Cyberthreats to Biotechnology

03/18/2021
Agenda

• 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

Networks
Hospital networks without tight access control can let hackers breach one point and move freely within.

Records Disposal
Privacy can be compromised by improper disposal of sensitive information.

Internet of Things
Connected medical devices often lack built-in security features.

Remote Work
Security risks increase with remote Covid-19 testing and vaccination sites, coupled with more nonmedical staff working from home.

Data Storage
Storing electronic medical records, payment and insurance details in a single place increases potential damage from ransomware attackers.

Personal Devices
Doctors and nurses add to vulnerabilities by connecting personal devices to the hospital network.

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.
Phishing example: COVID-19 theme

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

RE: General Payroll!

RA
Wednesday, March 25, 2020 at 11:39 AM
Show Details

Faced with an unprecedented economic crisis caused by the COVID-19 outbreak, the Trump administration is considering sending most American adults a check for $1,000 as part of efforts to stimulate the economy and help workers whose jobs have been disrupted by business closures because of the pandemic.

All staff/Faculty & employee include student are expected to verify their email account for new payroll directory and adjustment for the month of March benefit payment. Please kindly Click on MARCH-BENEFIT Secure Link> and complete the required directive to avoid omission of your benefit payment for March 2020.

Thank you,
Payroll Admin Department.
© 2020 All rights reserved.
Phishing example: COVID-19 theme, Part 2

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, cough, shortness of breath and breathing difficulties.

Regards,

Dr. Stella Chungong
Specialist wuhan-virus-advisory

Fake

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

Dear [redacted],

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
Example Ransom Note

Ransom note with standard elements found in most ransomware notes:

```
1. Your files are encrypted by Netwalker.
2. All encrypted files for this computer have extension: .
3. If for some reason you read this text before the encryption ended,
   4. this can be understood by the fact that the computer slows down,
   5. and your heart rate has increased due to the ability to turn it off,
   6. then we recommend that you move away from the computer and accept that you have been compromised.
   7. Rebooting/shutdown will cause you to lose files without the possibility of recovery.
11. --
12. Our encryption algorithms are very strong and your files are very well protected,
13. the only way to get your files back is to cooperate with us and get the decrypter program.
14. Do not try to recover your files without a decrypter program, you may damage them and then they will be impossible
   15. to recover.
18. For us this is just business and to prove to you our seriousness, we will decrypt you one file for free.
19. Just open our website, upload the encrypted file and get the decrypted file for free.
23. Steps to get access on our website:
24. 1. Download and install tor-browser: https://torproject.org/
25. 2. Open our website: mnfdsmsgm66j6su5xkekw4u4y47kp2eatvu7d6xhyn5cs4lt4pdrqqd.onion
26. 3. Put your personal code in the input form:
```
Communications between victim and ransomware operators

Ransom portal login

NetWalker

For enter, please use user code or user key

User key: 

User code: 

Captcha code: 

Submit 

Communications between victim and ransomware operators, part 2

Portal to upload files to test decryption

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

- Your files are encrypted.
- Only way to decrypt your files, is buy the decrypter program.
- Your user key: [obscured]
- 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

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): [obscured]

Bitcoin address: 3Jm03vD3hKkmcJAIQWUPru5z6neyKFK7r
Amount for payment: 0.15680000 BTC
You paid: 0.00000000 BTC
Communications between victim and ransomware operators, part 4

Negotiation

Operator: I can see from log you decrypted 2 files, the txt will be decrypted too.
07:20 (21.11)

You:
I don't know. $14,500 is really our limit. It's probably a little more than what we 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.
07:30 (21.11)

Operator: ok. 14,500
11:32 (21.11)

You:
We can make you a 10% discount if you pay in 7 days time.
07:32 (21.11)

Operator: Great! I will pay you on 08.11.
07:34 (21.11)

Payment and invoice

Payment received. You can download the decrypter program

Delivery of decryptor

decrypt.exe  decrypter.zip  info.txt
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
A Snapshot of Healthcare Cybersecurity in 2020, Part 2

Ransom Payments By Quarter

- Average Ransom Payment
- Median Ransom Payment

Average Ransom Payment

$154,108
-34% from Q3 2020

Median Ransom Payment

$49,450
-55% from Q3 2020

2020
Big game hunting:

Median Size of Companies Targeted by Ransomware

Median # of Employees

234
+39% from Q3 2020

CoveWare
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
“...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.
• 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.
  o Over 4,000 coronavirus-related domains registered in January and February 2020.
  o Coronavirus-themed domains are 50% more likely to be malicious compared to other domains.
  o Over 6,000 coronavirus-related domains were registered in the third week of March 2020.
Coronavirus-themed campaign volume (Jan – July 2020):

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

- Johns Hopkins University
  - [https://coronavirus.jhu.edu/map.html](https://coronavirus.jhu.edu/map.html)

- World Health Organization
  - [https://who.sprinklr.com/](https://who.sprinklr.com/)

- Kaiser Family Foundation

- HealthMap
  - [https://www.healthmap.org/covid-19/](https://www.healthmap.org/covid-19/)

- SharedGe0
  - [https://uscovid-19map.org/](https://uscovid-19map.org/)

- Microsoft Bing:
  - [https://www.bing.com/covid](https://www.bing.com/covid)

- University of Washington
  - [https://hgis.uw.edu/virus/](https://hgis.uw.edu/virus/)
Cloned portal mimicking an insurer:

**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

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

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

Limitations on technology and authority.
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.

For more information and resources, please visit cisa.gov or email Central@cisa.gov. Call 9-1-1 immediately in the event of an emergency.

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 Advisers (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**

<table>
<thead>
<tr>
<th>DEVELOP A COMPREHENSIVE SECURITY PLAN</th>
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<tr>
<td>Establish or designate:</td>
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<tr>
<td>- a threat management team.</td>
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<td>- an Emergency Response Plan (ERP).</td>
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<td>- liaisons with local law enforcement.</td>
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<td>- a post-incident safety point.</td>
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<td>- a site security manager.</td>
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<th>MONITOR</th>
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<td>nearby demonstrations that could involve unlawful acts.</td>
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<th>PLAN</th>
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<td>for lights, security tow trucks with fuel, closed-circuit television (CCTV), generators, and other safety requirements.</td>
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<th>PREPARE PHYSICAL PERIMETER SECURITY</th>
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<td>Allow:</td>
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<tr>
<td>- only authorized vehicles in loading zones.</td>
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<td>- packages only from trusted sources.</td>
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<th>ENPLACE</th>
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<td>physical barriers between streets and PODs to protect pedestrians, and portable CCTV cameras.</td>
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<td>scalable queuing systems to accommodate car volume.</td>
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<th>SECURE</th>
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<td>- protect sidewalks and streets.</td>
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<th>ENFORCE CROWD CONTROL MEASURES</th>
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<tr>
<td>Set expectations:</td>
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<tr>
<td>- about wait times and the number of vaccines available per day.</td>
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<tr>
<td>- about lanes and queue routes, space, and one-way directions.</td>
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<th>CONSTRUCT TEMPORARY INFRASTRUCTURE</th>
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<td>to control traffic flow, using items like jersey barriers and traffic cones.</td>
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<td>for serpentine pathways cars will use.</td>
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<th>EMPLOY</th>
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<td>numerous trained traffic directors, wearing safety vests.</td>
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<th>MAINTAIN PHYSICAL SECURITY WITHIN POD</th>
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<td>Clearly mark:</td>
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<td>- restricted areas to avoid pedestrian collision.</td>
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<th>BLOCK ACCESS</th>
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<td>to sensitive areas; allow only credentialed individuals to enter.</td>
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<th>CHECK</th>
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<td>employee access credentials.</td>
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<th>PRE-POSITION</th>
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<td>first responder kits.</td>
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<th>SECURE AND MONITOR</th>
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<td>all gates.</td>
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**MITIGATION OPTIONS FOR SPECIFIC THREATS**

**ACTIVE SHOOTER**
- Employ sufficient security personnel to protect and observe all key areas.
- Instruct security personnel to scan high-traffic areas 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 of or remove trash bins on site.
- 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 an 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/safecomplanning 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.
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 employee 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
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" an "took immediate steps to help contain the incident and implemented business continuity plans, where appropriate, to continue ongoing operations"
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
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
What to Do About These Threats?

Resources:

- **MIT Sloan: Cybersecurity Management in Pharmaceutical and Biotechnology Industries**

- **Health Care Industry Cybersecurity Task Force Resource Catalog**

- **Health Industry Cybersecurity Supply Chain Risk Management Guide (HIC-SCRiM)**
  https://healthsectorcouncil.org/hic-scrim-v2/

- **Health Industry Cybersecurity Protection of Innovation Capital (HIC-PIC)**
  https://healthsectorcouncil.org/hic-pic/

- **Medical Device and Health IT Joint Security Plan**

- **Joint Cybersecurity Advisory - Ransomware Activity Targeting the Healthcare and Public Health Sector**

- **Health Industry Cybersecurity Practices: Managing Threats and Protecting Patients**

- **FBI – Ransomware**

- **HHS: FAQs on Telehealth and HIPAA during the COVID-19 nationwide public health emergency**

- **Must-Have Telehealth, Remote Work Privacy and Security for COVID-19**
Reference Materials
References

ProofPoint 2020 Healthcare Threat Landscape report

2020 MID-YEAR Horizon Report The State of Cybersecurity in Healthcare

The State of Healthcare Cybersecurity: VMware Carbon Black Explores the Surge in Cyber Threats
https://www.carbonblack.com/blog/the-state-of-healthcare-cybersecurity/

Hospitals Suffer New Wave of Hacking Attempts

VMWare Carbon Black Explores the State of Healthcare Cybersecurity in 2020

The State of Ransomware in the US: Report and Statistics 2020

70% Ransomware Attacks Cause Data Exfiltration; Phishing Top Entry Point

Top Healthcare Cybersecurity Resources from NIST, HHS, OCR, HSCC

ESET Threat Report Q4 2020

Fueled by Profits, Ransomware Persists in New Year
References

Tenable 2020 Threat Landscape Retrospective

Ransomware tactics are changing up a gear in 2021
https://techhq.com/2021/01/ransomware-tactics-are-changing-up-a-gear-in-2021/

Ransomware Demands continue to rise as Data Exfiltration becomes common, and Maze subdues
https://www.coveware.com/blog/q3-2020-ransomware-marketplace-report

Ransomware Payments Fall as Fewer Companies Pay Data Exfiltration Extortion Demands
https://www.coveware.com/blog/ransomware-marketplace-report-q4-2020

Ransomware attacks on healthcare organizations cost nearly $21B last year, study finds

Over 102 million healthcare records exposed by cyber attacks In 2020

Biotech research firm Miltenyi Biotec hit by ransomware, data leaked

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

Food-Supply Giant Americold Admits Cyberattack
https://threatpost.com/food-supply-americold-cyberattack/161402/
Ransomware strikes biotech firm researching possible COVID-19 treatments  

Another COVID-19 Research Firm Targeted by Ransomware Attack  

Swiss Police Raid Apartment of Verkada Hacker, Seize Devices  

Security camera hack exposes live feeds from hospitals, workplaces and schools  

'It's too much fun not to': Hacker who exposed US hospitals' security cameras on inspiration behind attack  

Verkada Data Breach Exposes Feeds of 150,000 Security Cameras; Targets Include Health Care Facilities, Schools, Police Stations and a Tesla Plant  
Questions

Upcoming Briefs

• North Korean Cyber Espionage Campaigns Targeting the HPH Sector (3/25)

• New briefing structure beginning 4/8
  o Keep an eye out for the registration invite soon!

Requests for Information

Need information on a specific cybersecurity topic? Send your request for information (RFI) to HC3@HHS.GOV, or call us Monday-Friday between 9am-5pm (EST), at (202) 691-2110.

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.

Disclaimer

These recommendations are advisory and are not to be considered as Federal directives or standards. Representatives should review and apply the guidance based on their own requirements and discretion. HHS does not endorse any specific person, entity, product, service, or enterprise.
Health Sector Cybersecurity Coordination Center (HC3) Background

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.

Need information on a specific cybersecurity topic, or want to join our Listserv? Send your request for information (RFI) to **HC3@HHS.GOV**, or call us Monday-Friday between 9am-5pm (EST) at **202-691-2110**.
Questions
Contact

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