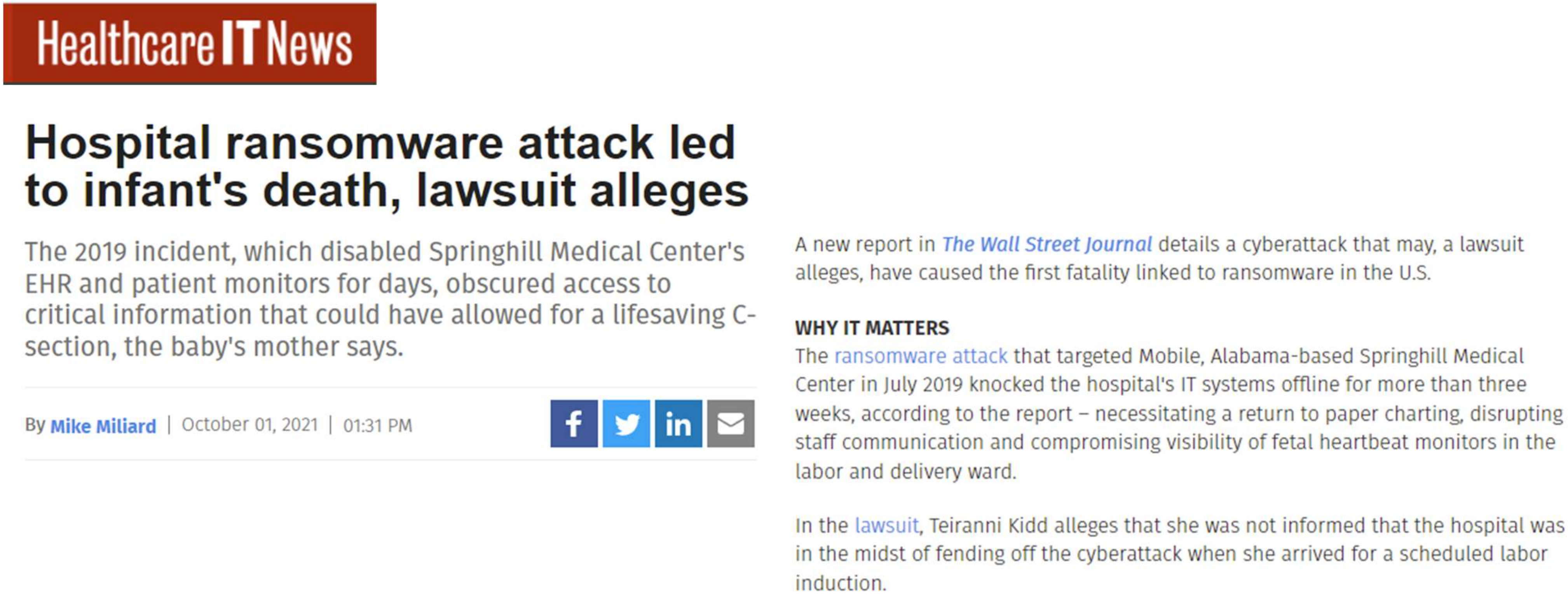
By – Nsikan Akpan

Ransomware and data breaches linked to uptick in fatal heart attacks

Science Oct 24, 2019 9:15 AM EST

Imagine a scenario where you have a medical emergency, you head to the hospital, and it is shut down. On a Friday morning in September, this hypothetical became a reality for a community in northeast Wyoming.

https://www.pbs.org/newshour/science/ransomware-and-other-data-breaches-linked-to-uptick-in-fatal-heart-attacks



Healthcare IT News

Hospital ransomware attack led to infant's death, lawsuit alleges

The 2019 incident, which disabled Springhill Medical Center's EHR and patient monitors for days, obscured access to critical information that could have allowed for a lifesaving C-section, the baby's mother says.

By Mike Miliard | October 01, 2021 | 01:31 PM

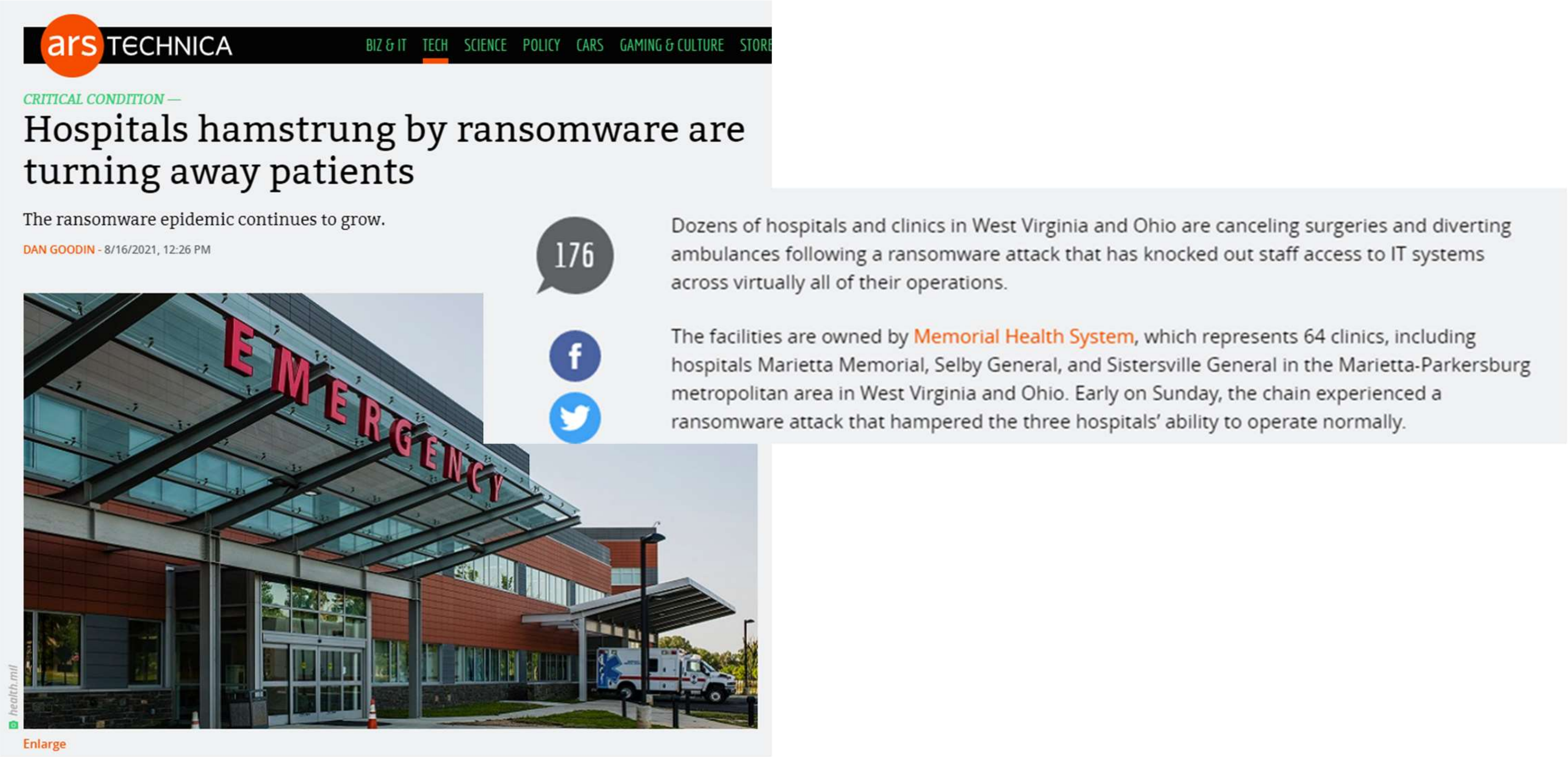
A new report in *The Wall Street Journal* details a cyberattack that may, a lawsuit alleges, have caused the first fatality linked to ransomware in the U.S.

WHY IT MATTERS

The ransomware attack that targeted Mobile, Alabama-based Springhill Medical Center in July 2019 knocked the hospital's IT systems offline for more than three weeks, according to the report – necessitating a return to paper charting, disrupting staff communication and compromising visibility of fetal heartbeat monitors in the labor and delivery ward.

In the lawsuit, Teiranni Kidd alleges that she was not informed that the hospital was in the midst of fending off the cyberattack when she arrived for a scheduled labor induction.

https://www.healthcareitnews.com/news/hospital-ransomware-attack-led-infants-death-lawsuit-alleges



CRITICAL CONDITION —

Hospitals hamstrung by ransomware are turning away patients

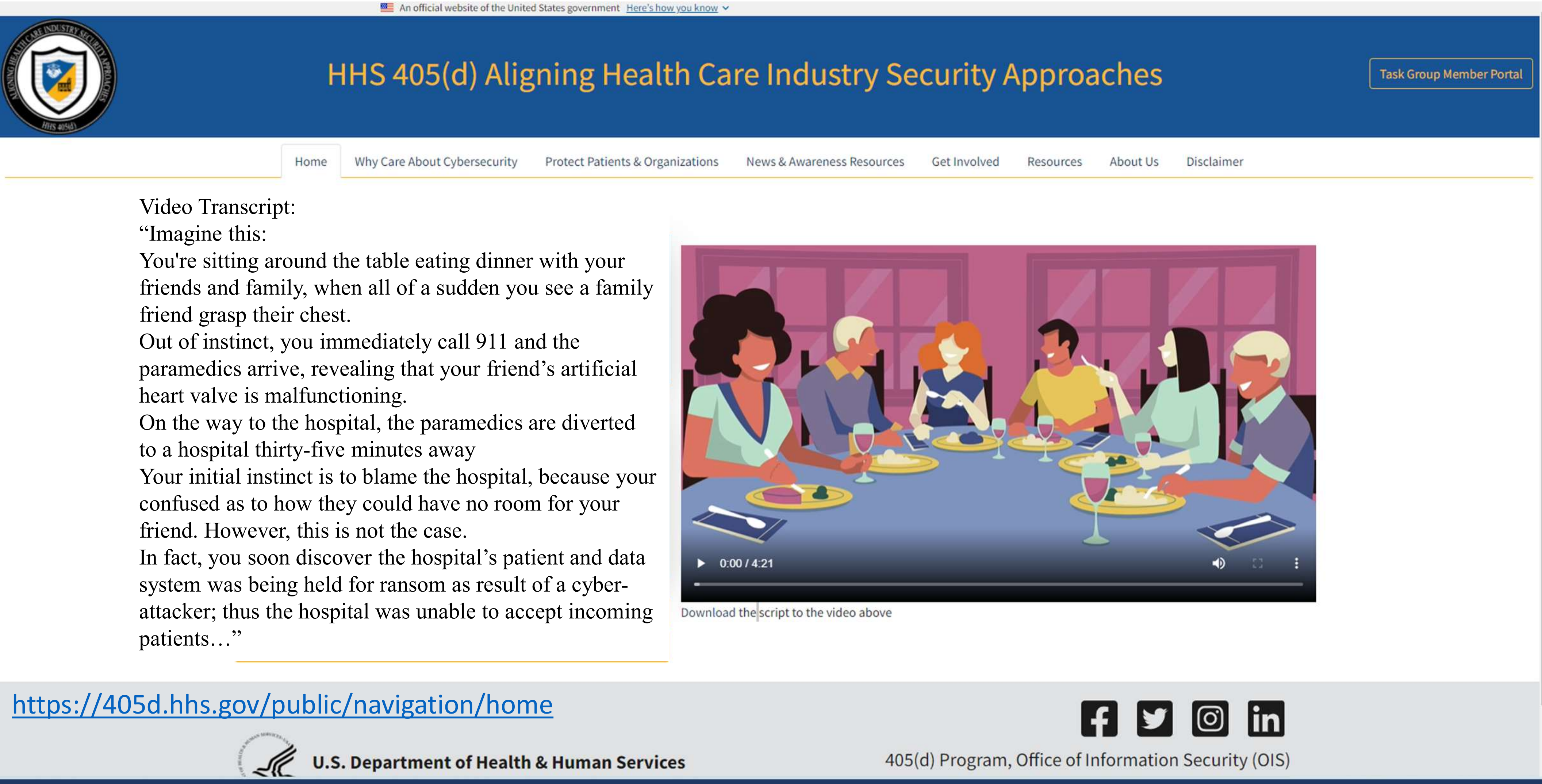
The ransomware epidemic continues to grow.

DAN GOODIN - 8/16/2021, 12:26 PM

Dozens of hospitals and clinics in West Virginia and Ohio are canceling surgeries and diverting ambulances following a ransomware attack that has knocked out staff access to IT systems across virtually all of their operations.

The facilities are owned by Memorial Health System, which represents 64 clinics, including hospitals Marietta Memorial, Selby General, and Sistersville General in the Marietta-Parkersburg metropolitan area in West Virginia and Ohio. Early on Sunday, the chain experienced a ransomware attack that hampered the three hospitals' ability to operate normally.

https://arstechnica.com/gadgets/2021/08/hospitals-hamstrung-by-ransomware-are-turning-away-patients/


An official website of the United States government Here's how you know
HHS 405(d) Aligning Health Care Industry Security Approaches
Task Group Member Portal
Home
Why Care About Cybersecurity
Protect Patients & Organizations
News & Awareness Resources
Get Involved
Resources
About Us
Disclaimer
0:00 / 4:21

Video Transcript:
"Imagine this:
You're sitting around the table eating dinner with your friends and family, when all of a sudden you see a family friend grasp their chest.
Out of instinct, you immediately call 911 and the paramedics arrive, revealing that your friend's artificial heart valve is malfunctioning.
On the way to the hospital, the paramedics are diverted to a hospital thirty-five minutes away
Your initial instinct is to blame the hospital, because your confused as to how they could have no room for your friend. However, this is not the case.
In fact, you soon discover the hospital's patient and data system was being held for ransom as result of a cyber-attacker; thus the hospital was unable to accept incoming patients…"

Download the script to the video above

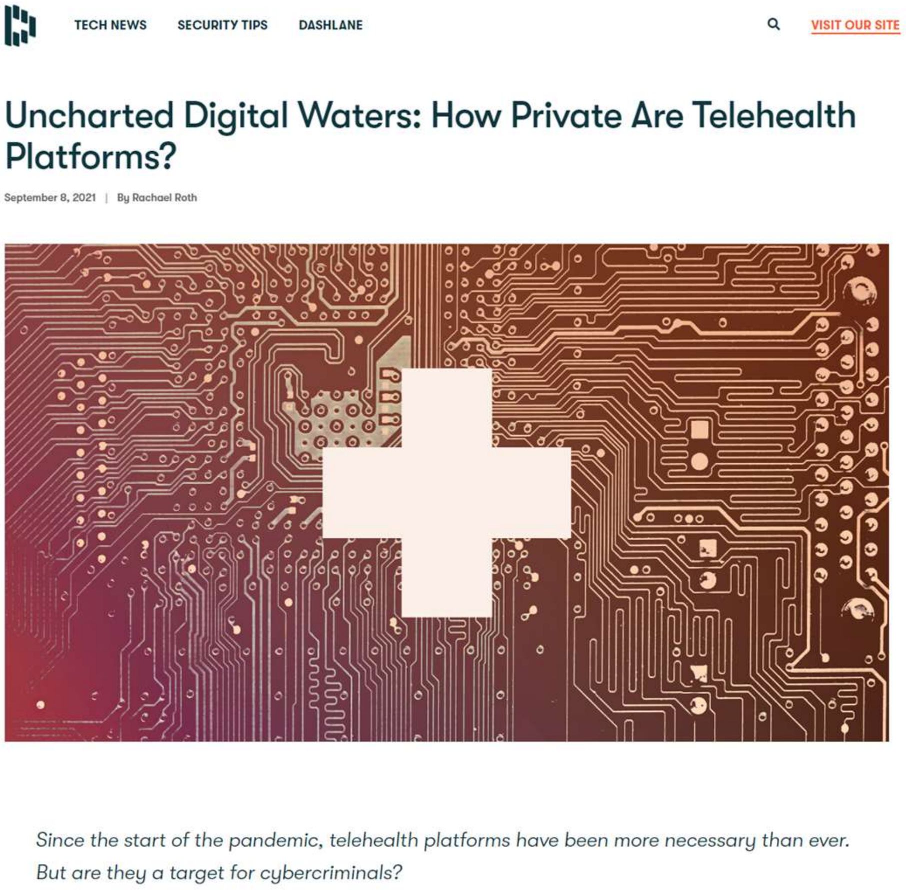
https://405d.hhs.gov/public/navigation/home

U.S. Department of Health & Human Services

405(d) Program, Office of Information Security (OIS)

Arizona Telemedicine Program

Southwest Telehealth TRC Resource · Center



Uncharted Digital Waters: How Private Are Telehealth Platforms?

September 8, 2021 | By Rachael Roth

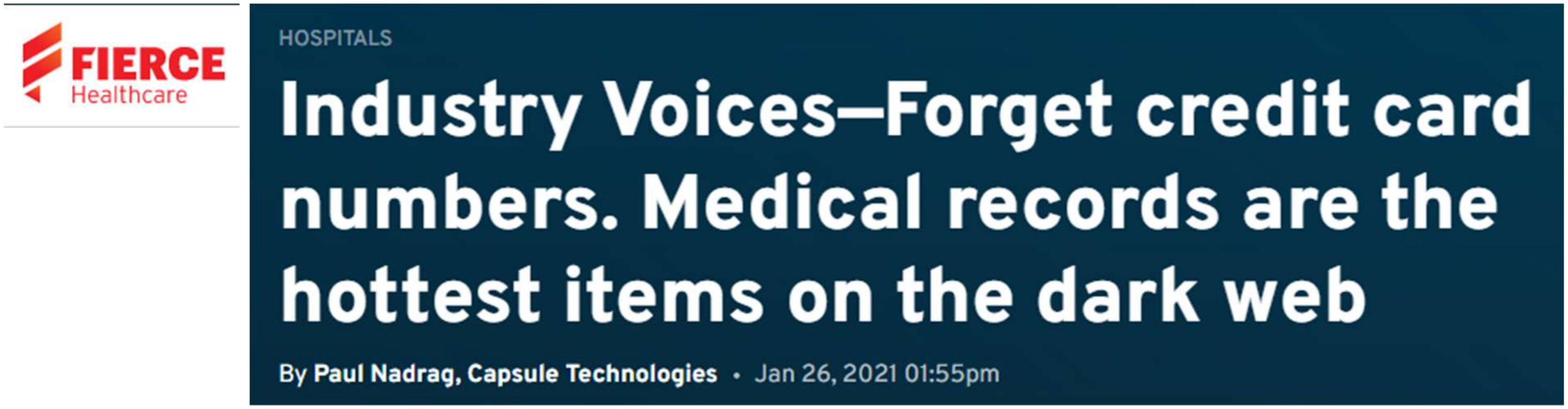
Since the start of the pandemic, telehealth platforms have been more necessary than ever. But are they a target for cybercriminals?

According to former hacker Alissa Knight, personal health information (PHI) is the most valuable type of data that exists on the dark web. In this study, Knight and Approov looked at 30 mobile healthcare apps to see just how secure they were. Each of them had API vulnerabilities, and all of them were susceptible to Broken Object Level Authorization (BOLA) attacks. This extremely common API vulnerability means that an app does not confirm a user's privileges to protected information, and is very easy for hackers to exploit once discovered.

Obtaining medical records could enable someone to impersonate you and even get treatment or prescription drugs. Not to mention the bevy of information that comes with your MyChart or other accounts that are valuable on the dark web or make you vulnerable to phishing attacks: your birthdate, address, family history, and contact information, to name a few.

https://blog.dashlane.com/telehealth-platforms-privacy/

What is the value of a patient health record on the dark market?

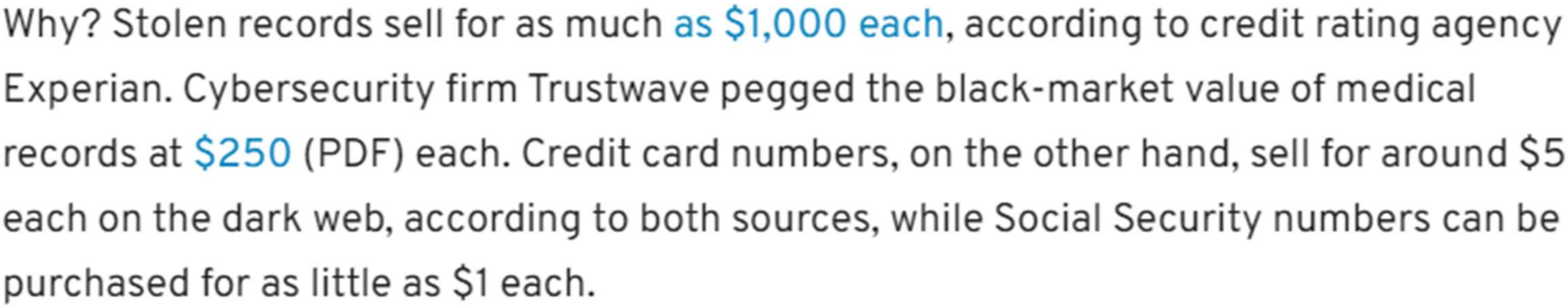


FIERCE Healthcare

HOSPITALS

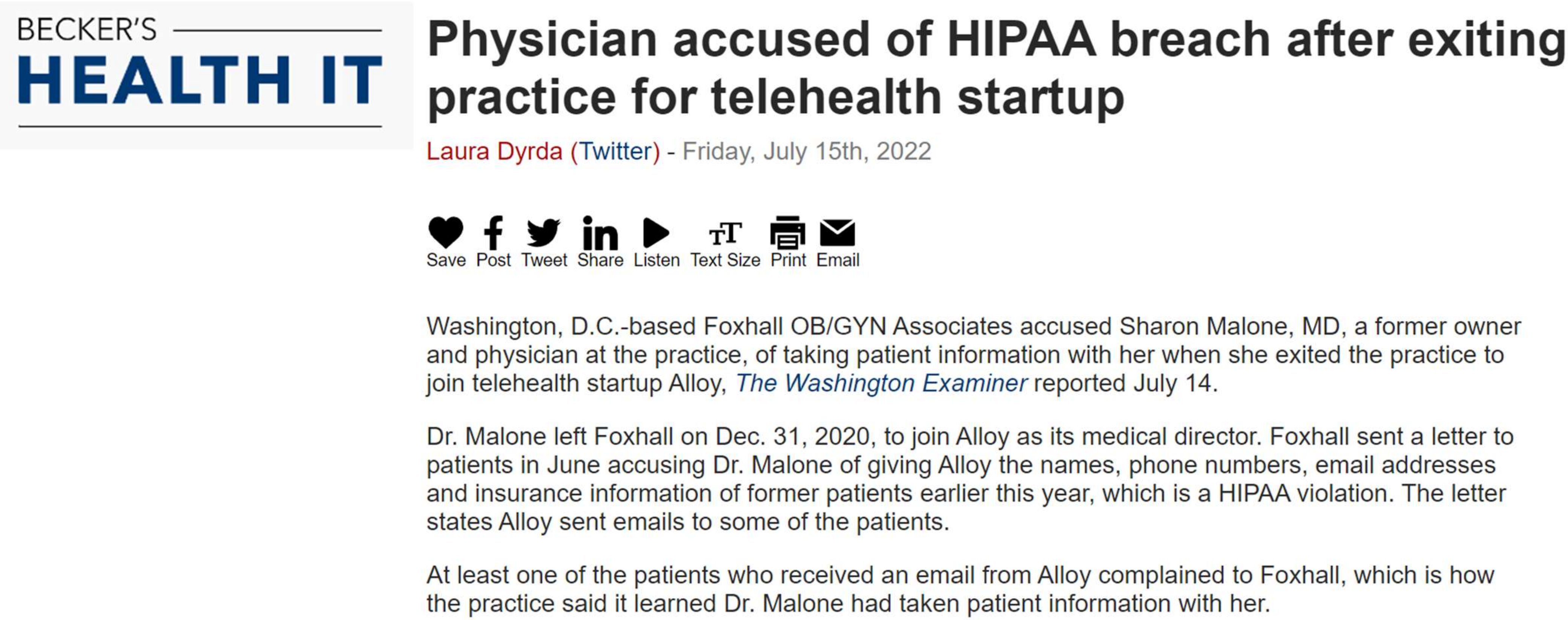
Industry Voices—Forget credit card numbers. Medical records are the hottest items on the dark web

By Paul Nadrag, Capsule Technologies • Jan 26, 2021 01:55pm



Why? Stolen records sell for as much as $1,000 each, according to credit rating agency Experian. Cybersecurity firm Trustwave pegged the black-market value of medical records at $250 (PDF) each. Credit card numbers, on the other hand, sell for around $5 each on the dark web, according to both sources, while Social Security numbers can be purchased for as little as $1 each.

https://www.fiercehealthcare.com/hospitals/industry-voices-forget-credit-card-numbers-medical-records-are-hottest-items-dark-web



Physician accused of HIPAA breach after exiting practice for telehealth startup

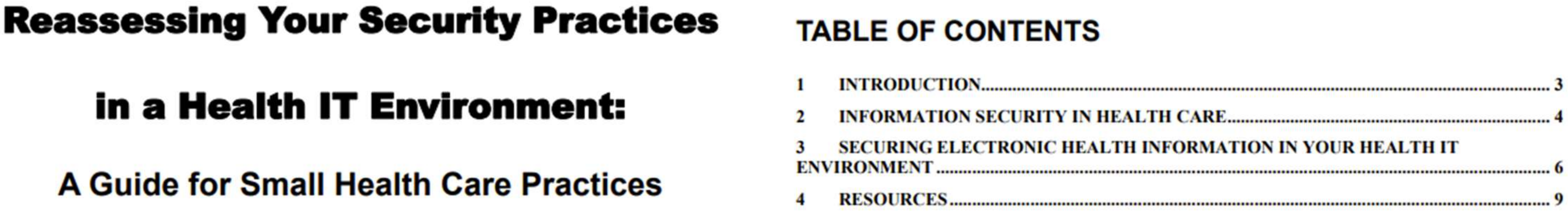
Laura Dyrda (Twitter) - Friday, July 15th, 2022

Washington, D.C.-based Foxhall OB/GYN Associates accused Sharon Malone, MD, a former owner and physician at the practice, of taking patient information with her when she exited the practice to join telehealth startup Alloy, *The Washington Examiner* reported July 14.

Dr. Malone left Foxhall on Dec. 31, 2020, to join Alloy as its medical director. Foxhall sent a letter to patients in June accusing Dr. Malone of giving Alloy the names, phone numbers, email addresses and insurance information of former patients earlier this year, which is a HIPAA violation. The letter states Alloy sent emails to some of the patients.

At least one of the patients who received an email from Alloy complained to Foxhall, which is how the practice said it learned Dr. Malone had taken patient information with her.

https://www.beckershospitalreview.com/cybersecurity/physician-accused-of-hipaa-breach-after-exiting-practice-for-telehealth-startup.html



Reassessing Your Security Practices in a Health IT Environment:

A Guide for Small Health Care Practices

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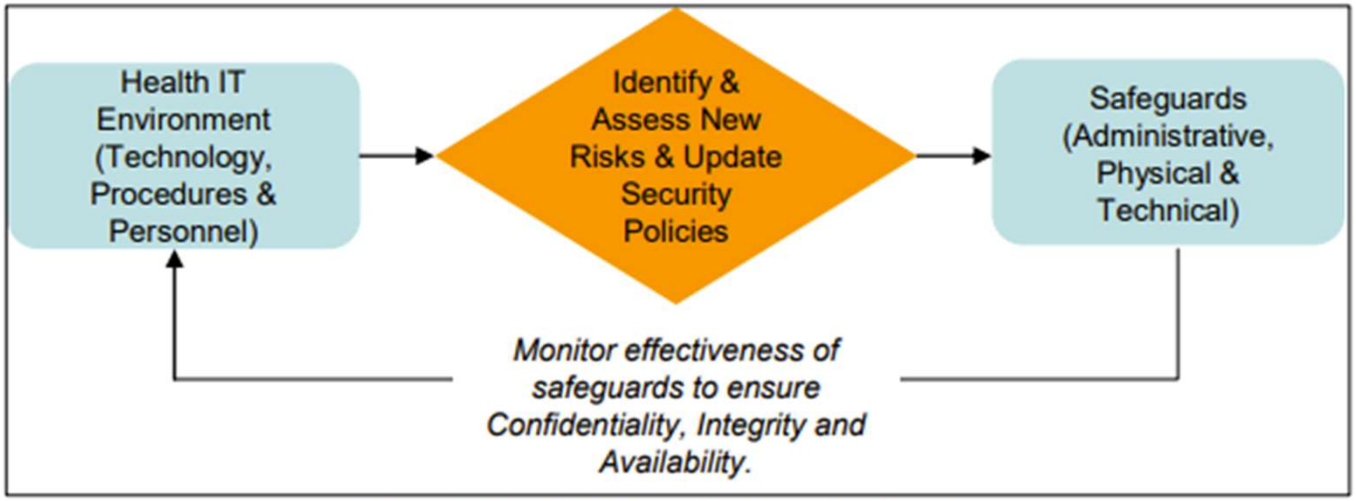
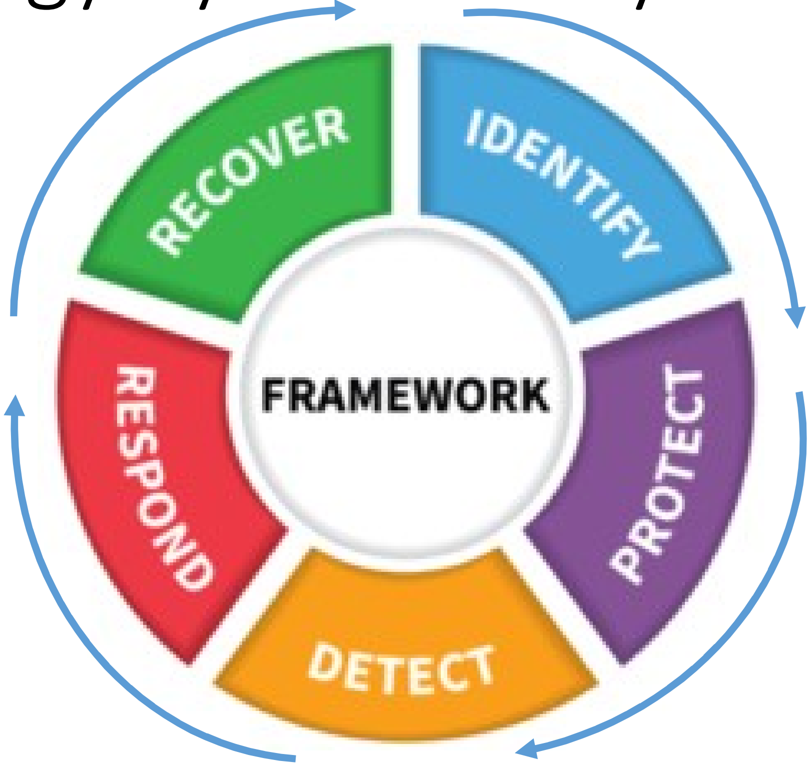


Health IT Environment (Technology, Procedures & Personnel)
Identify & Assess New Risks & Update Security Policies
Safeguards (Administrative, Physical & Technical)
Monitor effectiveness of safeguards to ensure Confidentiality, Integrity and Availability.

Figure 1: Health Information Security Requires Continual Assessment of Risks to Electronic Health Information

https://www.hhs.gov/sites/default/files/small-practice-security-guide-1.pdf

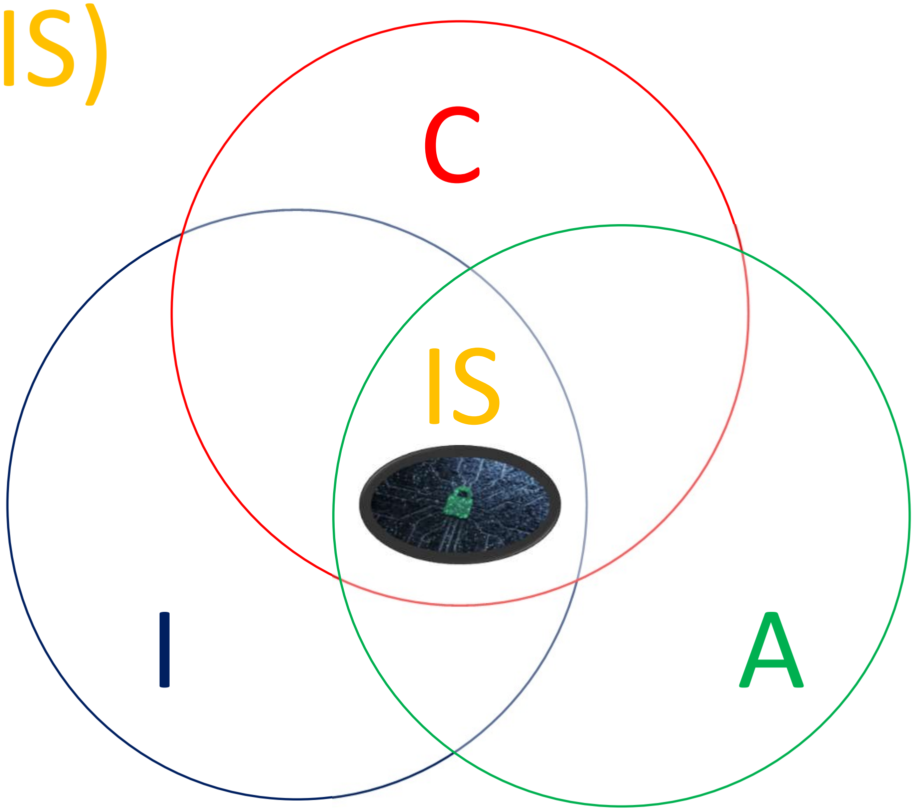
National Institutes of Standards and Technology Cybersecurity Framework



https://www.nist.gov/cyberframework/online-learning/five-functions

Information Security (IS)

- Confidentiality (C)
  - Strict limits on who can access information
- Integrity (I)
  - Protections from improper changes to information
- Availability (A)
  - Access to information is timely and reliable



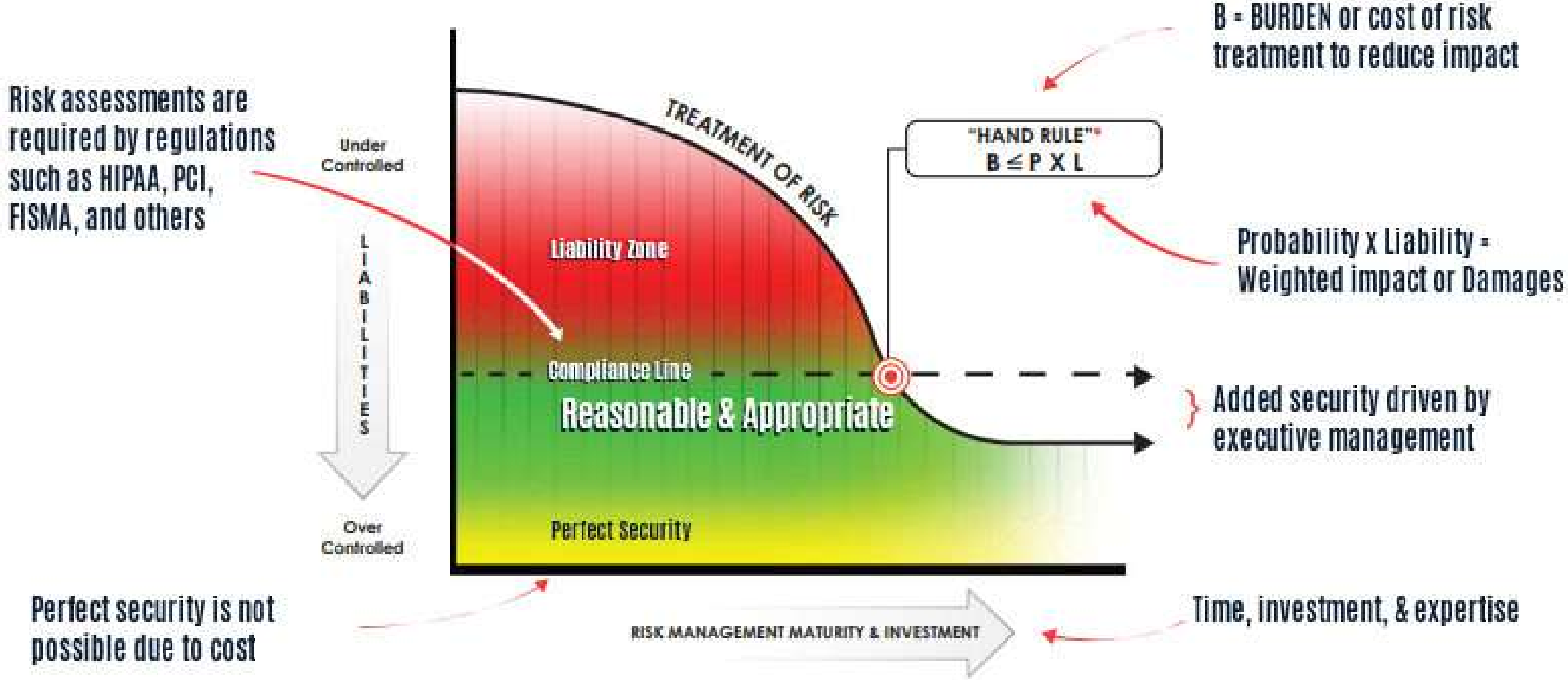
Security Triad

TRUST and PATIENT SAFETY

Confidentiality | Integrity | Availability

- Confidentiality
  - Only authorized individuals
    - With a legal right and/or business need to know, access and utilize
    - Which have been legally granted permission by appropriate authority
- Integrity
  - Information validity & accuracy is reliably maintained
  - Operates as designed and intended
  - Change logs
- Availability
  - Accessible and usable as designed and on demand commensurate with service requirements

Is Your Organization Exercising "Due Care"?



Risk assessments are required by regulations such as HIPAA, PCI, FISMA, and others

Perfect security is not possible due to cost

B = BURDEN or cost of risk treatment to reduce impact

Probability x Liability = Weighted impact or Damages

Added security driven by executive management

Time, investment, & expertise

https://www.halock.com/hand-rule-managing-upper-limits-security-costs/

https://en.wikipedia.org/wiki/Learned_Hand

WEBINARS

NCTRC Webinar – Ransomware In Health

BY SOUTHWEST TELEHEALTH RESOURCE CENTER • OCTOBER 14, 2021

Ransomware in Health

NATIONAL CONSORTIUM OF TELEHEALTH RESOURCE CENTERS

Ransomware in Health

October 14, 2021

Hosted by: Southwest Telehealth Resource Center

Outcome Objectives:
• Describe the basics of ransomware and why it poses cybersecurity and other risks.
• Determine weaknesses in healthcare systems. • Identify methods to counteract ransomware in medical settings.

Speakers:
-Jeanne E. Varner Powell, JD, Senior Legal Risk Management Consultant, MICA
-David Shelley, President, BVA Inc.

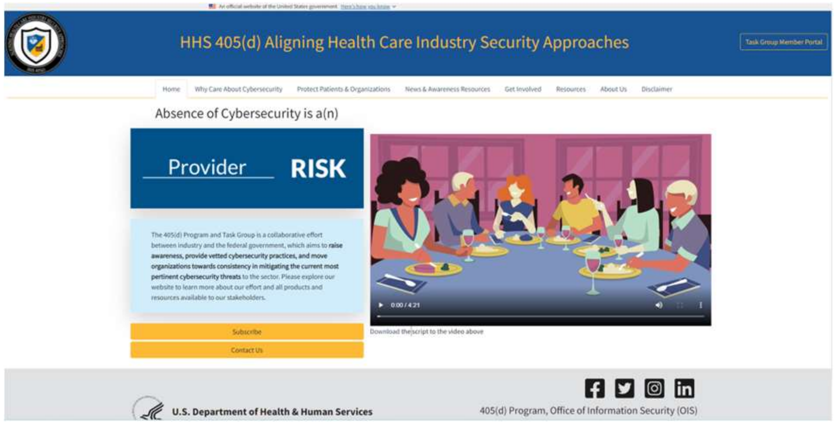
Moderator: Michael J Holcomb, Associate Director, Information Technology, Southwest Telehealth Resource Center, Arizona Telemedicine Program

https://telehealthresourcecenter.org/resources/webinars/nctrc-webinar-ransomware-in-health/

HHS Launches New Website to Align Healthcare Cybersecurity

HHS launched a website for the 405(d) Program, which is comprised of a task force focused on aligning healthcare cybersecurity approaches across the sector.

By Jill McKeon



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Absence of Cybersecurity is a(n)
Provider RISK

The 405(d) Program and Task Group is a collaborative effort between industry and the federal government, which aims to **raise awareness, provide vetted cybersecurity practices, and move organizations towards consistency in mitigating the current most pertinent cybersecurity threats** to the sector. Please explore our website to learn more about our effort and all products and resources available to our stakeholders.

0:00 / 4:21
Subscribe
Contact Us
Download the script to the video above
U.S. Department of Health & Human Services
405(d) Program, Office of Information Security (OIS)

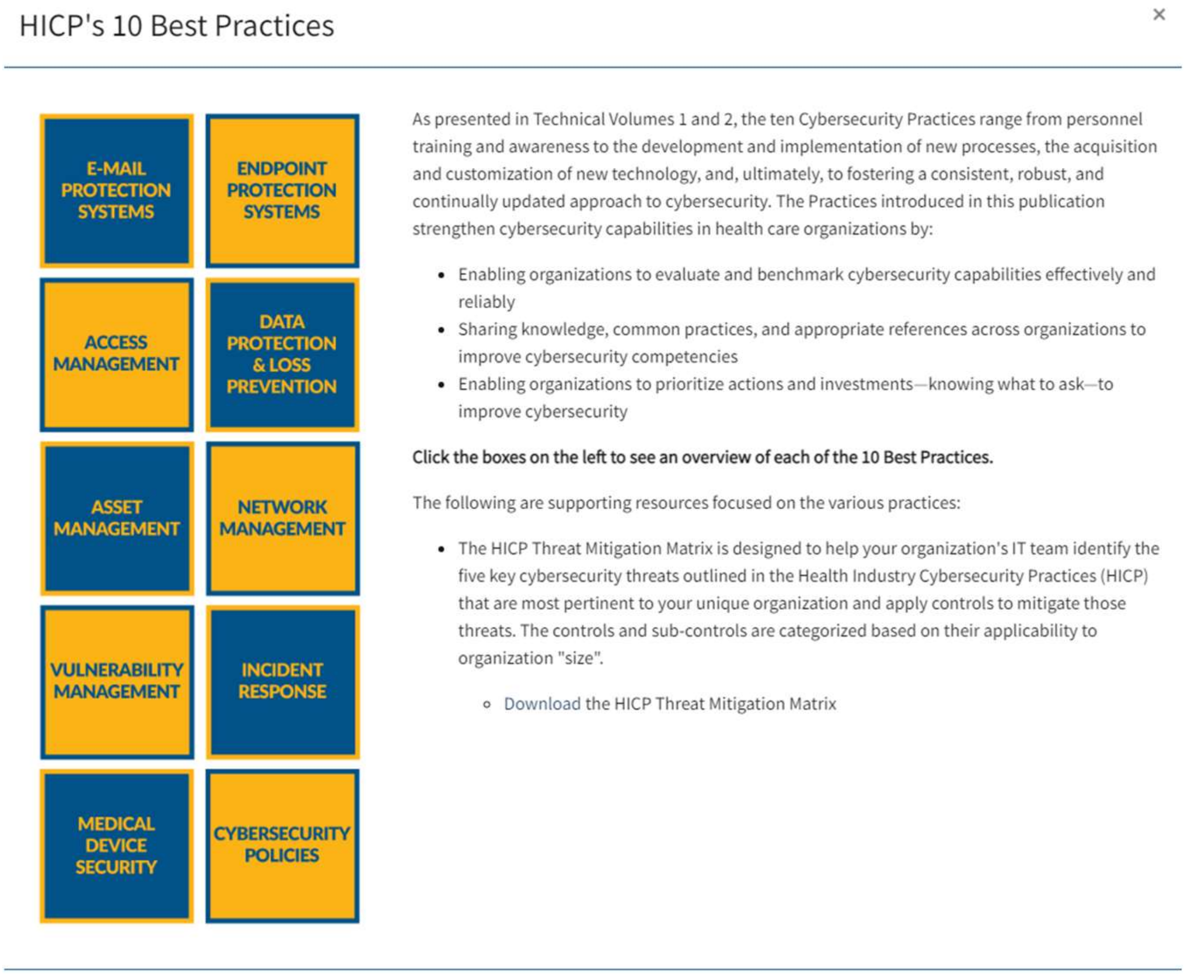
December 06, 2021 - HHS **launched** a new website for its 405(d) Program with the goal of aligning healthcare cybersecurity across the industry. Under the Cybersecurity Act of 2015, HHS established the 405(d) Aligning Health Care Industry Security Approaches Program and the 405(d) Task Group, which is comprised of more than 150 industry and government experts.

The program aims to uphold the motto that "cyber safety is patient safety," and its website contained resources, videos, products, and tools to help raise awareness and promote cybersecurity best practices, the HHS announcement stated.

"Healthcare professionals understand the importance of hand washing when it comes to mitigating the spread of diseases. Similarly, we know that cybersecurity practices reduce the risk of cyber-attacks and data breaches," the **website** maintained.

https://healthitsecurity.com/news/hhs-launches-new-website-to-align-healthcare-cybersecurity

HHS 405(d) Aligning Health Care Industry Security Approaches



HICP's 10 Best Practices

As presented in Technical Volumes 1 and 2, the ten Cybersecurity Practices range from personnel training and awareness to the development and implementation of new processes, the acquisition and customization of new technology, and, ultimately, to fostering a consistent, robust, and continually updated approach to cybersecurity. The Practices introduced in this publication strengthen cybersecurity capabilities in health care organizations by:

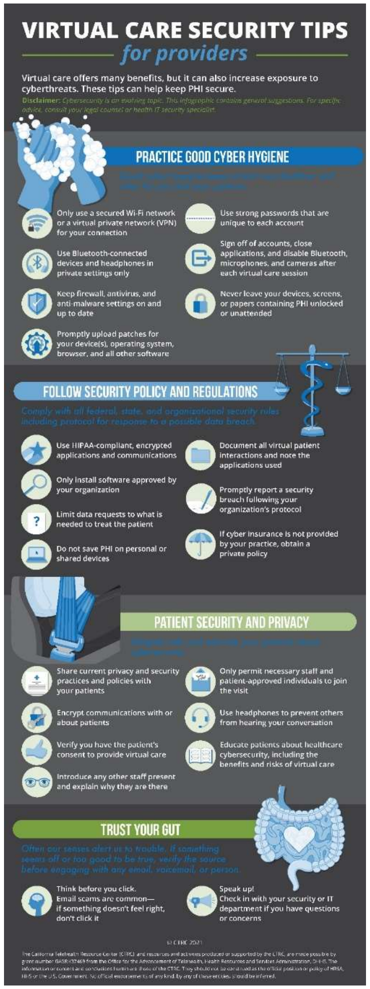
- Enabling organizations to evaluate and benchmark cybersecurity capabilities effectively and reliably
- Sharing knowledge, common practices, and appropriate references across organizations to improve cybersecurity competencies
- Enabling organizations to prioritize actions and investments—knowing what to ask—to improve cybersecurity

Click the boxes on the left to see an overview of each of the 10 Best Practices.

The following are supporting resources focused on the various practices:

- The HICP Threat Mitigation Matrix is designed to help your organization's IT team identify the five key cybersecurity threats outlined in the Health Industry Cybersecurity Practices (HICP) that are most pertinent to your unique organization and apply controls to mitigate those threats. The controls and sub-controls are categorized based on their applicability to organization "size".
  - Download the HICP Threat Mitigation Matrix

https://405d.hhs.gov/protect



VIRTUAL CARE SECURITY TIPS

for providers

Virtual care offers many benefits, but it can also increase exposure to cyberthreats. These tips can help keep PHI secure.

Disclaimer: *Cybersecurity is an evolving topic. This infographic contains general suggestions. For specific advice, consult your legal counsel or health IT security specialist.*

PRACTICE GOOD CYBER HYGIENE

Good cyber hygiene keeps virtual care healthier and safer for you and your patients.

- Only use a secured Wi-Fi network or a virtual private network (VPN) for your connection
- Use Bluetooth-connected devices and headphones in private settings only
- Keep firewall, antivirus, and anti-malware settings on and up to date
- Promptly upload patches for your device(s), operating system, browser, and all other software
- Use strong passwords that are unique to each account
- Sign off of accounts, close applications, and disable Bluetooth, microphones, and cameras after each virtual care session
- Never leave your devices, screens, or papers containing PHI unlocked or unattended

FOLLOW SECURITY POLICY AND REGULATIONS

Comply with all federal, state, and organizational security rules including protocol for response to a possible data breach.

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PATIENT SECURITY AND PRIVACY

[illegible]

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- Educate patients about healthcare cybersecurity, including the benefits and risks of virtual care

TRUST YOUR GUT

Often our senses alert us to trouble. If something seems off or too good to be true, verify the source before engaging with any email, voicemail, or person.

- Think before you click. Email scams are common— if something doesn't feel right, don't click it
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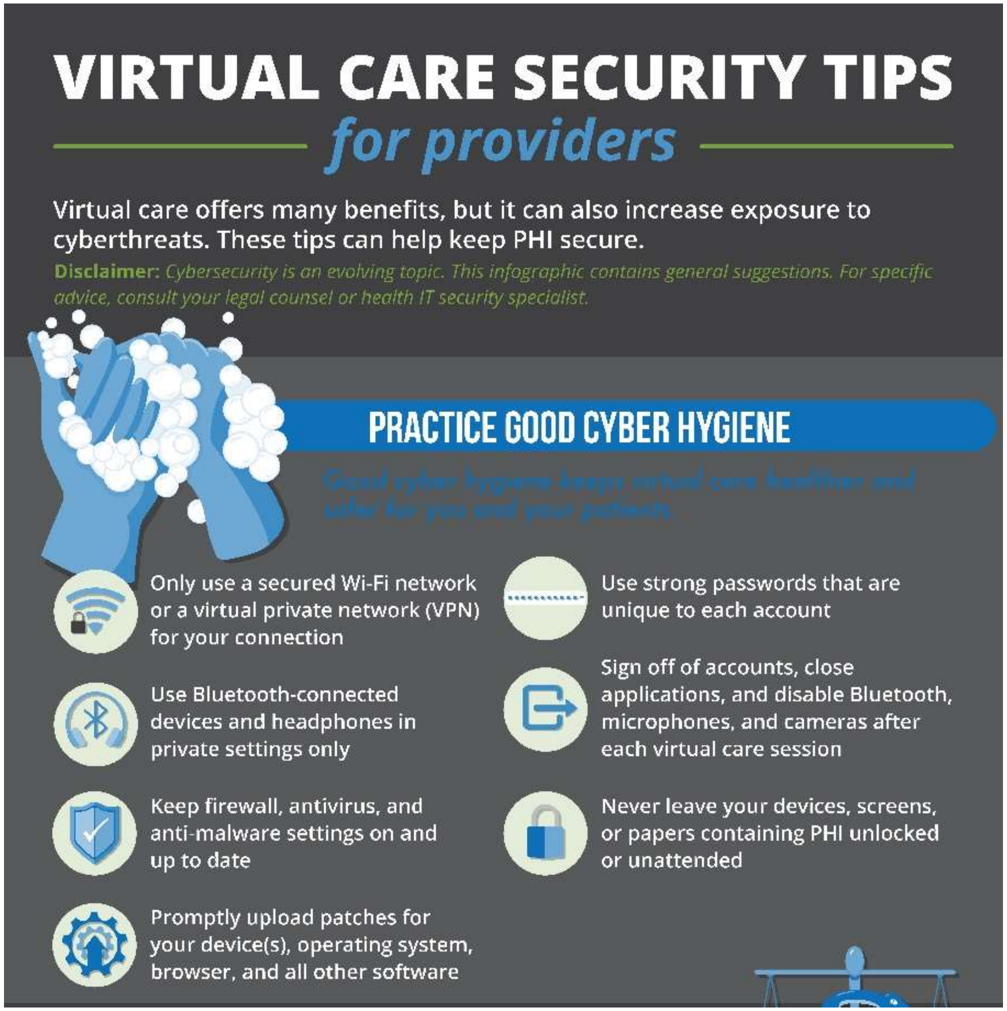
California Telehealth Resource Center, 2021



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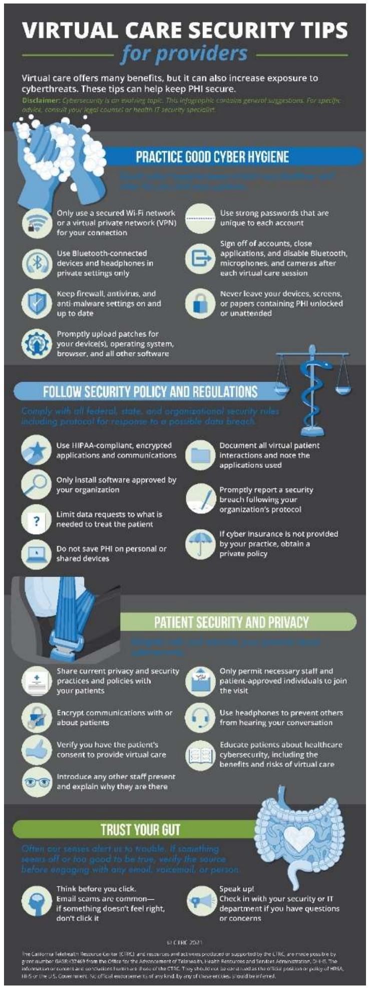
https://telehealthresourcecenter.org/resources/fact-sheets/virtual-care-security-tips-for-providers/



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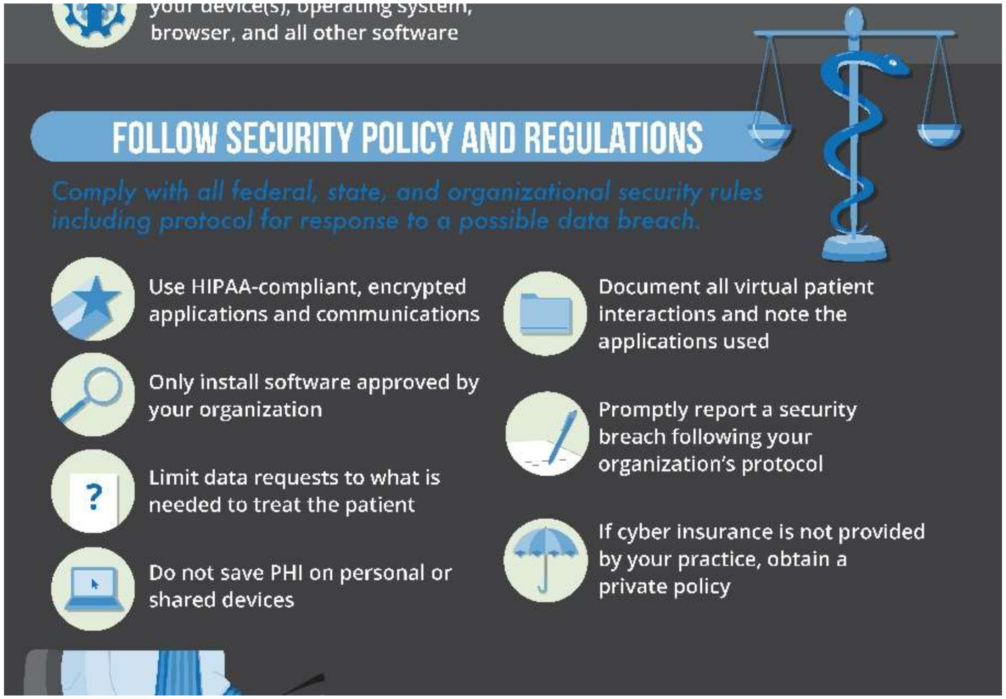

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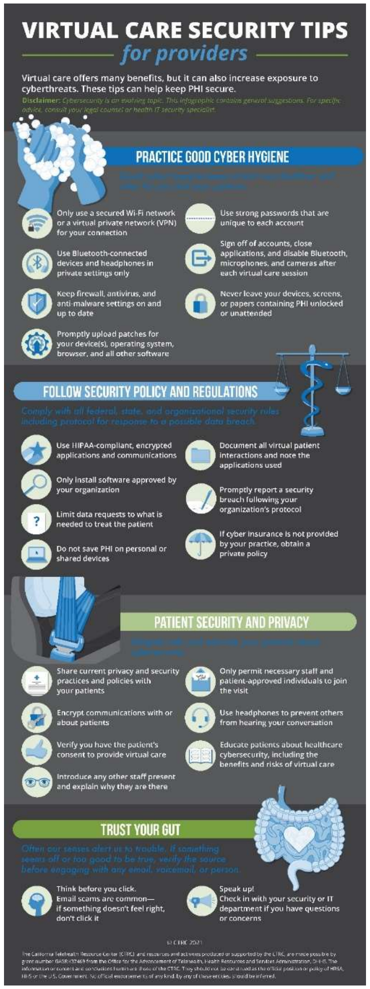

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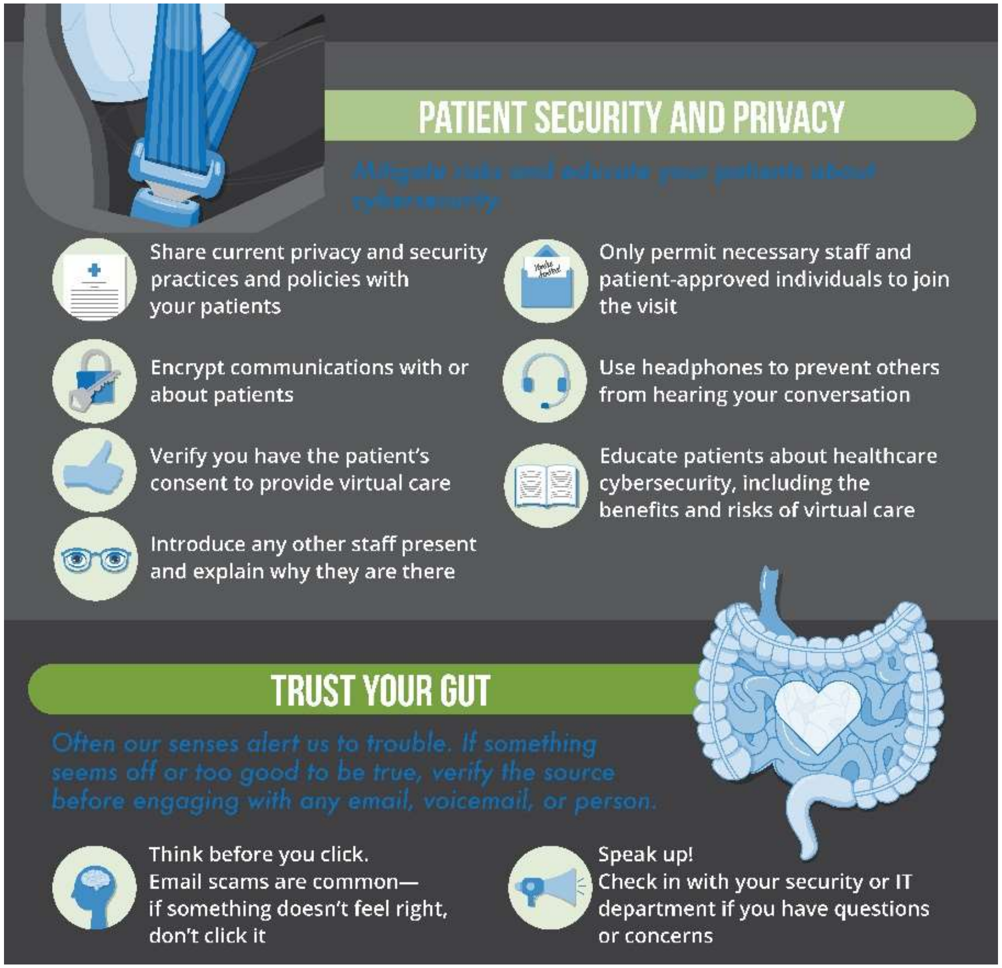

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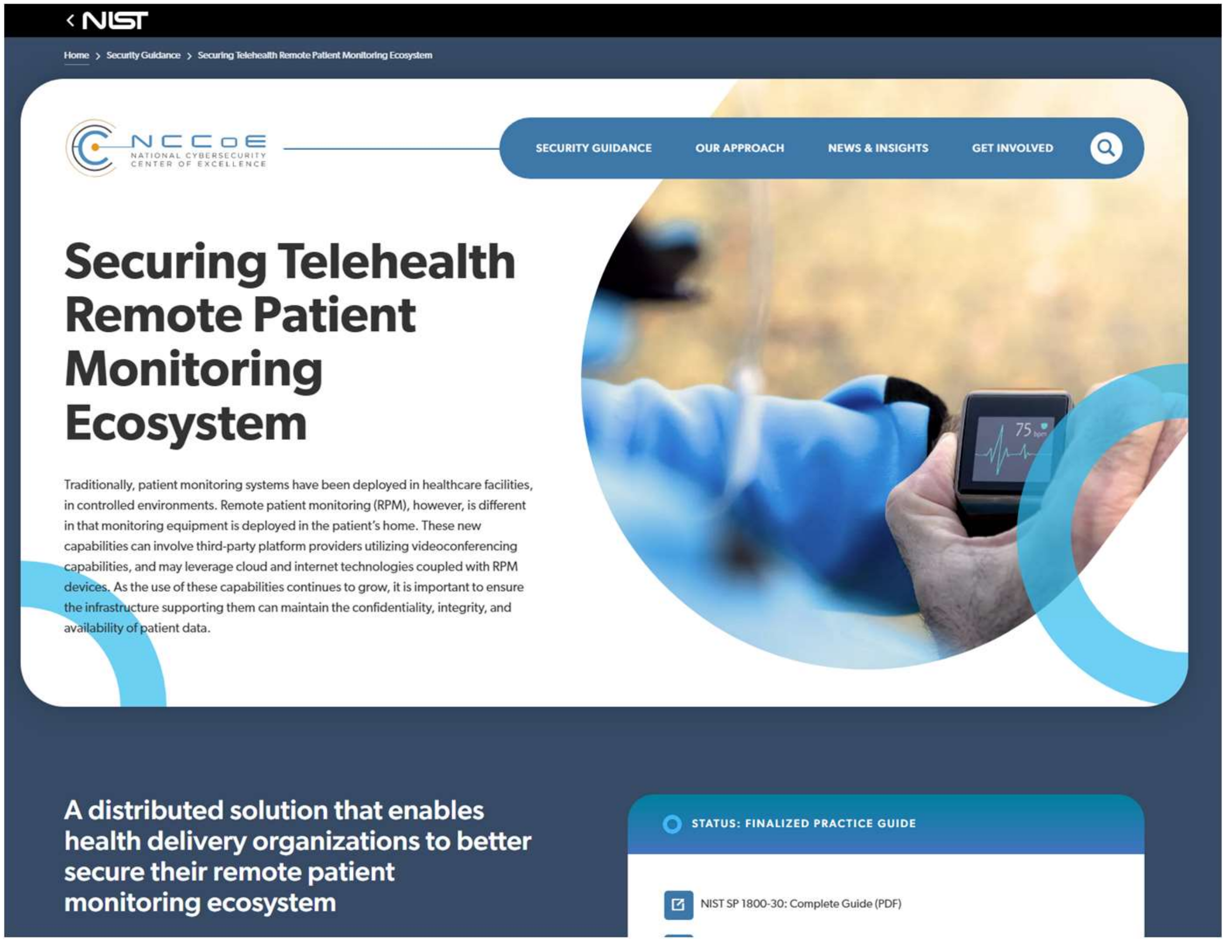

Home > Security Guidance > Securing Telehealth Remote Patient Monitoring Ecosystem

Securing Telehealth Remote Patient Monitoring Ecosystem

Traditionally, patient monitoring systems have been deployed in healthcare facilities, in controlled environments. Remote patient monitoring (RPM), however, is different in that monitoring equipment is deployed in the patient's home. These new capabilities can involve third-party platform providers utilizing videoconferencing capabilities, and may leverage cloud and internet technologies coupled with RPM devices. As the use of these capabilities continues to grow, it is important to ensure the infrastructure supporting them can maintain the confidentiality, integrity, and availability of patient data.

A distributed solution that enables health delivery organizations to better secure their remote patient monitoring ecosystem

STATUS: FINALIZED PRACTICE GUIDE

NIST SP 1800-30: Complete Guide (PDF)

https://www.nccoe.nist.gov/healthcare/securing-telehealth-remote-patient-monitoring-ecosystem

Healthcare & Public Health Sector Coordinating Councils

PUBLIC PRIVATE PARTNERSHIP

HEALTH INDUSTRY CYBERSECURITY - SECURING TELEHEALTH AND TELEMEDICINE

April 2021

The Health Sector Coordinating Council (HSCC) has developed this white paper, the “Health Industry Cybersecurity – Securing Telehealth and Telemedicine (HIC-STAT)” guide,- for the benefit of health care systems, clinicians, vendors and service providers, and patients. All of these stakeholders share responsibility for ensuring that telehealth services achieve their optimum benefit with minimal risk to the privacy and security of the data, the consultations, and the systems hosting them.

https://www.aha.org/guidesreports/2021-04-20-healthcare-and-public-health-sector-coordinating-councils-public-private

Arizona Telemedicine Program

Southwest TRC Telehealth Resource Center™

Thank you!

Questions?

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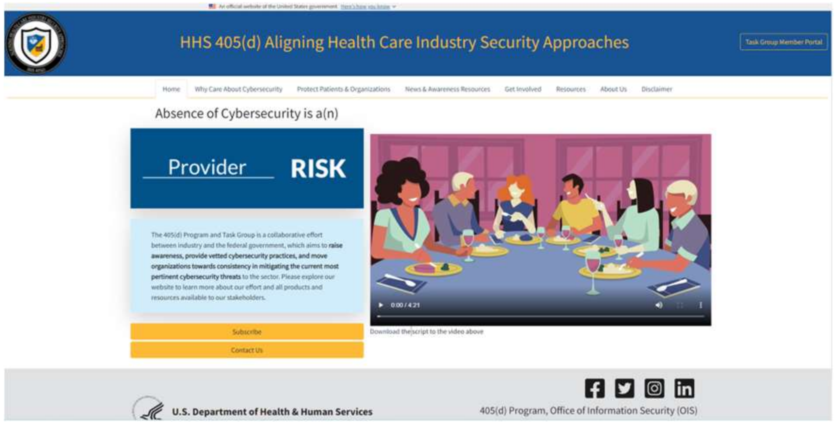
HHS Launches New Website to Align Healthcare Cybersecurity

HHS launched a website for the 405(d) Program, which is comprised of a task force focused on aligning healthcare cybersecurity approaches across the sector.

By Jill McKeon



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The 405(d) Program and Task Group is a collaborative effort between industry and the federal government, which aims to **raise awareness, provide vetted cybersecurity practices, and move organizations towards consistency in mitigating the current most pertinent cybersecurity threats** to the sector. Please explore our website to learn more about our effort and all products and resources available to our stakeholders.

Download the script to the video above

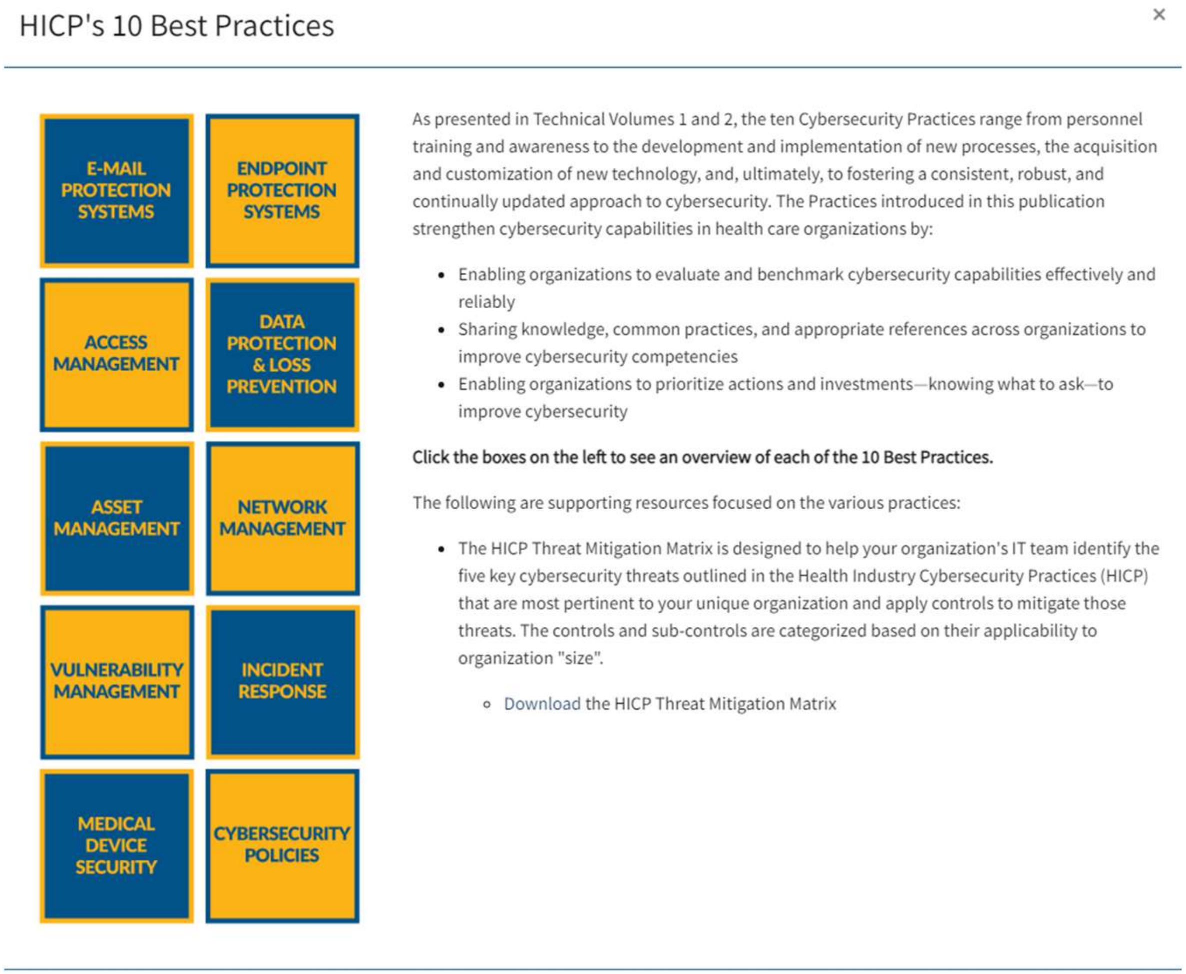
December 06, 2021 - HHS **launched** a new website for its 405(d) Program with the goal of aligning healthcare cybersecurity across the industry. Under the Cybersecurity Act of 2015, HHS established the 405(d) Aligning Health Care Industry Security Approaches Program and the 405(d) Task Group, which is comprised of more than 150 industry and government experts.

The program aims to uphold the motto that "cyber safety is patient safety," and its website contained resources, videos, products, and tools to help raise awareness and promote cybersecurity best practices, the HHS announcement stated.

"Healthcare professionals understand the importance of hand washing when it comes to mitigating the spread of diseases. Similarly, we know that cybersecurity practices reduce the risk of cyber-attacks and data breaches," the **website** maintained.

https://healthitsecurity.com/news/hhs-launches-new-website-to-align-healthcare-cybersecurity

HHS 405(d) Aligning Health Care Industry Security Approaches



HICP's 10 Best Practices

As presented in Technical Volumes 1 and 2, the ten Cybersecurity Practices range from personnel training and awareness to the development and implementation of new processes, the acquisition and customization of new technology, and, ultimately, to fostering a consistent, robust, and continually updated approach to cybersecurity. The Practices introduced in this publication strengthen cybersecurity capabilities in health care organizations by:

- Enabling organizations to evaluate and benchmark cybersecurity capabilities effectively and reliably
- Sharing knowledge, common practices, and appropriate references across organizations to improve cybersecurity competencies
- Enabling organizations to prioritize actions and investments—knowing what to ask—to improve cybersecurity

Click the boxes on the left to see an overview of each of the 10 Best Practices.

The following are supporting resources focused on the various practices:

- The HICP Threat Mitigation Matrix is designed to help your organization's IT team identify the five key cybersecurity threats outlined in the Health Industry Cybersecurity Practices (HICP) that are most pertinent to your unique organization and apply controls to mitigate those threats. The controls and sub-controls are categorized based on their applicability to organization "size".
    - Download the HICP Threat Mitigation Matrix

https://405d.hhs.gov/protect

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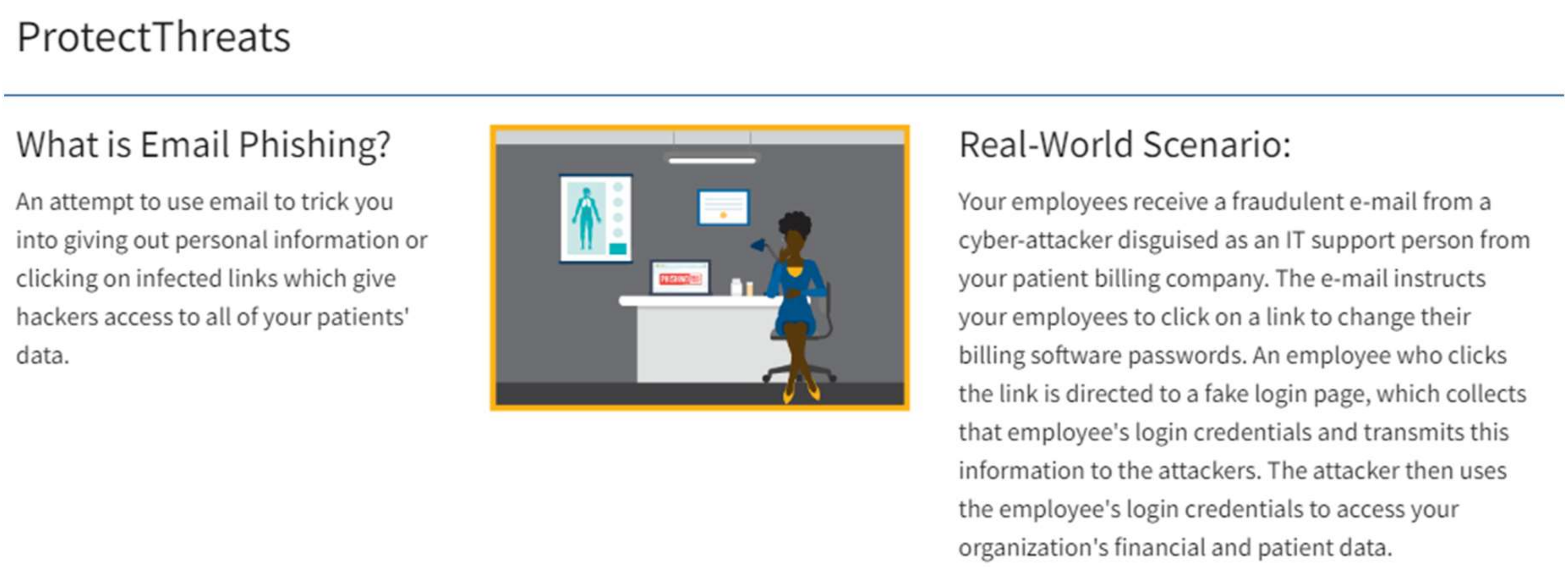

ProtectThreats

What is Email Phishing?

An attempt to use email to trick you into giving out personal information or clicking on infected links which give hackers access to all of your patients' data.

Real-World Scenario:

Your employees receive a fraudulent e-mail from a cyber-attacker disguised as an IT support person from your patient billing company. The e-mail instructs your employees to click on a link to change their billing software passwords. An employee who clicks the link is directed to a fake login page, which collects that employee's login credentials and transmits this information to the attackers. The attacker then uses the employee's login credentials to access your organization's financial and patient data.

https://405d.hhs.gov/protect

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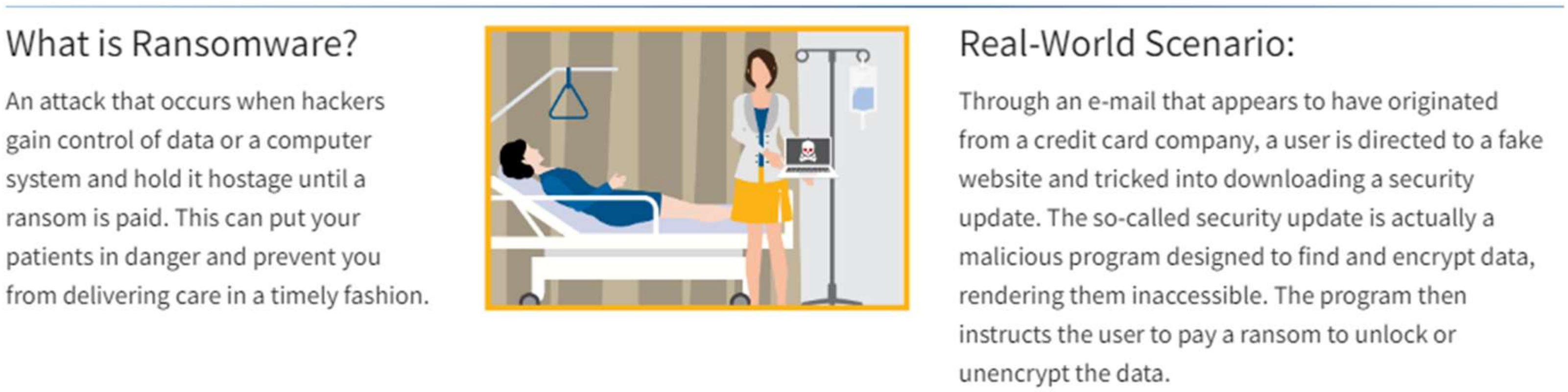

What is Ransomware?

An attack that occurs when hackers gain control of data or a computer system and hold it hostage until a ransom is paid. This can put your patients in danger and prevent you from delivering care in a timely fashion.

Real-World Scenario:

Through an e-mail that appears to have originated from a credit card company, a user is directed to a fake website and tricked into downloading a security update. The so-called security update is actually a malicious program designed to find and encrypt data, rendering them inaccessible. The program then instructs the user to pay a ransom to unlock or unencrypt the data.

https://405d.hhs.gov/protect

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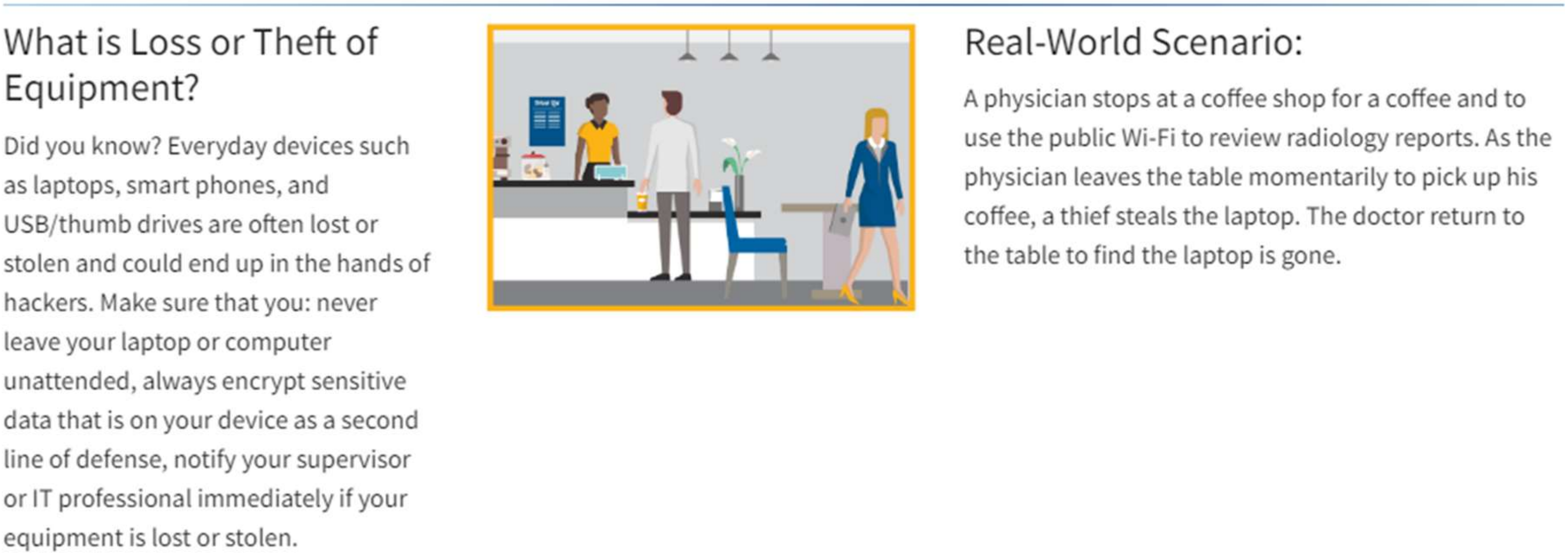

What is Loss or Theft of Equipment?

Did you know? Everyday devices such as laptops, smart phones, and USB/thumb drives are often lost or stolen and could end up in the hands of hackers. Make sure that you: never leave your laptop or computer unattended, always encrypt sensitive data that is on your device as a second line of defense, notify your supervisor or IT professional immediately if your equipment is lost or stolen.

Real-World Scenario:

A physician stops at a coffee shop for a coffee and to use the public Wi-Fi to review radiology reports. As the physician leaves the table momentarily to pick up his coffee, a thief steals the laptop. The doctor return to the table to find the laptop is gone.

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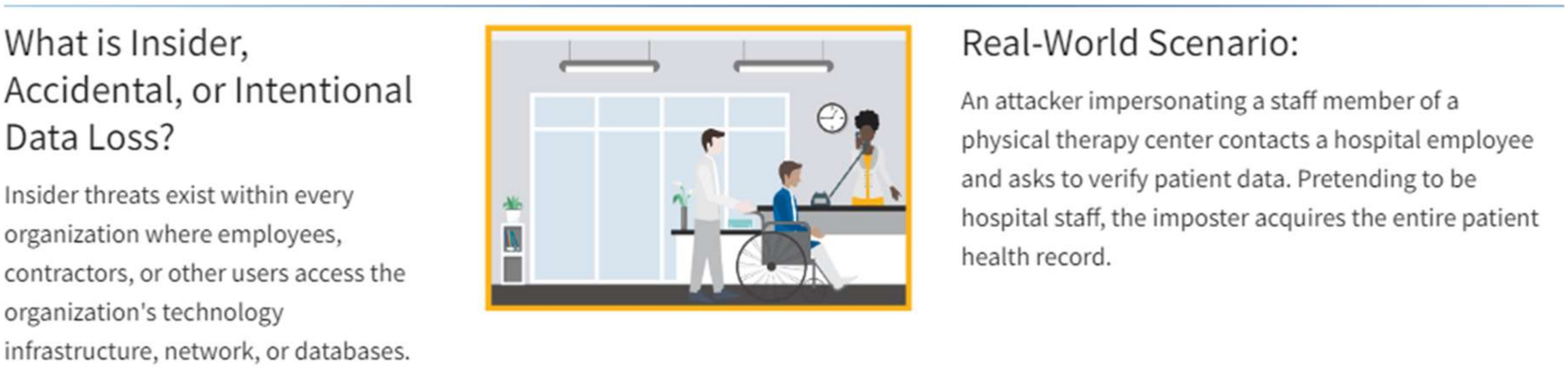

What is Insider, Accidental, or Intentional Data Loss?

Insider threats exist within every organization where employees, contractors, or other users access the organization's technology infrastructure, network, or databases.

Real-World Scenario:

An attacker impersonating a staff member of a physical therapy center contacts a hospital employee and asks to verify patient data. Pretending to be hospital staff, the imposter acquires the entire patient health record.

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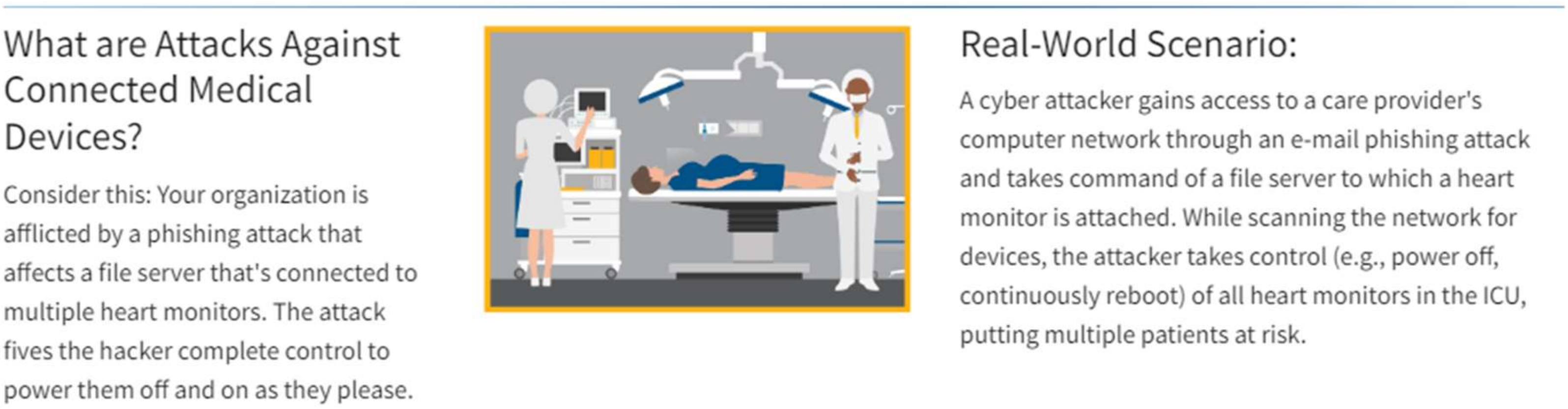

What are Attacks Against Connected Medical Devices?

Consider this: Your organization is afflicted by a phishing attack that affects a file server that's connected to multiple heart monitors. The attack fives the hacker complete control to power them off and on as they please.

Real-World Scenario:

A cyber attacker gains access to a care provider's computer network through an e-mail phishing attack and takes command of a file server to which a heart monitor is attached. While scanning the network for devices, the attacker takes control (e.g., power off, continuously reboot) of all heart monitors in the ICU, putting multiple patients at risk.

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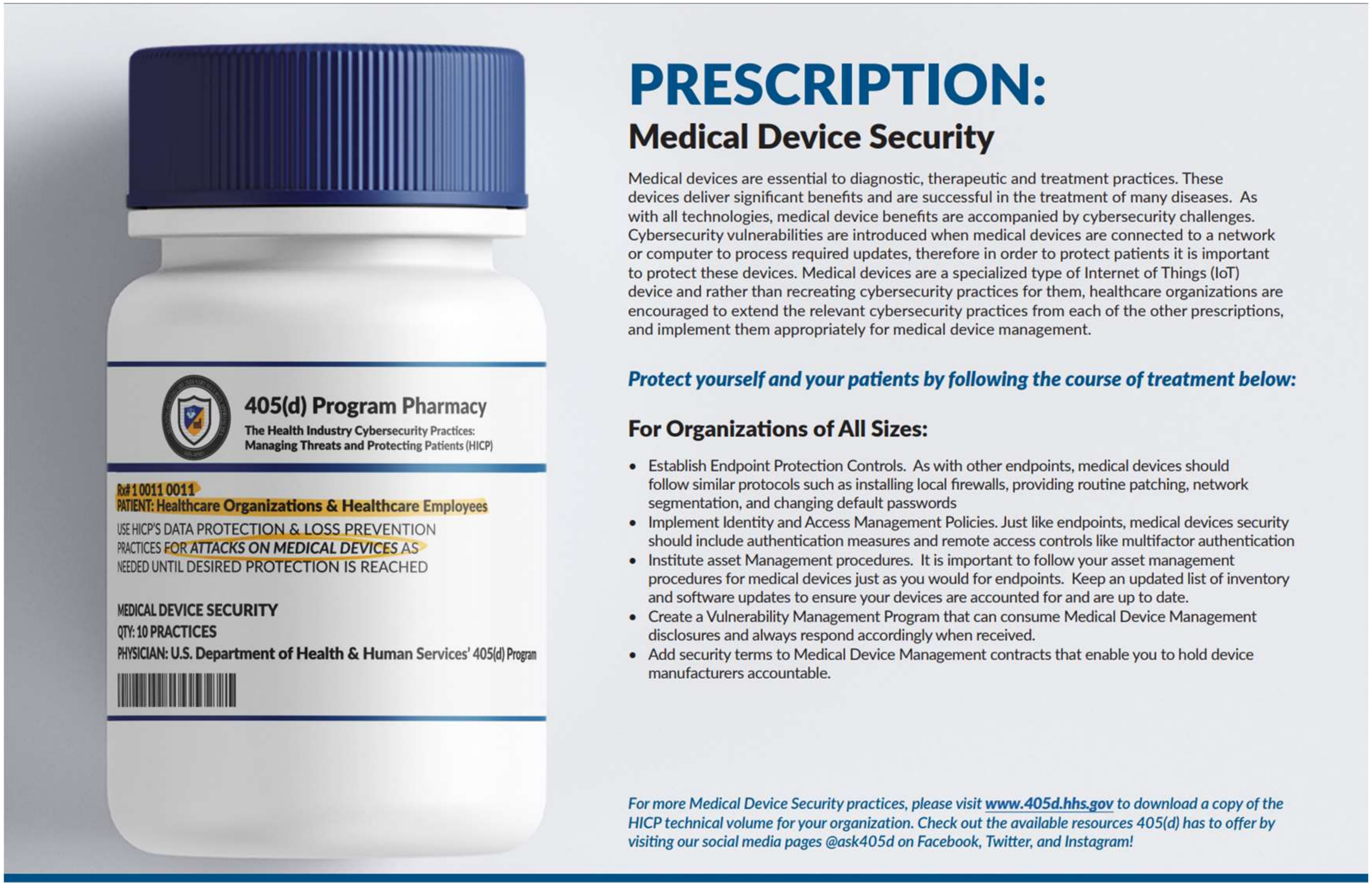


405(d) Program Pharmacy

The Health Industry Cybersecurity Practices: Managing Threats and Protecting Patients (HICP)

Rx# 1 0011 0011
PATIENT: Healthcare Organizations & Healthcare Employees

USE HICP'S DATA PROTECTION & LOSS PREVENTION PRACTICES FOR ATTACKS ON MEDICAL DEVICES AS NEEDED UNTIL DESIRED PROTECTION IS REACHED

MEDICAL DEVICE SECURITY
QTY: 10 PRACTICES
PHYSICIAN: U.S. Department of Health & Human Services' 405(d) Program

PRESCRIPTION:

Medical Device Security

Medical devices are essential to diagnostic, therapeutic and treatment practices. These devices deliver significant benefits and are successful in the treatment of many diseases. As with all technologies, medical device benefits are accompanied by cybersecurity challenges. Cybersecurity vulnerabilities are introduced when medical devices are connected to a network or computer to process required updates, therefore in order to protect patients it is important to protect these devices. Medical devices are a specialized type of Internet of Things (IoT) device and rather than recreating cybersecurity practices for them, healthcare organizations are encouraged to extend the relevant cybersecurity practices from each of the other prescriptions, and implement them appropriately for medical device management.

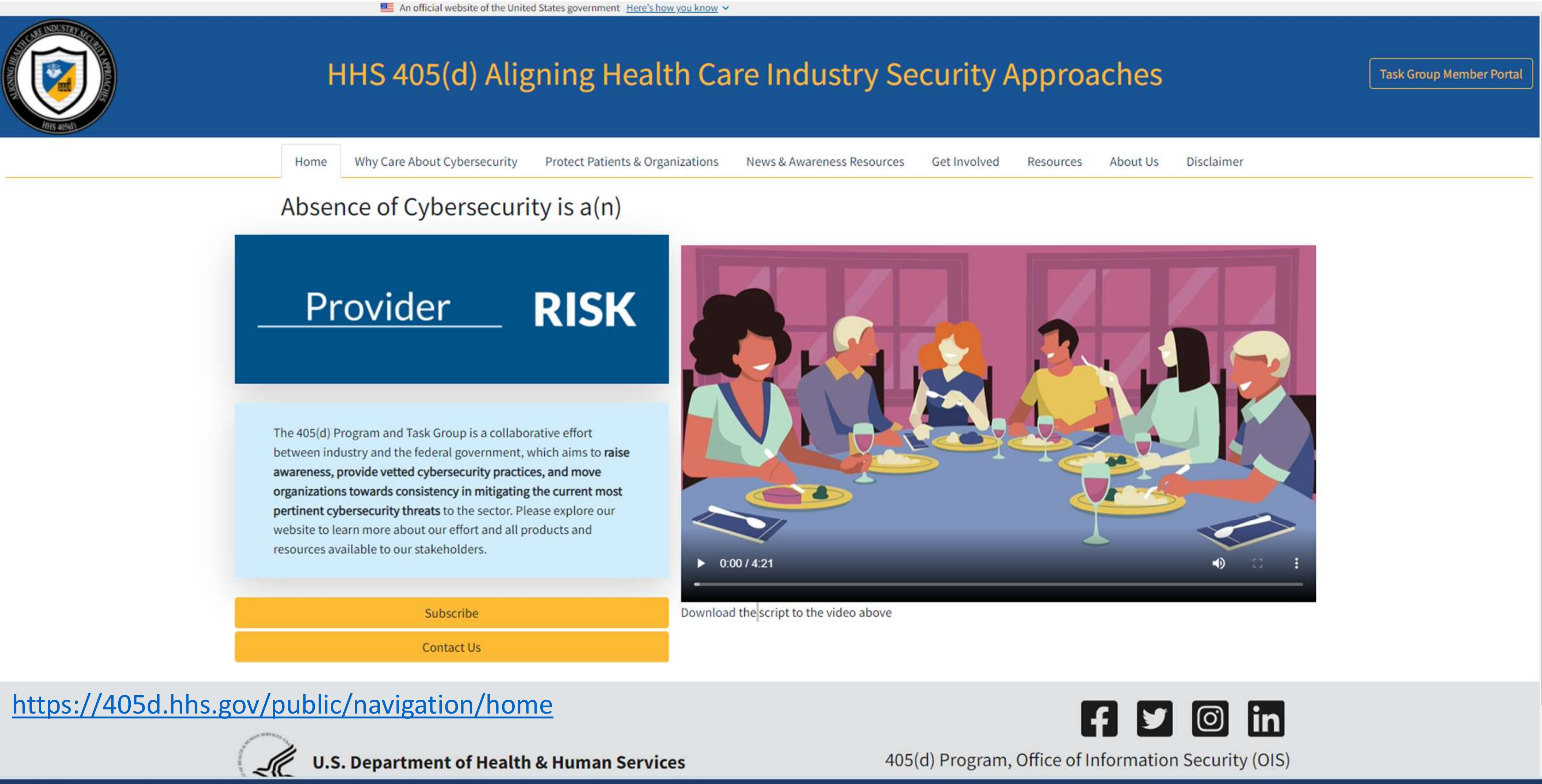
Protect yourself and your patients by following the course of treatment below:

For Organizations of All Sizes:

- Establish Endpoint Protection Controls. As with other endpoints, medical devices should follow similar protocols such as installing local firewalls, providing routine patching, network segmentation, and changing default passwords
- Implement Identity and Access Management Policies. Just like endpoints, medical devices security should include authentication measures and remote access controls like multifactor authentication
- Institute asset Management procedures. It is important to follow your asset management procedures for medical devices just as you would for endpoints. Keep an updated list of inventory and software updates to ensure your devices are accounted for and are up to date.
- Create a Vulnerability Management Program that can consume Medical Device Management disclosures and always respond accordingly when received.
- Add security terms to Medical Device Management contracts that enable you to hold device manufacturers accountable.

*For more Medical Device Security practices, please visit **www.405d.hhs.gov** to download a copy of the HICP technical volume for your organization. Check out the available resources 405(d) has to offer by visiting our social media pages @ask405d on Facebook, Twitter, and Instagram!*

https://405d.hhs.gov/protect



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Provider **RISK**

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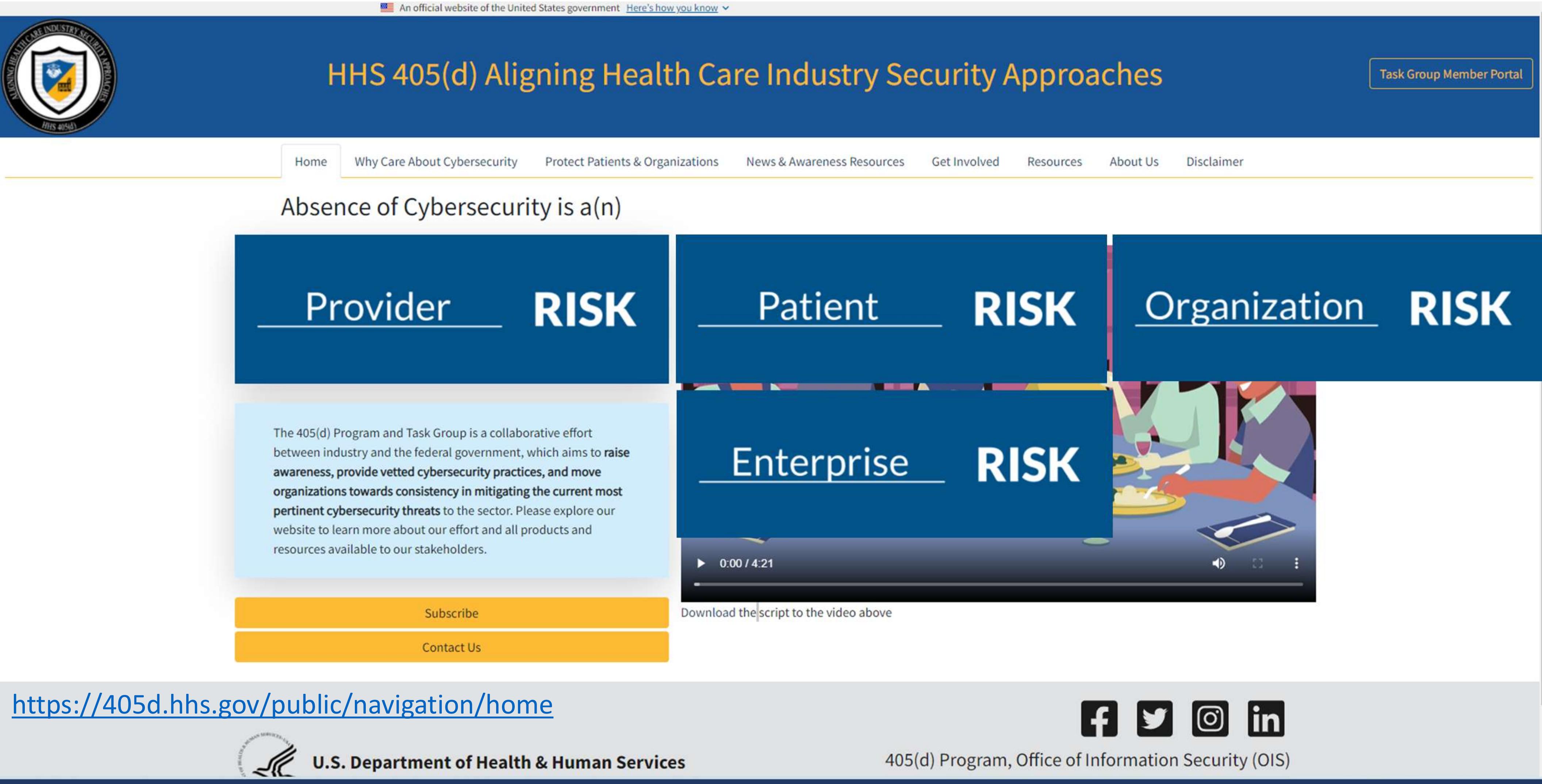
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Provider RISK

Patient RISK

Organization RISK

Enterprise RISK

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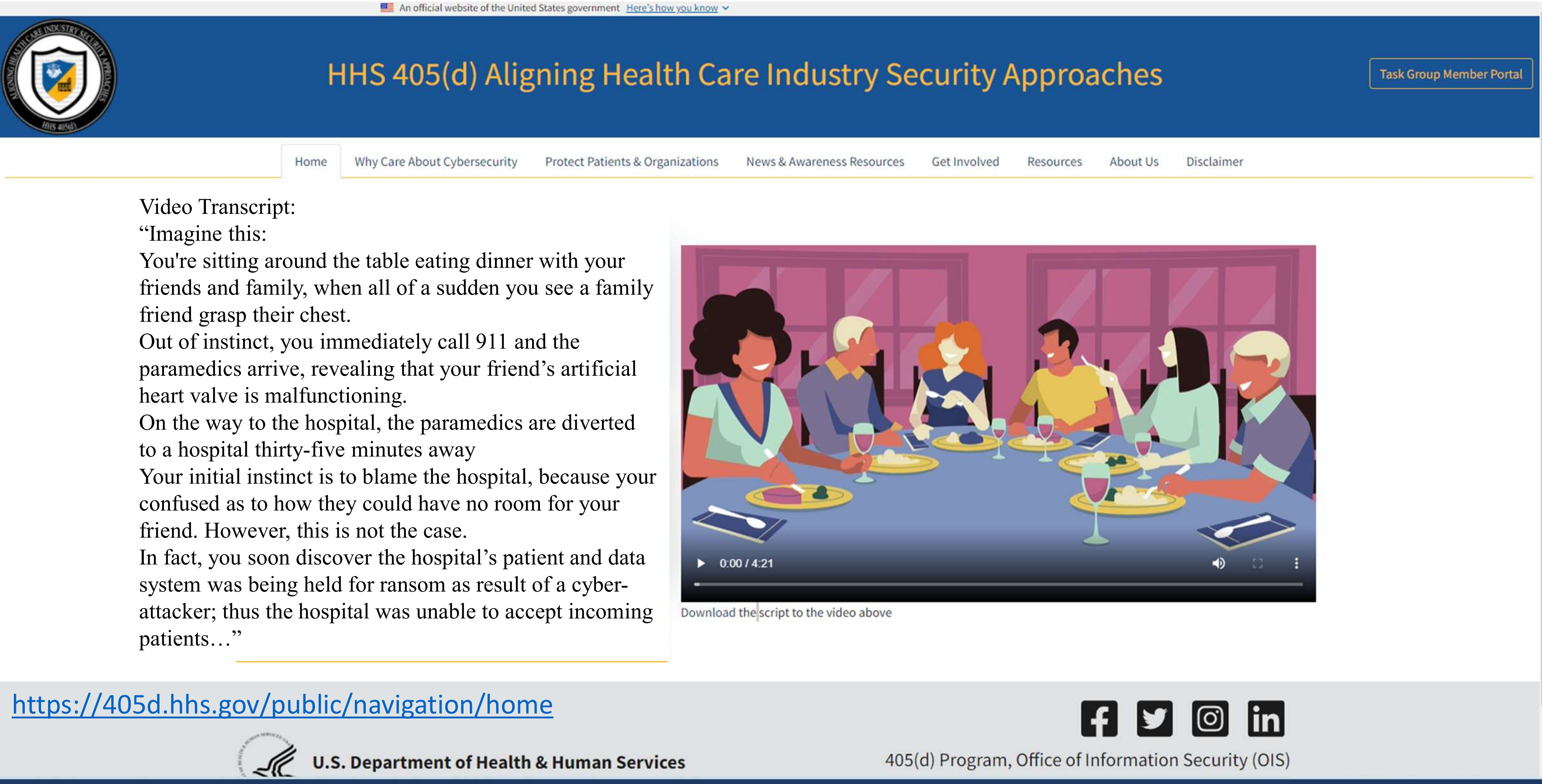
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Video Transcript:

"Imagine this:

You're sitting around the table eating dinner with your friends and family, when all of a sudden you see a family friend grasp their chest.

Out of instinct, you immediately call 911 and the paramedics arrive, revealing that your friend's artificial heart valve is malfunctioning.

On the way to the hospital, the paramedics are diverted to a hospital thirty-five minutes away

Your initial instinct is to blame the hospital, because your confused as to how they could have no room for your friend. However, this is not the case.

In fact, you soon discover the hospital's patient and data system was being held for ransom as result of a cyber-attacker; thus the hospital was unable to accept incoming patients…"

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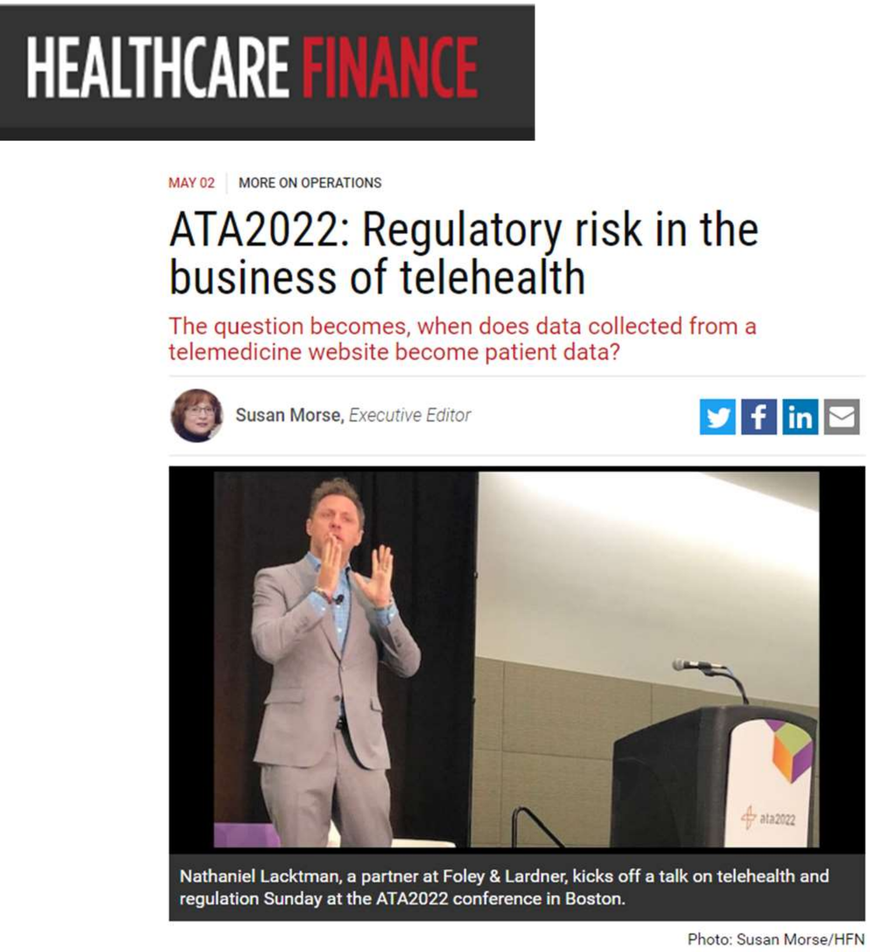


HEALTHCARE FINANCE

MAY 02 | MORE ON OPERATIONS

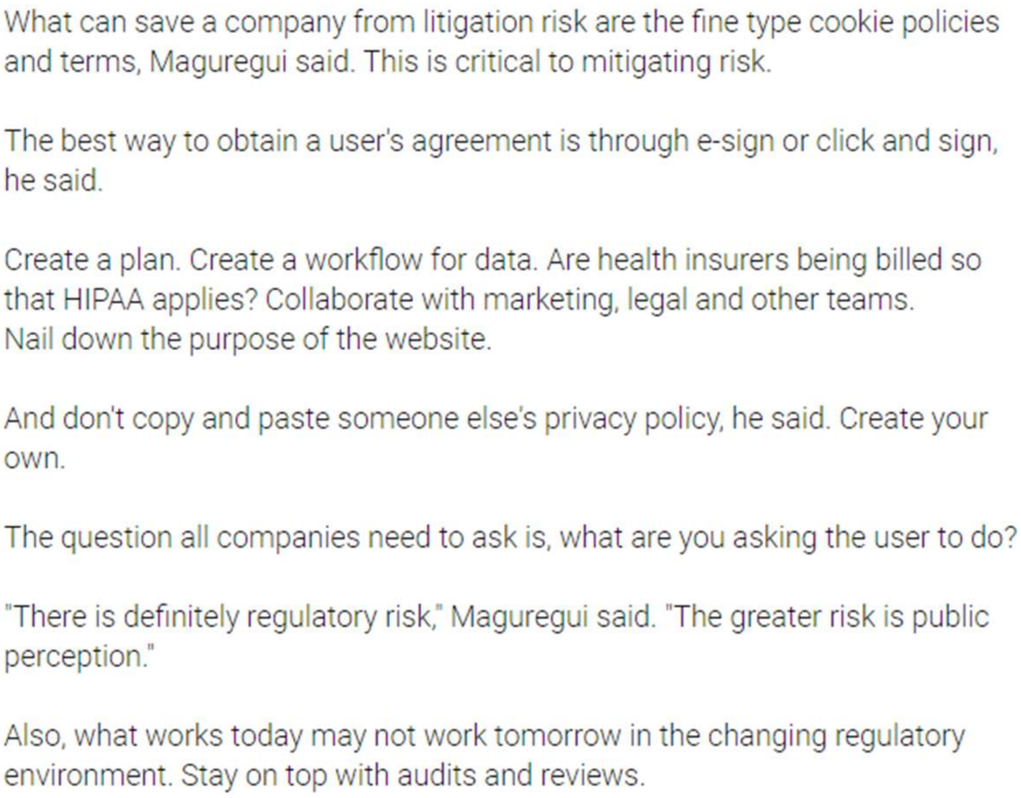
ATA2022: Regulatory risk in the business of telehealth

The question becomes, when does data collected from a telemedicine website become patient data?

Susan Morse, *Executive Editor*

Nathaniel Lacktman, a partner at Foley & Lardner, kicks off a talk on telehealth and regulation Sunday at the ATA2022 conference in Boston.

Photo: Susan Morse/HFN



What can save a company from litigation risk are the fine type cookie policies and terms, Maguregui said. This is critical to mitigating risk.

The best way to obtain a user's agreement is through e-sign or click and sign, he said.

Create a plan. Create a workflow for data. Are health insurers being billed so that HIPAA applies? Collaborate with marketing, legal and other teams.
Nail down the purpose of the website.

And don't copy and paste someone else's privacy policy, he said. Create your own.

The question all companies need to ask is, what are you asking the user to do?

"There is definitely regulatory risk," Maguregui said. "The greater risk is public perception."

Also, what works today may not work tomorrow in the changing regulatory environment. Stay on top with audits and reviews.

https://www.healthcarefinancenews.com/news/ata2022-regulatory-risk-business-telehealth