



LEADERSHIP FOR IT SECURITY & PRIVACY ACROSS HHS

HHS CYBERSECURITY PROGRAM

OFFICE OF INFORMATION SECURITY



Cyberthreats to Biotechnology

03/18/2021



Image source: CSO Online

- HC3 Mission and Core Functions
- Vulnerability points in healthcare organizations
- Cyberattacks – Attack vectors and phishing
- Cyberattacks – Ransomware
- Cyberattacks – Data Breaches
- Healthcare Cybersecurity Data from 2020
- Access Control
- Physical Security for Covid-19 Vaccines
- Case Studies
- Resources
- References
- Questions

Slides Key:



Non-Technical: Managerial, strategic and high-level (general audience)



Technical: Tactical / IOCs; requiring in-depth knowledge (sysadmins, IRT)

Common Attack Points for a Healthcare Organization

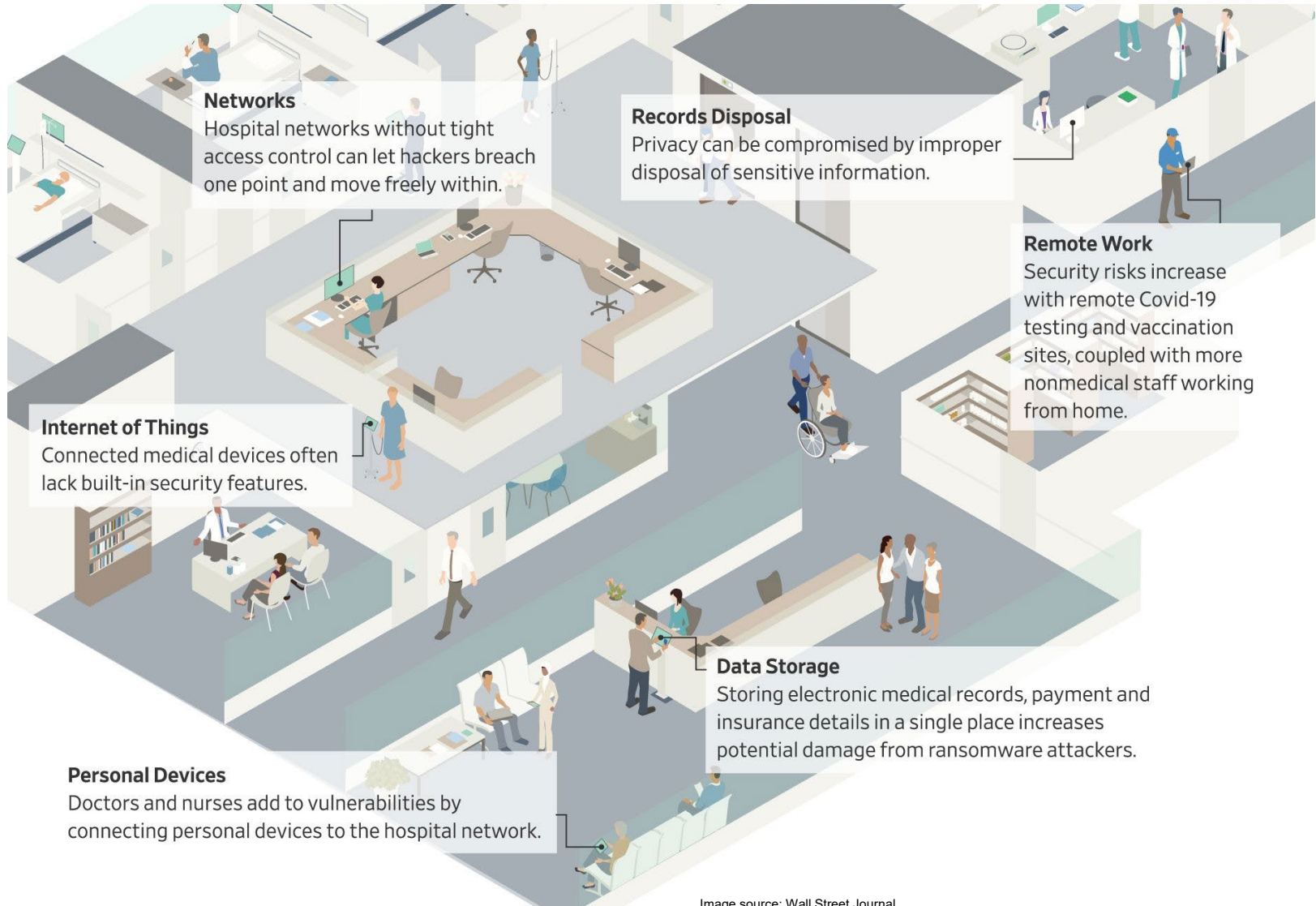


Image source: Wall Street Journal





How does a cyberattack begin? How is infrastructure initially penetrated?

- The attack vector

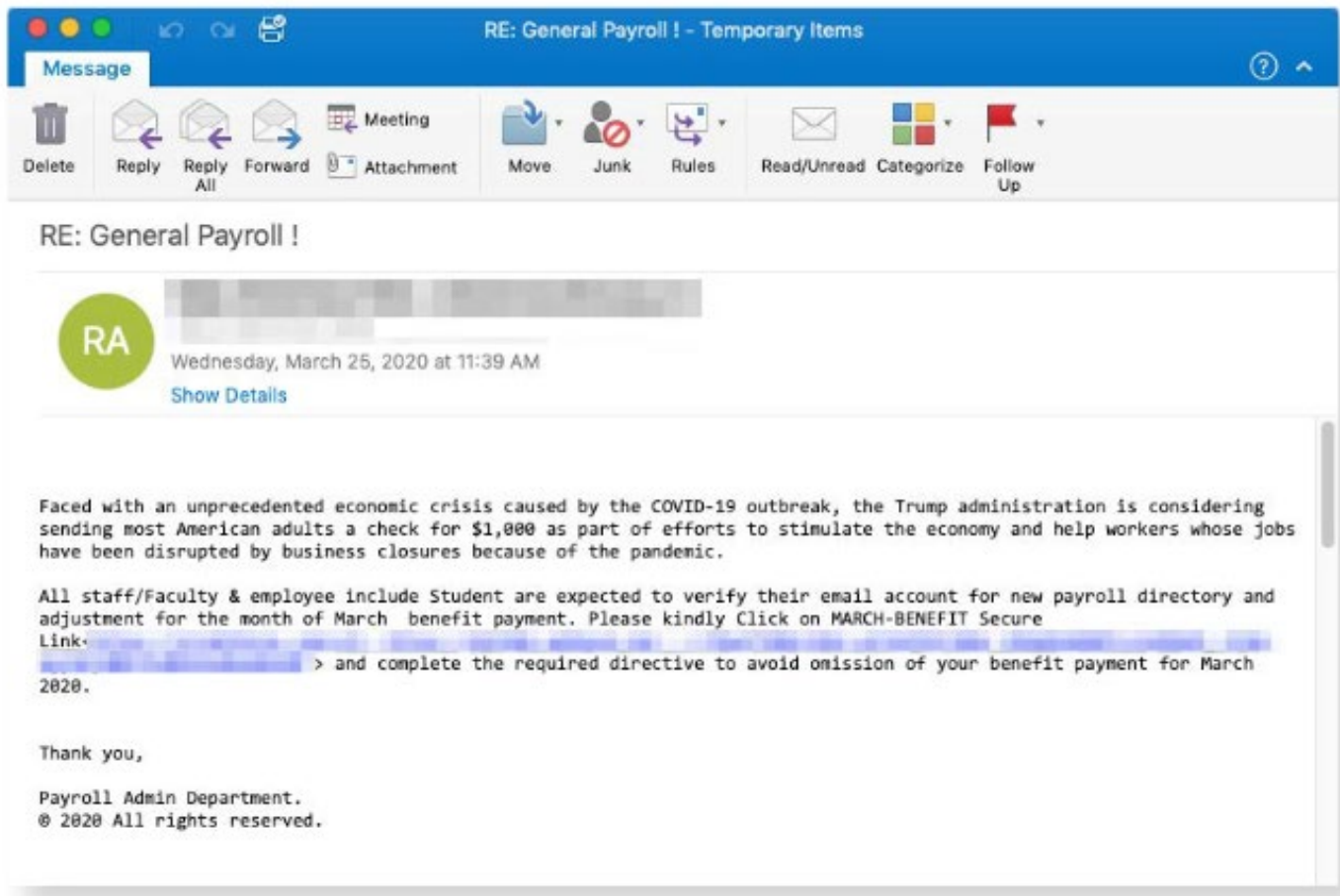
What are the more common types of attack vectors?

- **Phishing** – A social engineering attack using a fake e-mail, *often with a theme*, to elicit interaction (clicking a link or opening an attachment) to deposit malware on the target system.
- **Remote Desktop Protocol (RDP)** – RDP is a protocol that is used for legitimate administrative access to a network. It is often exploited by cyberattackers.
- **Software/application/hardware vulnerabilities** – New vulnerabilities are constantly being discovered and patched. They are also exploited before they are patched.
- **Watering hole attacks (poisoned websites)** – Malicious websites can contain malware which is deposited on the system of anyone who surfs to the website.





Cares Act (COVID-19 relief bill) payroll lure:





Re:SAFTY CORONA VIRUS AWARENESS WHO

 World Health Organization



Dear Sir,

Go through the attached document on safety measures regarding the spreading of corona virus.

Click on the button below to download

[Safety measures](#)

Symptoms common symptoms include fever,coughcshortness of breath and breathing difficulties.

Regards,

Dr. Stella Chungong
Specialist wuhan-virus-advisory

FAKE

← Ответить ← Ответить всем → Переслать Больше ▾

OT CDC-INFO <cdchan-00426@cdc.gov> ☆

Тема **2019-nCoV: Coronavirus outbreak in your city (Emergency)** 04.02.2020, 22:26

Кому

Distributed via the CDC Health Alert Network
February 4, 2020
CDCHAN-00426

Dear ██████████

The Centers for Disease Control and Prevention (CDC) continues to closely monitor an outbreak of a 2019 novel coronavirus (2019-nCoV) in Wuhan City, Hubei Province, China that began in December 2019. CDC has established an Incident Management System to coordinate a domestic and international public health response.

Updated list of new cases around your city are available at (<https://www.cdc.gov/coronavirus/2019-nCoV/newcases-cities.html>)

You are immediately advised to go through the cases above to avoid potential hazards.

Sincerely,
CDC-INFO National Contact Center
National Center for Health Marketing
Division of eHealth Marketing
Centers for Disease control and Prevention





What is the purpose of ransomware?

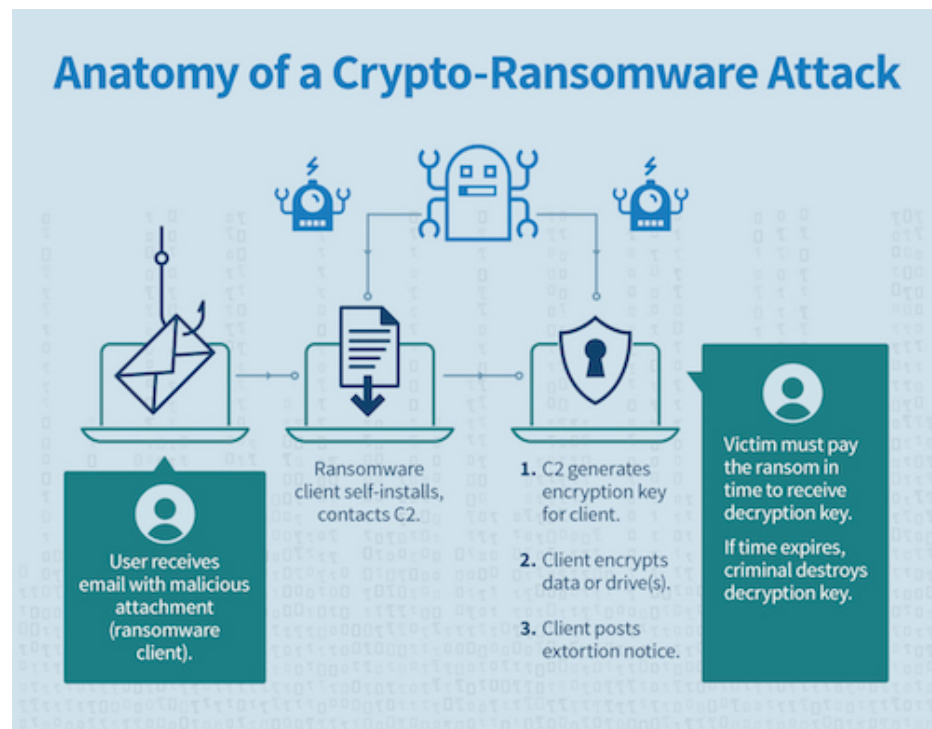
- Used by cybercriminals as a form of a denial-of-service attack
- Demands cryptocurrency payment in return for restoration of access

How does ransomware work?

1. Attack vector (usually phishing or Remote Desktop Protocol compromise)
2. Victim system reaches out to command-and-control server to download ransomware
3. Ransomware is executed on victim system(s)
4. Ransom note is left on victim system

Some ransomware operators will conduct reconnaissance and move laterally to other systems to maximize the number of targets they can encrypt

Double extortion has become common





Ransom note with standard elements found in most ransomware notes:

Notification of attack

Futility of non-cooperation

Justification for trust

Instructions



Ransom portal login

News feed All news ▶

NetWalker

For enter, please use user code or user key

? User key:

? User code:

Captcha code: ?





Portal to upload files to test decryption

Payment Free decrypt FAQ Chat Logout

For test we can upload and decrypt 3 images or document files free
File must be less than 3 megabyte.
Allow formats: .jpg, .jpeg, .png, .bmp, .doc, .docx

Choose a file or drag it here

Upload and decrypt file free



Ransom portal landing page

Payment Free decrypt FAQ Chat Logout

Your files are encrypted.
Only way to decrypt your files, is buy the decrypter program.
Your user key: [REDACTED] write it down and use it to log in again.
The system is fully automated. After payment you will automatically be able to download the decrypter.

Invoice for payment **You have left 6 days 23 hours 59 minutes 51 seconds** Status: Waiting for payment

You can buy the decrypter program for your computer(s).
The amount before the increase is **1000\$ (0.15680000 BTC)**.
If there is no payment before **07.04.20 [08:19]**, the price will increase by **x2** times and will be **2000\$ (0.31360000 BTC)**

Decrypter for: COMPUTER(S): [REDACTED]

[REDACTED]

Bitcoin address: **3Jmo3yf33hKkncJaLQWUPru5z6neyKFK7r** Amount for payment: **0.15680000 BTC**
You paid: **0.00000000 BTC**





Negotiation

Operator: I can see from log you decrypted 2 files, the txt will be decrypted too
07.05.20 [13:22]

I don't know. \$14,500 is really our limit. It's probably a little more than what the rebuilding costs are but I think decryption will be faster. We're open to going with either option, but if you can accept \$14,500 then we have a deal.
You 07.05.20 [16:16]

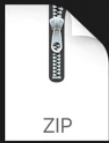
Operator: ok, 14.500
07.05.20 [17:14]

Operator: we can make you a a 10% discount if you pay in 7 days time
07.05.20 [16:50]

Delivery of decryptor



decrypt.exe



decrypter.zip



info.txt

```
info.txt
This decrypt file for ALL NETWORK / ALL COMPUTERS / ALL FILES

Run decrypt.exe on PC which you want decrypt. Click "Auto decrypt" -> click "delete
crypter note files" -> click "decrypt".
The program will automatically decrypt all files on an encrypted PC.
The decryption program will fit all encrypted PCs.

After running the decryption in automatic or manual mode, the program can be closed only
when the close button becomes active,
never kill the process, if you kill the process your files will be damaged and they will
not be able to recover.

If you want to decrypt the entire network at once, use the following command:
psExec <params> "decrypt.exe" /S /D

/s - silent mode.
/d - delete lending(optional, not work without /s).

The program exit code will indicate the number of decrypted files.
```

Payment and invoice

Invoice for payment **You have left 5 days 19 hours 39 minutes 31 seconds** Status: Waiting for payment

You can buy the decrypter program for your computer(s).

The amount before the increase is

If there is no payment before **15.06.20 [03:33]**, the price will increase by **x2** times and will be

Decrypter for: COMPUTER(S):

```
1P3/zSq8ezm64Fx3SED11zxE+kgjXuGmOK5M66fyZ9GptG41Zj
AoeHPjS1Zd5TrKfrV1WrcJIL0d9AIvAhL13BtTr3kKjouPa8UZ
```

Bitcoin address:

Amount for payment:

You paid: **0.00000000 BTC**

Invoice for payment Status: **Paid**

Payment received. You can download the decrypter program

Decrypter for: ALL NETWORK / ALL COMPUTERS / ALL FILES

Download decrypter





What did 2020 look like for healthcare cybersecurity?

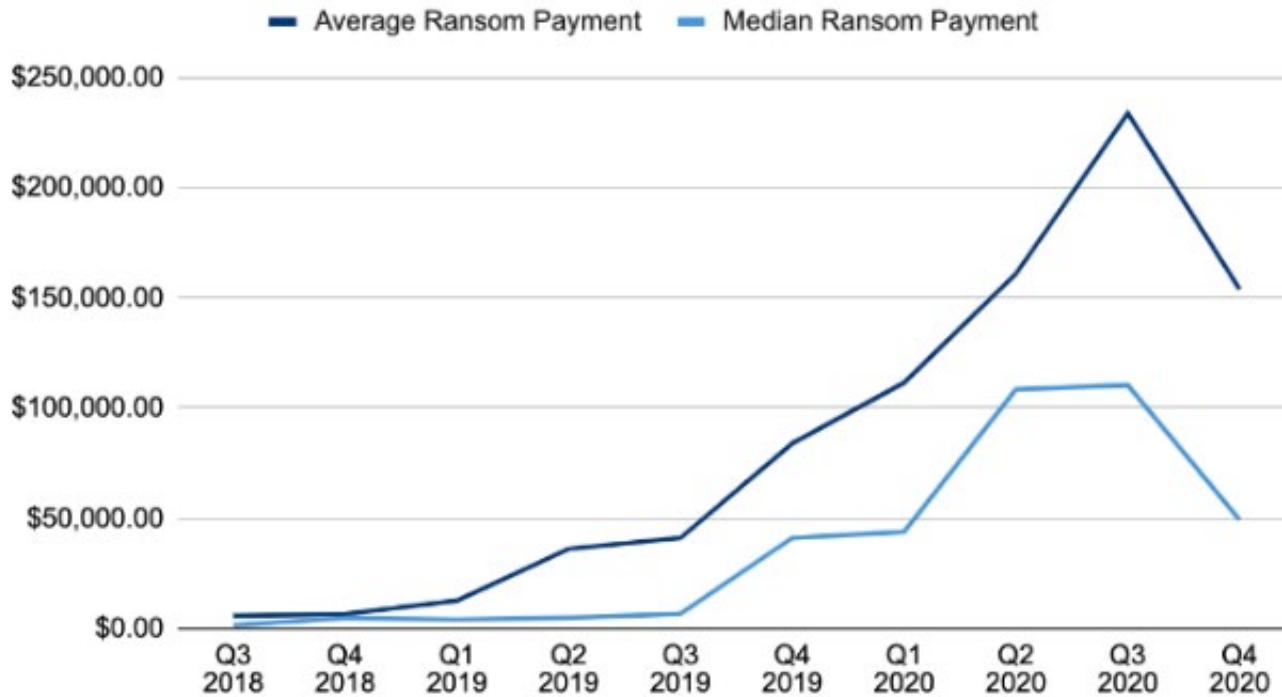
- VMWare/Carbon Black:
 - 239.4 million cyberattacks attempted in 2020
 - Average of 816 attempted attacks per healthcare endpoint
 - 9,851% increase from 2019
 - Between January and February: 51% increase
 - Increased throughout year
 - Peaked September/October at 87% increase
- Emsisoft Ransomware statistics for 2020
 - 560 healthcare organizations impacted
- Wall Street Journal (HHS): ~1M healthcare records breached each month last year
 - One breached service provider is estimated to be responsible for ~10M breached records
- Tenable: 102 million healthcare records breached last year
- Patient in Germany died when being re-routed to another healthcare facility during ransomware attack
- Ransomware-as-a-service became standardized; Double extortion became popular
- Comparitech: Ransomware cost healthcare \$21 billion last year
- COVID-19 themed cyberattacks began along with the pandemic



“Another banner year for cybercriminals” - Emsisoft



Ransom Payments By Quarter



Average Ransom Payment
\$154,108

-34% from Q3 2020

Median Ransom Payment
\$49,450

-55% from Q3 2020

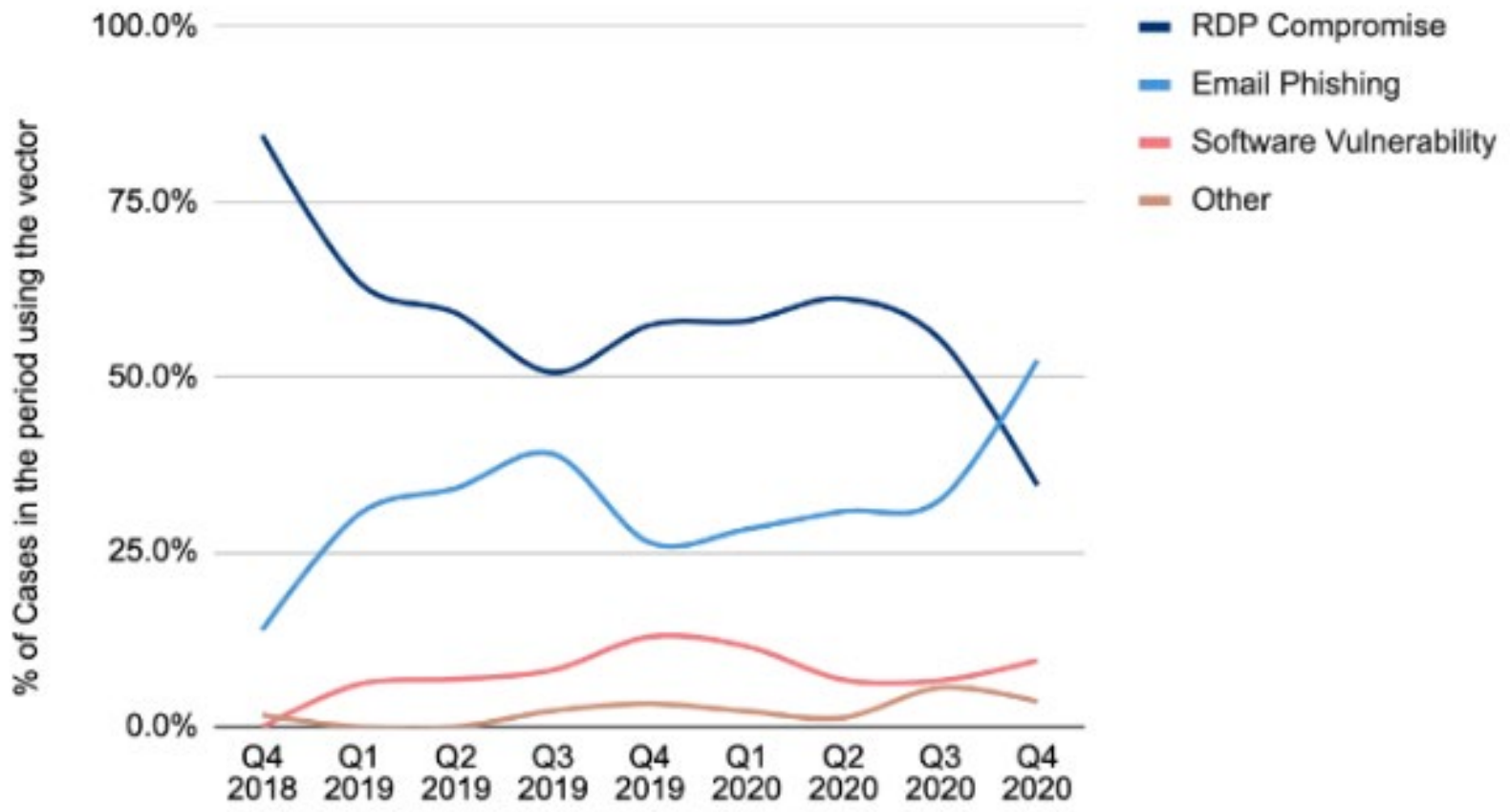


2020





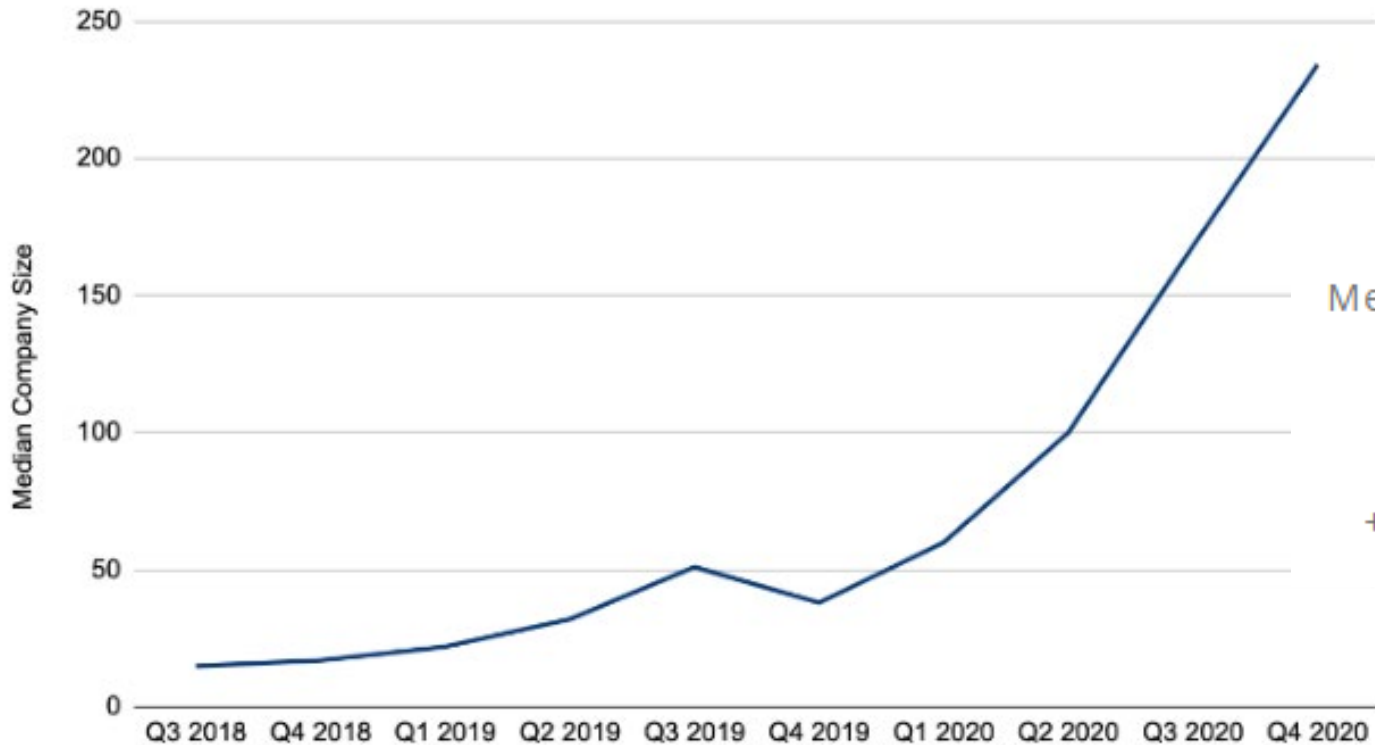
Ransomware Attack Vectors





Big game hunting:

Median Size of Companies Targeted by Ransomware



Median # of Employees

234

+39% from Q3 2020



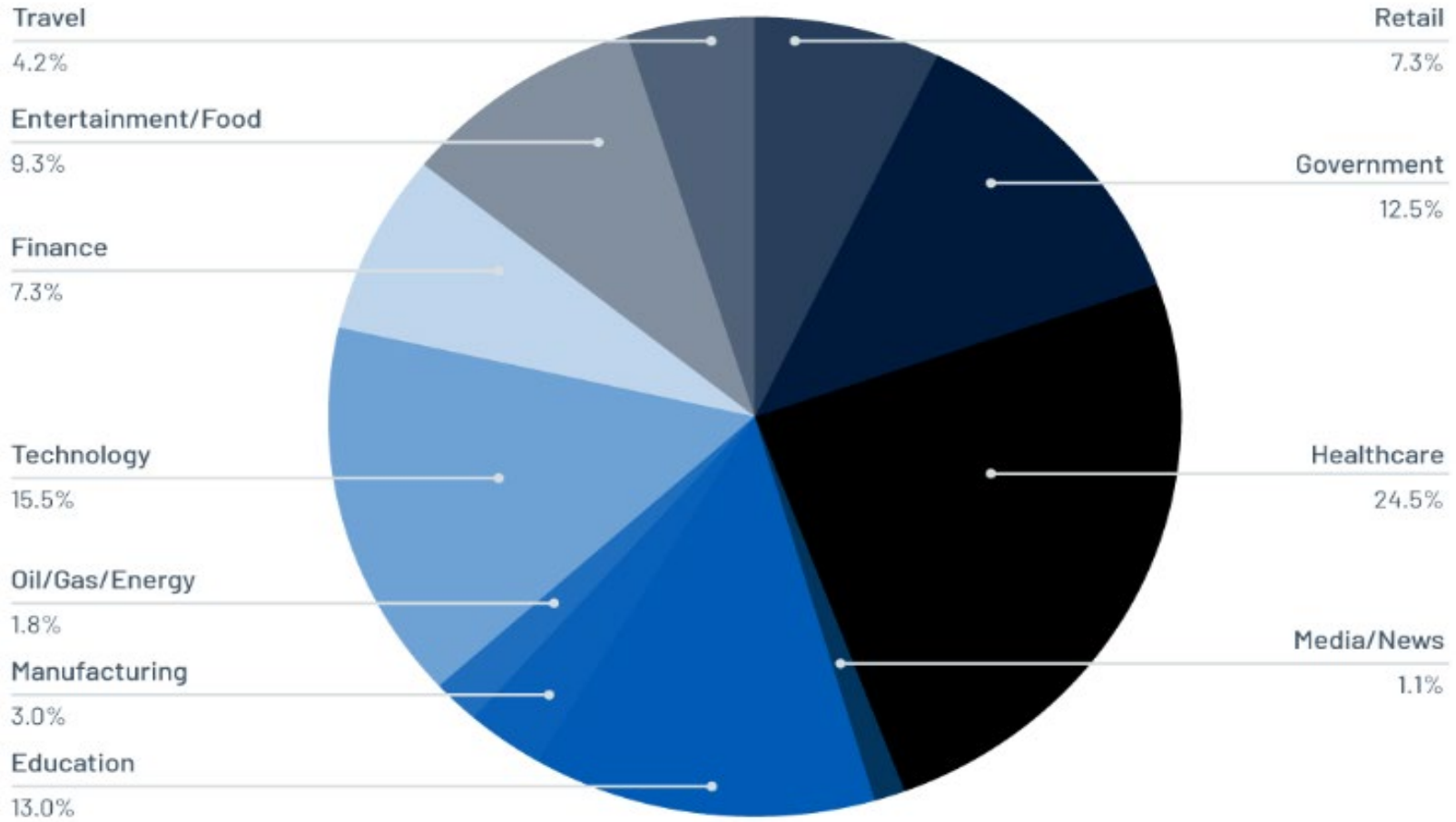


- In addition to ransomware attacks, data breaches are the other major plague to healthcare in cyberspace
 - These two attacks are often combined
- Ransomware attacks were responsible for almost 50% of all healthcare data breaches in 2020
 - 19 leakers/sites double extortion
- Healthcare is the most targeted sector for data breaches.
- CI Security 2020 data:
 - 630+ total healthcare organizational breaches
 - 29 million healthcare records breached





Breaches by Industry





“...the COVID-19 pandemic provides criminal opportunities on a scale likely to dwarf anything seen before. The speed at which criminals are devising and executing their schemes is truly breathtaking.”

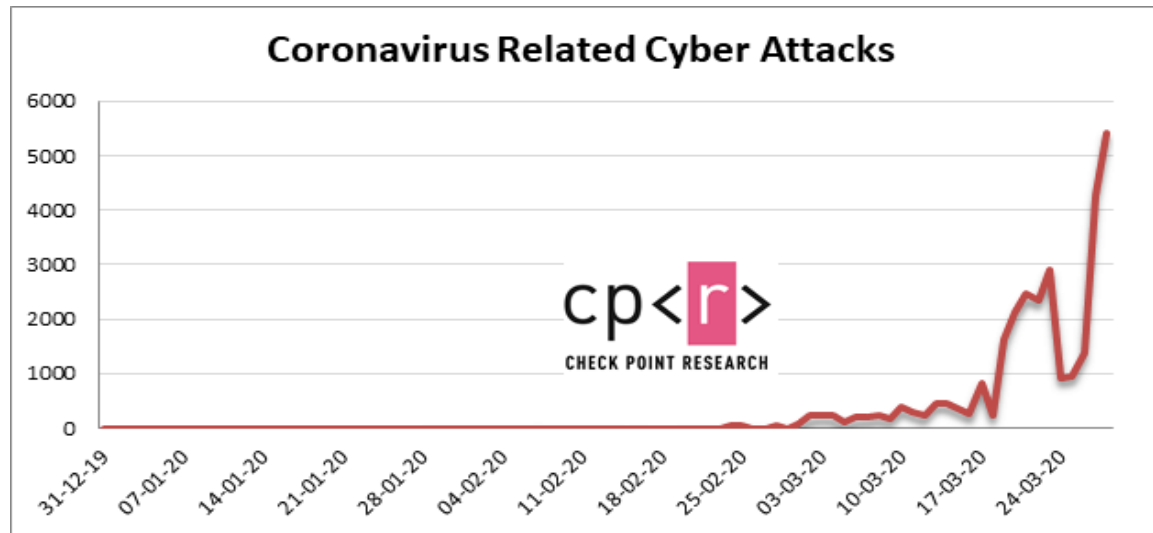
- Michael D’Ambrosio, Head of the U.S. Secret Service Office of Investigations

Terry Wade, lead of the Federal Bureau of Investigation Criminal, Cyber, Response and Services Branch.

WashingtonPost.com, April 14, 2020

“...the risk to this sector will be elevated throughout this crisis.”

- FireEye, as part of an analysis of cyber threats to the healthcare industry during the coronavirus pandemic

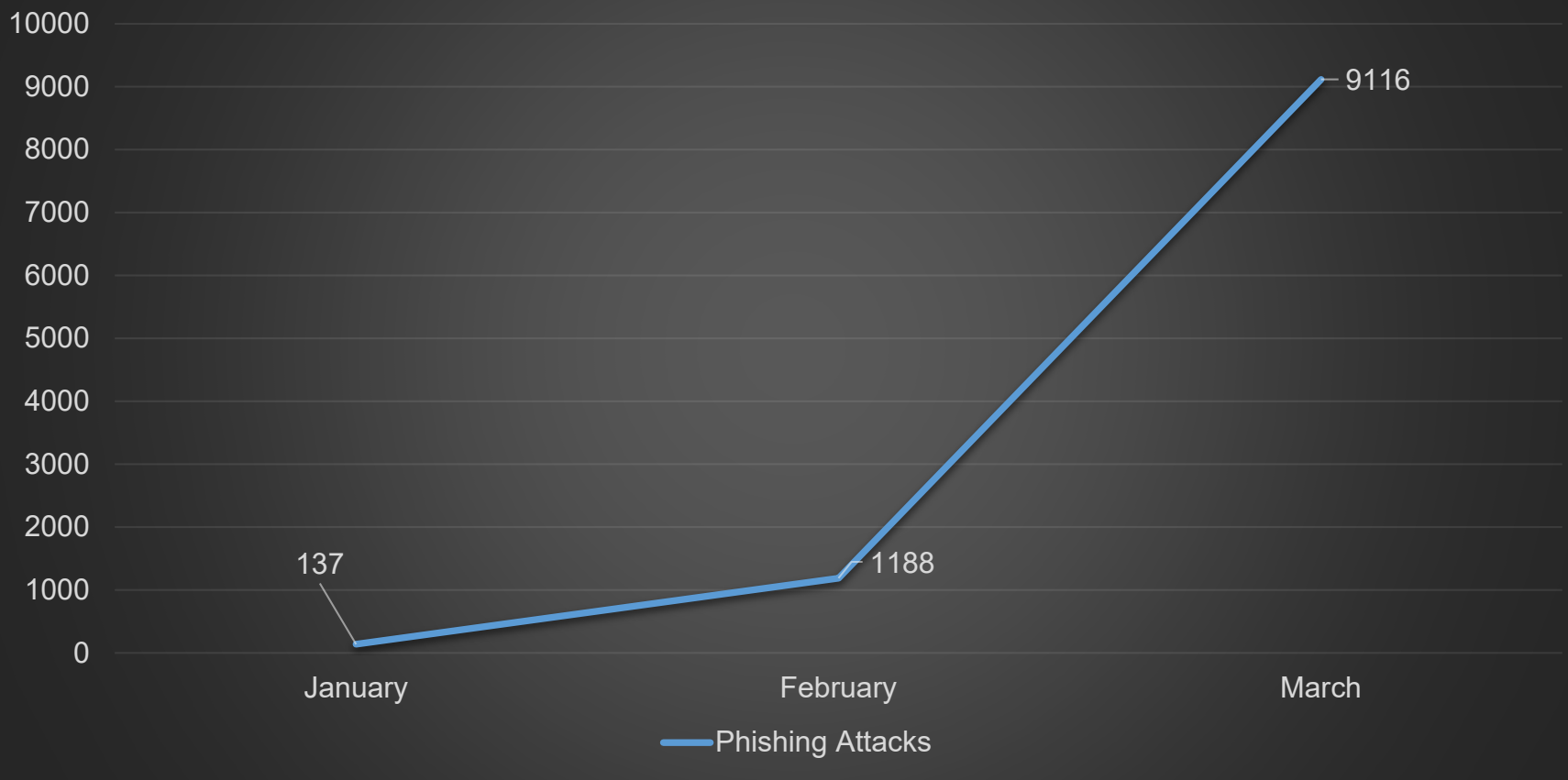




Coronavirus-themed phishing trends:

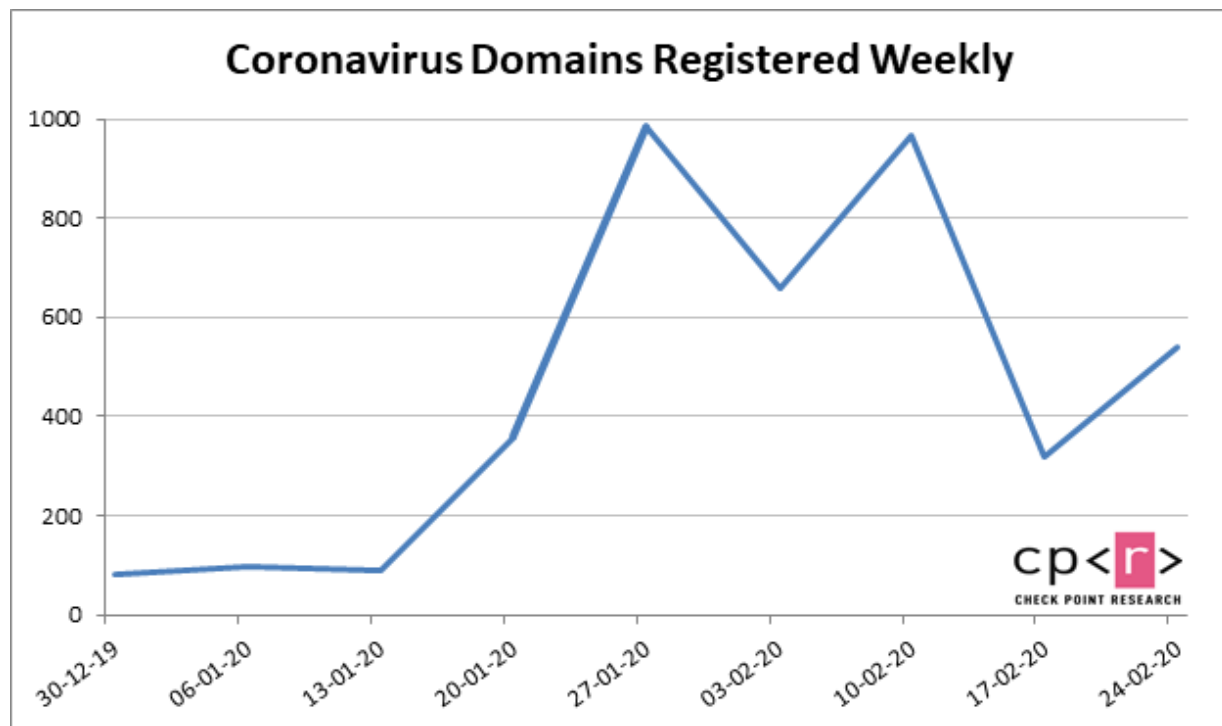
8X increase in Coronavirus related phishing from Jan. to Feb., and again from Feb. to Mar.

Barracuda Networks





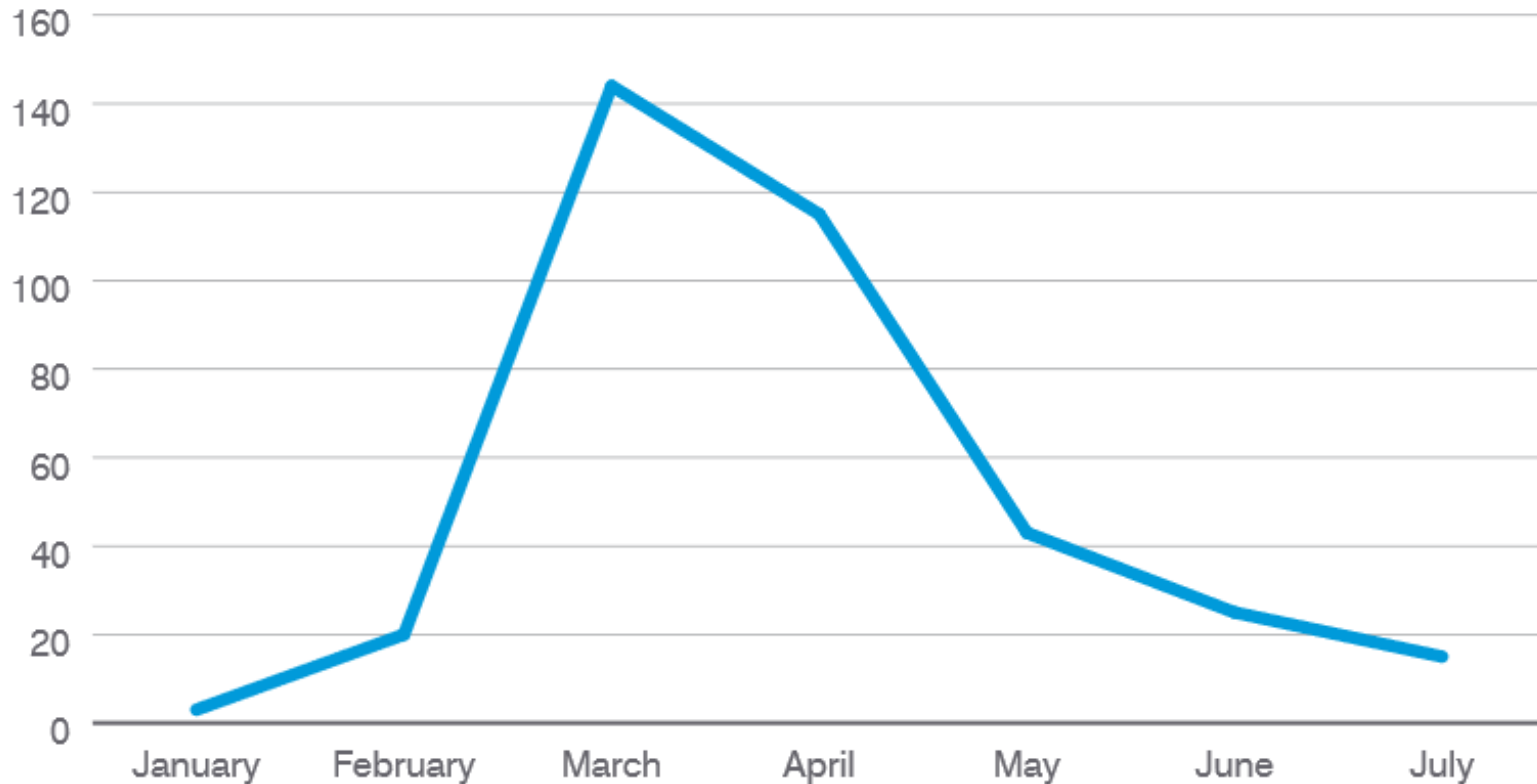
- In many cases, these domains will host malware. The attack vector can be any number of options, such as phishing, watering-hole attacks and typosquatting.
- According to Checkpoint, new coronavirus-related domains are being registered at very high rates, and many of them are malicious.
 - Over 4,000 coronavirus-related domains registered in January and February 2020.
 - Coronavirus-themed domains are 50% more likely to be malicious compared to other domains.
 - Over 6,000 coronavirus-related domains were registered in the third week of March 2020.





Coronavirus-themed campaign volume (Jan – July 2020):

COVID-19 Campaign Volume



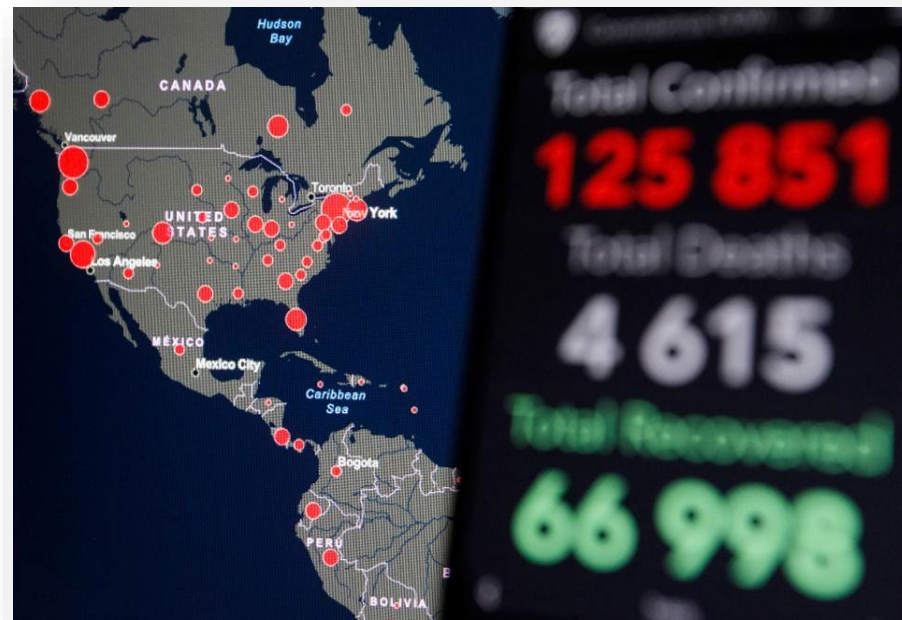
Proof Point report: <https://www.proofpoint.com/sites/default/files/e-books/pfpt-us-tr-healthcare-report.pdf>





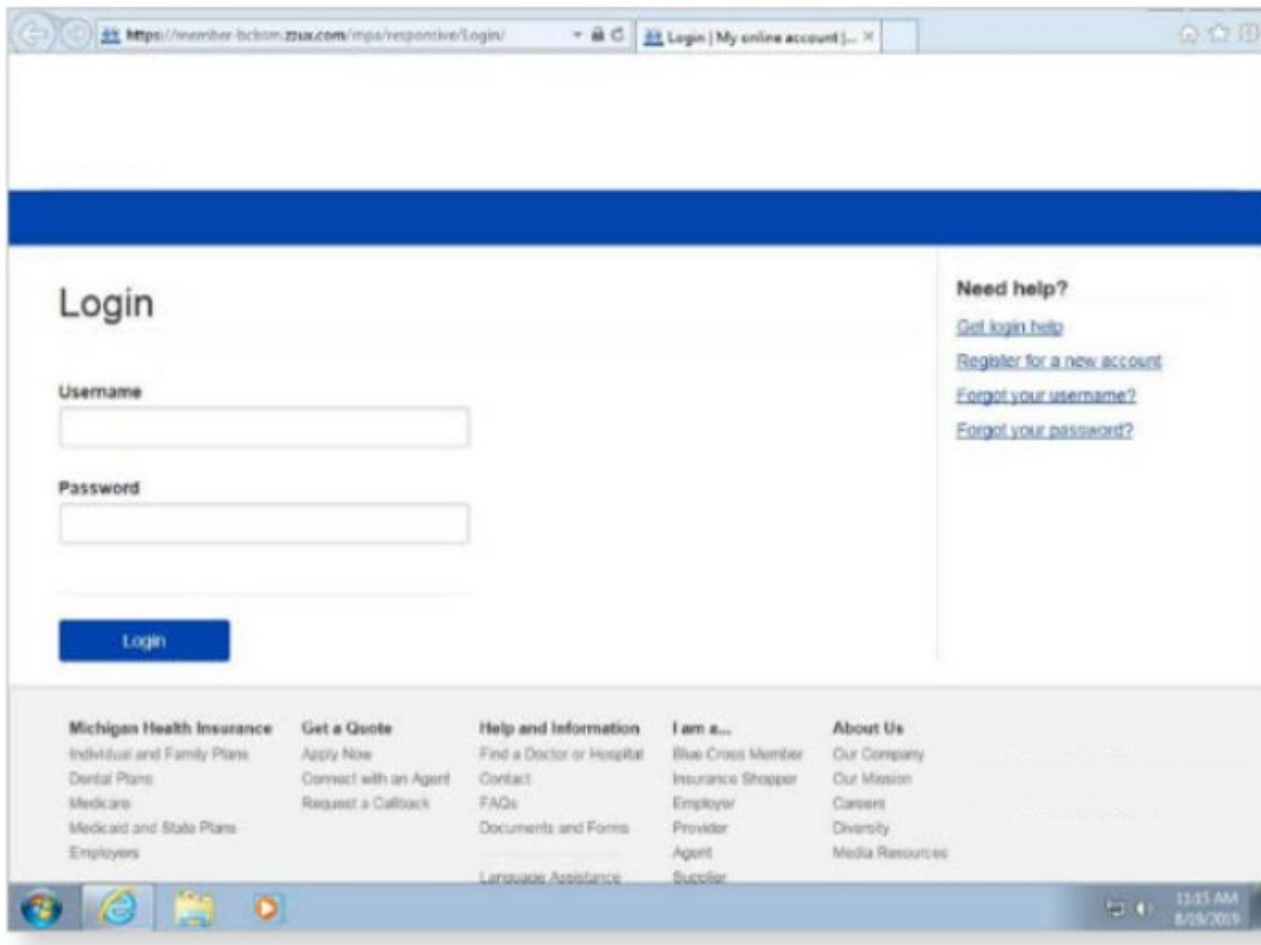
As the coronavirus/COVID-19 pandemic spread, several real-time infection maps were created:

- Johns Hopkins University
 - <https://coronavirus.jhu.edu/map.html>
- World Health Organization
 - <https://who.sprinklr.com/>
- Kaiser Family Foundation
 - <https://www.kff.org/global-health-policy/fact-sheet/coronavirus-tracker/>
- HealthMap
 - <https://www.healthmap.org/covid-19/>
- SharedGe0
 - <https://uscovid-19map.org/>
- Microsoft Bing:
 - <https://www.bing.com/covid>
- University of Washington
 - <https://hgis.uw.edu/virus/>





Cloned portal mimicking an insurer:



Proof Point report: <https://www.proofpoint.com/sites/default/files/e-books/pfpt-us-tr-healthcare-report.pdf>



Access control: Security features that govern how users, applications and processes access information or a resource

Three security principles for any type of security control:

- Confidentiality – Ensuring information is not disclosed to unauthorized individuals, applications or processes
- Availability – Ensuring information and resources are available to authorized users, applications or processes in a timely manner
- Integrity – Ensuring that information is accurate and complete and not modified in any unauthorized manner



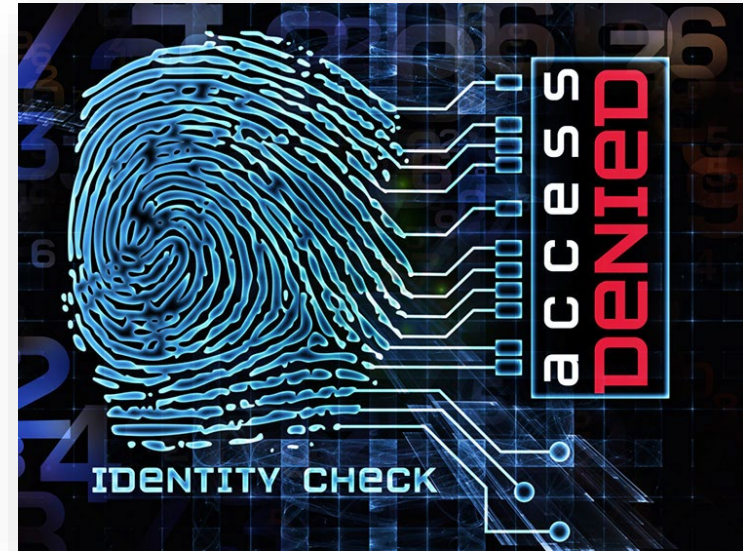
Conceptual components:

- Subject – An entity that requests access to an object
- Object – A passive entity that contains either information or functionality
- Access – the flow of information or the granting of functionality from an object to a subject



Five types of access control:

- Discretionary Access Control (DAC) – Resource owner can decide who has access to the resource
 - Example: Access granted to SharePoint site granted by project manager
- Mandatory Access Control (MAC) – Access is granted based on sensitivity-based labeling system
 - Example: Access to classified Information is limited based on clearance and need-to-know
- Role-Based Access Control (RBAC) – Access granted based on defined role within organization.
 - Example: All accountants have access to financial database
- Rule-Based Access Control (RB-RBAC) – Built on RBAC, pre-defined rules grant access to a resource
 - Example: You must be a doctor and only during 9AM to 5PM can you access patient records
- Attribute-Based Access Control (ABAC) – Attributes (subject, objects, actions, context, etc...) determine access
 - Example: If a visitor wants to enter the building from 10PM to 6AM, they must first check in at the front desk to get a visitor badge and then they may only be allowed in if they have an employee escort them in





What is to be protected?

- People
 - Employees
 - Infants
 - Elderly
 - Patients
- Medicine/drugs
 - Controlled medications
- Technology
 - Networks
 - Systems
- Data
 - Patient records
 - Employee records
 - Intellectual property

What physical access controls protect these assets?

- Physical barriers/protection
 - Fences, gates, ports
 - Guards/security
 - Secure doors
 - Digital locks
 - Vaults/safes
- Surveillance
 - Live video cameras
- Alarm systems
 - Detecting people in unauthorized areas and/or at unauthorized times

Telehealth and telemedicine can not be covered by most of these? Why?

Limitations on technology and authority.

Most important takeaway: While physical access control is critically important to healthcare, the greatest cyberthreats to healthcare are not mitigated by physical solutions



COVID-19 Vaccine Distribution Physical Security Measures



COVID-19 vaccine distribution efforts are underway, and the Cybersecurity and Infrastructure Security Agency (CISA) encourages organizations involved in the distribution process to assess potential security vulnerabilities and implement corresponding risk mitigation solutions to reduce the probability of disruptions. Although there are currently no credible or imminent threats, the distribution process could potentially be disrupted by anti-vaccination protesters, insiders, criminals or organized crime, or terrorists. As such, organizations involved in the manufacturing, transportation, and distribution of the vaccine should apply cost-effective protective measures to their operations. Vulnerability assessments, planning, and training are key steps to mitigating potential threats and identifying necessary protective measures. This infographic broadly illustrates four stages of vaccination distribution activity, possible physical threats at these stages, and some potential mitigations. For more hands-on assistance, please engage local law enforcement, or contact [CISA Central](#).



THREAT VECTORS, MITIGATIONS, AND RESOURCES

Active Shooter



Liaise with local police and emergency responders for rapid response to an incident

Establish and practice emergency response plan (ERP)

Maintain strict access control protocols
Implement facility-wide notification system

Pre-position first responder kits

Ensure employees and staff are trained and ready to implement **Run, Hide, Fight** protocol

- CISA's [Active Shooter Preparedness](#) resources
- Federal Emergency Management Agency's [ERP - Ready.gov](#)

Insider Threat



Limit access to sensitive areas, transportation planning information, and security sites

Establish a multi-disciplinary team to plan for mitigating an insider threat incident

Conduct pre- and post-employment screening

Employ user activity monitoring software on all devices

Maintain comprehensive data back-up on secure remote server

- CISA's [Insider Threat Mitigation](#) resources

Hijacking



Ensure drivers do not deviate from designated routes without clearance or make unapproved stops

Train drivers how to identify and report suspicious behavior during transit and at rest stops

Notify local law enforcement of time and vehicle type for planned shipments

Provide visible security personnel for all vehicles transporting valuable cargo

- Transportation Security Administration's (TSA) [First Observer Plus Program](#)
- TSA's [Surface Transportation Resources for Industry](#)
- Department of Transportation's [Emergency Response Guidebook](#)

Theft



Maintain alarm systems with panic buttons and remote triggers for staff

Train staff to identify and report suspicious behavior

Position Closed-Circuit Television (CCTV) systems to actively monitor vaccine storage and other sensitive areas

Maintain strict access controls for vaccine storage and dispensing environments

Notify local law enforcement of the vaccine locations

- "If You See Something, Say Something" [Recognize the Signs](#)
- Department of Homeland Security's [Nationwide Suspicious Activity Reporting Initiative](#)

Vehicular Assault



Ensure that lines and crowds are diverted away from busy roads; if possible, close roads where satellite clinics occupy space

Train staff to recognize indicators of a possible assault, including an individual repeatedly rewinding the vehicle's engine, practicing heavy-vehicle manual shifting, or verbalizing threats

Lay out a serpentine pathway for queuing vehicles so that drivers cannot accumulate significant speed

Establish clear standoff zones, ensuring a solid passive barrier between workers on foot and vehicle lines

- CISA's [Vehicle Ramming](#) action guide
- CISA's [Vehicle Ramming Attack Mitigation](#) video

Improvised Explosive Device (IED) and Improvised Incendiary Device (IID)



Develop, update, and exercise Bomb Threat Management Plans

Conduct a periodic visual security sweep of the facility

Remove nearby trash receptacles

Notify management, security, or law enforcement immediately of unattended bags or packages

Establish rally points for personnel accountability

- CISA's [Office for Bombing Prevention](#) resources
- CISA's [Fire as a Weapon](#) action guide

For more information and resources, please visit [cisa.gov](https://www.cisa.gov) or email Central@cisa.gov. Call 9-1-1 Immediately in the event of an emergency.

Source: [https://www.cisa.gov/sites/default/files/publications/COVID-19 Vaccine Distribution Physical Security Measures 508.pdf](https://www.cisa.gov/sites/default/files/publications/COVID-19_Vaccine_Distribution_Physical_Security_Measures_508.pdf)





Physical Security for COVID-19 Vaccine Points of Distribution

Planning for increased security during vaccine distribution



As the U.S. expands access to the COVID-19 vaccine, points of distribution (PODs) will play a critical role. To maximize distribution efforts, PODs will likely operate in publicly accessible areas, including pharmacies, community centers, stadiums, convention centers, and parking lots. Although there are currently no credible or imminent threats, it is critical that POD operators consider increasing security to reduce potential risks posed by anti-vaccination protesters, insiders, criminals, terrorists, or malicious cyber actors. Working closely with local law enforcement or Cybersecurity and Infrastructure Security Agency (CISA) Protective Security Advisors (PSAs) to better understand potential vulnerabilities and implementing basic security measures can significantly reduce risk. **In the event of any emergency, call 9-1-1 immediately.**

PRE-PLANNING PROTECTIVE MEASURES



Develop a Comprehensive Security Plan

ESTABLISH OR DESIGNATE

- ... a threat management team.
- ... an Emergency Response Plan (ERP).
- ... linkage with local law enforcement.
- ... a post-incident rally point.
- ... a site security manager.

MONITOR

- ... nearby demonstrations that could involve unlawful acts.

PLAN

- ... for lights, security, tow trucks with fuel, closed-circuit television (CCTV), generators, and other safety requirements.



Prepare Physical Perimeter Security

ALLOW

- ... only authorized vehicles in loading zones.
- ... packages only from trusted sources.

EMPLACE

- ... physical barriers between streets and PODs to protect pedestrians.
- ... operable CCTV cameras.
- ... scalable queuing systems to accommodate car volume.

SECURE

- ... proximate sidewalks and streets.



Enforce Crowd Control Measures

SET EXPECTATIONS

- ... about wait times and the number of vaccines available per day.
- ... about lanes and queue routes, speed, and one-way directions.

CONSTRUCT TEMPORARY INFRASTRUCTURE

- ... to control traffic flow, using items like Jersey barriers and traffic cones.
- ... for serpentine pathways cars will use.

EMPLOY

- ... numerous trained traffic directors, wearing safety vests.



Maintain Physical Security within POD

CLEARLY MARK

- ... restricted areas to avoid pedestrian confusion.

BLOCK ACCESS

- ... to sensitive areas; allow only credentialed individuals to enter.

CHECK

- ... employee access credentials.

PRE-POSITION

- ... first responder kits.

SECURE AND MONITOR

- ... all exits.

Source: https://www.cisa.gov/sites/default/files/publications/POD%20Physical%20Security%20Action%20Guide_508.pdf





MITIGATION OPTIONS FOR SPECIFIC THREATS



ACTIVE SHOOTER

- Employ sufficient security personnel to protect and observe all key areas.
- Instruct security personnel to scan high-angle perches frequently, especially in urban areas.



VEHICULAR ASSAULT

- Pre-engage with municipal authorities and law enforcement to close nearby streets except POD ingress.
- Install vehicle barriers to shield pedestrians from traffic.



IMPROVISED EXPLOSIVE DEVICES (IED) & IMPROVISED INCENDIARY DEVICES (IID)

- Limit the number or remove trash bins onsite.
- Conduct periodic visual security sweeps of the POD grounds to ensure suspicious items are found quickly.



INSIDER THREAT

- Implement a clear, simple-to-use reporting mechanism.
- Conduct thorough pre- and post-employment screening of all workers.



THEFT

- Maintain strict access controls for locked vaccine storage areas and vaccine dispensing processes.
- Transport vaccine pallets, even from freezer to POD, with attached armed guard.
- Ensure high-value vaccine containers remain secure after use amid threat of theft.



SMALL UNMANNED AIRCRAFT SYSTEMS (sUAS)

- Contact the Federal Aviation Administration to establish sUAS restriction, if possible.
- Observe, maintain line of sight, and report unknown sUAS.

GENERAL MITIGATION ADVISORY

- Create and exercise a functional needs-inclusive ERP.
- Train employees on identifying and reporting suspicious behavior and items, essential workplace conduct and cyber hygiene, and the [Run, Hide, Fight](#) protocol.
- Contact your [Statewide Interoperability Coordinator \(SWIC\)](#) to gain current information to facilitate emergency communications logistics, including information technology and management, as well as support for network requirements.
- Visit cisa.gov/safecom/planning to gain awareness of communications and interoperability resources.
- Visit cisa.gov/coronavirus to learn how to mitigate cyber vulnerabilities across the vaccine distribution process.

ADDITIONAL RESOURCES



CISA's [Hometown Security](#) program provides access to tools and resources to support community security and resilience; the Department of Homeland Security (DHS) recognizes that communities are the first line of defense in keeping the public safe and secure. Visit the Hometown Security website for resources that will help you identify and mitigate potential threats to your operation.

Further resources from DHS include:

["If You See Something, Say Something®" campaign](#)

[Nationwide Suspicious Activity Reporting Initiative](#)

Federal Emergency Management Agency's [Emergency Response Plan](#)

To reach your local PSA, contact [CISA Central](#)

Source: https://www.cisa.gov/sites/default/files/publications/POD%20Physical%20Security%20Action%20Guide_508.pdf



Miltenyi Biotec, a global biotechnology and clinical research company headquartered in Cologne, Germany, was attacked with ransomware in October 2020

- They provide products and services that support scientists, clinical researchers, and physicians across basic and translational research, and clinical applications
- They offer solutions covering techniques of sample preparation, cell separation, cell sorting, flow cytometry, cell culture, molecular analysis, clinical applications and small animal imaging
- They employ 2500 people across 28 countries and offer over 17,000 products
- Working on the development of covid vaccine research among other things
- IT infrastructure spans 73 countries
- Breach was discovered to have began back in July 2020
- Confirmed data was leaked
- Mount Locker claims they stole 150GB of data, they posted 5% online in early November
- Operational disruption: “there have been isolated cases where order processing was impaired by malware in parts of our global IT infrastructure,”
- E-mail and phones down for several weeks



Miltenyi Biotec



American biotech firm, whose cold-storage capabilities are integral to Covid-19 vaccine distribution, was attacked with ransomware in November 2020

- 100-year old company that manages 183 warehouses worldwide and has approximately 13,000 employees
- Operations were impacted including phone systems, email, inventory management, and order fulfillment
- They shut down systems to prevent the spread of the attack
- The company filed an 8-K report with the Securities and Exchange Commission on November 16, 2020
 - "determined that its computer network was affected by a cybersecurity incident" and "took immediate steps to help contain the incident and implemented business continuity plans, where appropriate, to continue ongoing operations"



Hackers Hit COVID-19 Biotech Firm, Cold Storage Giant with Cyberattacks





American biotech firm that designs and manufactures gene sequencing technology was attacked with ransomware in March of 2020

- The company is part of an international alliance that is sequencing cells from recovered COVID-19 patients to understand possible treatments
- The ransomware group that attacked them was Revil/Sodinokibi
- Company usernames, an employee database, internal password policies and domain information were posted on a leak site as proof of compromise
- The company filed an 8-K report with the Securities and Exchange Commission on November 16, 2020
 - They reported no material day-to-day impact on operations

Ransomware strikes biotech firm researching possible COVID-19 treatments

CYBERSCOOP





Cyberattack on American video surveillance company provides hackers with access to live feeds from schools, personal residences, workplaces, prisons and hospitals for two days in March of 2021

- The company sells cameras and AI-driven face and object recognition technology
- Hackers tracked down to Switzerland, not financially motivated or associated with any state
 - Justified attacks: "lots of curiosity, fighting for freedom of information and against intellectual property, a huge dose of anti-capitalism, a hint of anarchism — and it's also just too much fun not to do it."
- The compromise was caused by credentials posted on the public Internet





Resources:

- **MIT Sloan: Cybersecurity Management in Pharmaceutical and Biotechnology Industries**
https://jalali.mit.edu/sites/default/files/documents/Cybersecurity_Management_Pharma_Biotech.pdf
- **Health Care Industry Cybersecurity Task Force Resource Catalog**
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Upcoming Briefs

- North Korean Cyber Espionage Campaigns Targeting the HPH Sector (3/25)
- New briefing structure beginning 4/8
 - **Keep an eye out for the registration invite soon!**

Product Evaluations

Recipients of this and other Healthcare Sector Cybersecurity Coordination Center (HC3) Threat Intelligence products are highly encouraged to provide feedback. If you wish to provide feedback please complete the HC3 Customer Feedback Survey.



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HC3 works with private and public sector partners to improve cybersecurity throughout the Healthcare and Public Health (HPH) Sector

Products



Sector & Victim Notifications

Directs communications to victims or potential victims of compromises, vulnerable equipment, or PII/PHI theft, and general notifications to the HPH about currently impacting threats via the HHS OIG.



White Papers

Document that provides in-depth information on a cybersecurity topic to increase comprehensive situational awareness and provide risk recommendations to a wide audience.



Threat Briefings & Webinar

Briefing document and presentation that provides actionable information on health sector cybersecurity threats and mitigations. Analysts present current cybersecurity topics, engage in discussions with participants on current threats, and highlight best practices and mitigation tactics.

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Questions

Contact



**Health Sector Cybersecurity
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202-691-2110



HC3@HHS.GOV