Deloitte.

HCCA's Boston Regional Annual Conference
The Perils of Phishing…

The Perils of Phishing…

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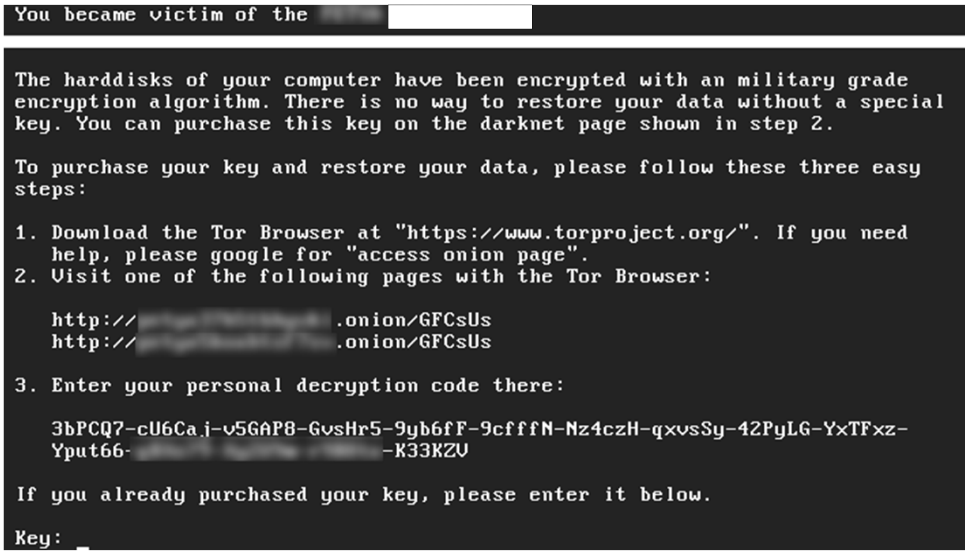
Phishing Risk - Ransomware



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Middlesex Health System

HCCA Phishing Presentation

Middlesex Health System

Based in Middletown, Conn., the award-winning Middlesex Health System, a member of the Mayo Clinic Care Network, includes Middlesex Hospital, a not-for-profit, 296-bed magnet hospital, and the Middlesex Hospital Cancer Center. It also features three emergency departments, three urgent care centers and an assisted living facility, along with many other programs and services. The health system's primary care physicians, surgeons, specialists, nurses and other employees work hard to meet the needs of the Middlesex County and Connecticut shoreline communities.

The health system's vision is to be the clear, first choice for medical care, and its mission is to provide the safest, highest-quality care and best experience possible.

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Why is Healthcare a Target?

The value of information $$$$

- **Social Security Number, $1-$3**
- **Credit Card Number, $1-$3**
- **Electronic Medical Record, $50-$1000**
- **On average, twice as long to detect.**
  - **Identity Theft**
  - **Insurance Fraud**
  - **Drug Diversion**

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What is Phishing?

Phishing is fraudulent communications from an attacker to steal confidential information such as login credentials.

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Phishing Attack at MHS

MAY 27, 2015

- **An outside Gmail account sent an email to 88 Hospital employees.**

Four (4) staff responded to the email and provided their username and password.

1 Nurse

3 Physicians

- **Auto-forwarding was configured by the hacker, so any emails they received (including those with PHI) were forwarded. The employees had no idea.**

OCTOBER 9, 2015

- **Information Security Department when evaluating a new detection tool discovers the auto-forwarding and shuts it down.**

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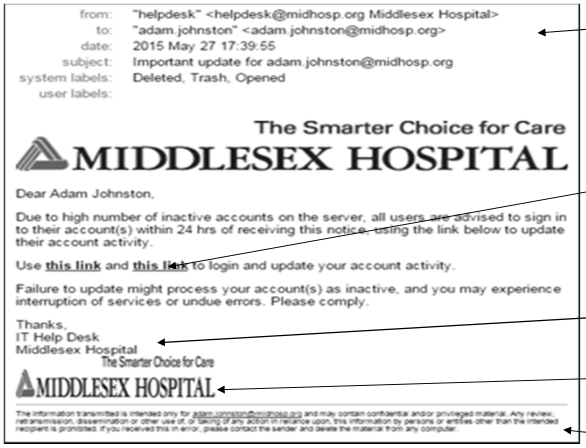
The Actual Phishing Email



from: "helpdesk" <helpdesk@midhosp.org Middlesex Hospital>
to: "adam.johnston" <adam.johnston@midhosp.org>
date: 2015 May 27 17:39:55
subject: Important update for adam.johnston@midhosp.org
system labels: Deleted, Trash, Opened
user labels:

The Smarter Choice for Care

MIDDLESEX HOSPITAL

Dear Adam Johnston,

Due to high number of inactive accounts on the server, all users are advised to sign in to their account(s) within 24 hrs of receiving this notice, using the link below to update their account activity.

Use this link and this link to login and update your account activity.

Failure to update might process your account(s) as inactive, and you may experience interruption of services or undue errors. Please comply.

Thanks,
IT Help Desk
Middlesex Hospital

The Smarter Choice for Care

MIDDLESEX HOSPITAL

The information transmitted is intended only for adam.johnston@midhosp.org and may contain confidential and/or privileged material. Any review, retransmission, dissemination or other use of, or taking of any action in reliance upon, this information by persons or entities other than the intended recipient is prohibited. If you received this in error, please contact the sender and delete the material from any computer.

The email addresses look correct at first glance but when you look closely are slightly wrong

The links go to: "nesba.apicustomhomes.com/mail/midhosp/index.php". This is not an MHS website!!!

Email from the help desk will always include contact information

Improperly formatted Logo

Confidentiality notice is not the MHS standard notice

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HIPAA Breach

- **945 patient's protected health information were breached.**
- **Most of the PHI were on reports containing, full patient name, MRN#, diagnosis.**

Notifications sent to:

- **All affected patients**
- **Media**
- **CT State Attorney General**
- **Office of Civil Rights**
- **Board Members**

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Breach Notification

- **Put notification of breach on hospital website.**
- **Set up a 1-800# using the call center for patient questions.**
- **Gave the call center with my name and number to have patient call me directly with questions or concerns.**
- **Provided credit monitoring to patients for 1 year.**
- **Notified Employees.**
- **It takes a village.**

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Agencies Involved in Breach

- **Centers for Medicare & Medicaid Services (CMS) and DPH**
  - **On-site visits (2016 Christmas Eve and New Year's Day)**
  - **Plan of Correction to remain a participant**
- **CT State Attorney General Office**
  - **Sent letter requesting information on the breach.**
- **Office of Civil Rights (OCR)**
  - **Sent letter requesting information on the breach.**

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Mitigation Strategies

- **Attended Department Meeting Presentations**
- **Mandated Social Engineering Testing for all employees through Healthstream to get 100% compliance.**
- **Created March as CyberSecurity Awareness Month.**
- **Articles in Hospital Newletter.**
- **Quality & Audit Committee Reporting.**
- **Report Cleansing.**

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OCR Final Response 11/2017

- **Following discovery of the breach, Middlesex contacted all 945 affected individuals to notify them of the breach and opened a call center for these individuals to answer their questions.**
- **The Hospital privacy officer offered support to any individuals who called with questions as well.**
- **The Hospital also provided all affected individuals with twelve months of credit monitoring services and provided notice of the breach on its website and through a press release.**

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OCR Final Response

- **Further, as a result of this breach, the Hospital implemented a required approval process in order for employees to auto-forward emails, so as to prevent the auto-forwarding of emails.**
- **The Hospital also developed a mandatory Phishing Awareness and Response Training program for employees; all supervisors and managers were also provided additional training that they were required to provide to their staff.**
- **Additional mitigation included the designation of March as "Cyber Awareness" month, which includes the implementation of a number of tools to educate staff on cyber threats, separate personal meetings and trainings between those employees whose accounts had been compromised, and the procurement of a vendor to conduct social engineering testing to assess the effectiveness of the Hospital's staff training.**

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OCR Final Response

- **In addition, the Hospital provided OCR with a copy of its policies and procedures related to impermissible uses and disclosures, safeguards, information system activity review, response and reporting, security awareness and training, access control, audit controls and breach notification.**
- **These policies and procedures appear to be in compliance with the Privacy and Security Rules. The Hospital further provided evidence of staff HIPAA training.**
- **All matters raised by this complaint at the time it was filed have now been resolved through the voluntary compliance actions of Middlesex Hospital.**
  Therefore, OCR is closing this case!!!!

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Lessons Learned

- **Notify your Board as soon as you learn there will be a significant number of reportable breaches.**
- **Have Cyber Insurance and <u>read</u> the Policy.**
- **Review your reports to ensure they have the minimal amount of PHI in them and use patient initials whenever possible.**
- **Conduct monthly Phishing tests and continue to provide education.**
- **Confirm receipt of all responses sent to OCR.**

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Preparation for a Breach

- ✓ **Checklist**
- ❑ **Patient Notification/Credit Monitoring Service Agreement in place.**
- ❑ **Sample letters to the media, Board, and patients.**
- ❑ **Know your insurance policy and obligations.**
- ❑ **Need to tell the story of how the breach occurred, response, and mitigation efforts to investigators.**
- ❑ **Log dates/times and be able to provide report to investigators.**
- ❑ **Attorneyon standby.**
- ❑ **Work with Business Associate to obtain needed information promptly.**
- ❑ **Begin education right away across the organization.**
- ❑ **Quality and Audit Governance of Information Security Program.**
- ❑ **Current comprehensive Risk Assessment available in accordance with HIPAA.**

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MHS Sample Education

If You Have Opened a Suspicious Email:

CALL the IT Support Center <u>IMMEDIATELY</u> to report it!

Failing to report or ignoring a suspicious email, link, or attachment that you opened can have serious consequences for you, our patients, and the Health System.

The Office of Civil Rights mandates a sanctions policy that we are required to follow - not reporting could lead to disciplinary action up to and including termination.

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MHS Sample Education

If You Receive A Suspicious Email Message:

- **DO NOT: Reply to the message**
- **DO NOT: Click hyperlinks in the message**
- **DO NOT: Download any attachments in the message**
- **DO NOT: Try to determine if the message is legitimate on your own**
- **DO NOT: Ignore the message or wait to report it**

DO: Alert the IT Support Center IMMEDIATELY to report it!

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Gone Phishing

Andy Seward, CISO

Elliot Health System

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Phishing, Cyber & Compliance

- What are phishing attackers looking for?
- How can we prevent their success?
- Educating, preparing & defending.

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What are phishing attackers looking for?

Access

User Credentials

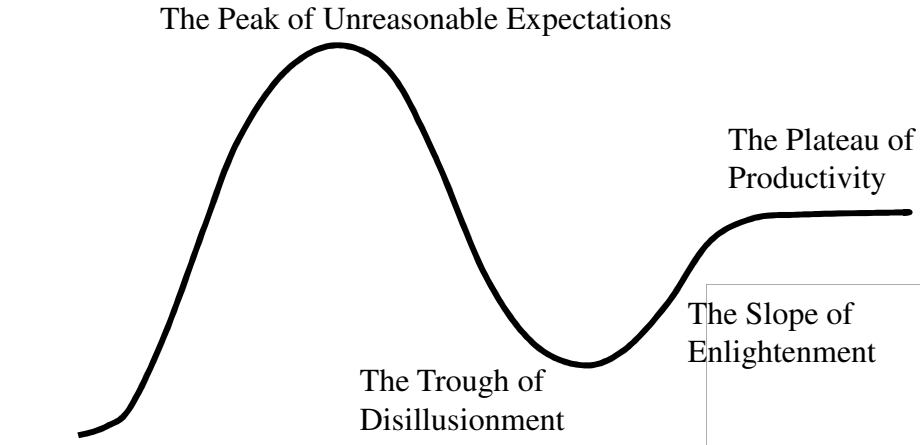
Launch Points for More Attacks

What do phishing attackers want?

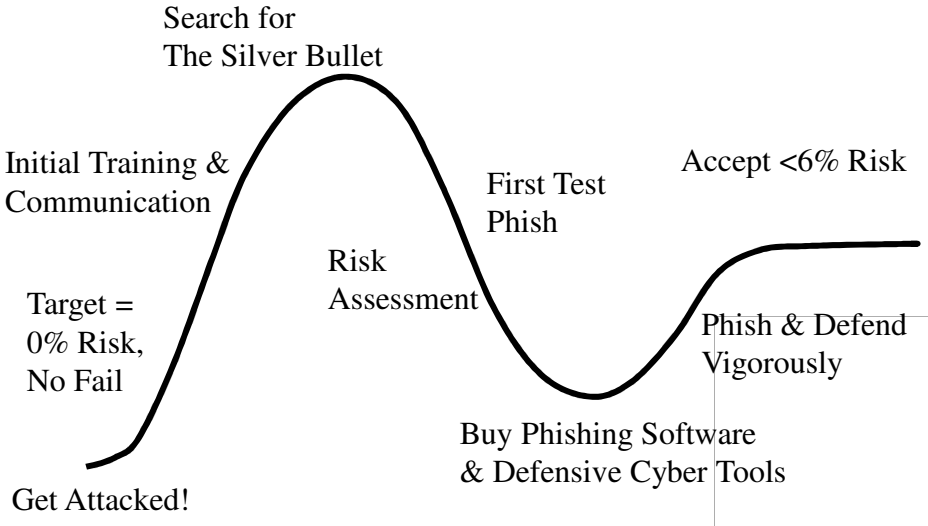
Money

Revenge

The Standard Hype Cycle



Phishing Hype Cycle



How can you prevent their success?

Defend & Shield

Improve Behaviors

Elliot Health System

How can you prevent their success?

Defend & Shield

- Build a cyber-security technical and compliance-based defensive core capability that protects employees & technologies and reduced risk.
- Hire & employ a skilled team to deliver this strategy.
- Implement cyber tools to improve ability to detect and prevent malicious/suspicious phishing threats.
- Mature & streamline incident management process to quickly contain and recover from issues.

Practical Steps for Defend & Shield

At your network perimeter:

- Firewalls: enable features that block phishes from entering your network environment (e.g. Wildfire, Sourcefire, Sandblast, Fortinet)
- Specialized email security: consider pre-screening software and URL (links) filtering (e.g. Proofpoint, Mimecast, etc.)
- O365: turn on advanced threat detection

On your network endpoint computers:

- Anti-virus software serves as your final defense (Cylance, Carbon Black, Symantec SEP v14, etc.)

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How can you prevent their success?

Improve Behaviors

- Conduct workforce training & incentivize awareness to raise awareness of phishing risks and empower better decisions.
- Standardize phishing security risk assessments, metrics & reporting to track the progress and maturity of your phishing awareness program.
- Update and communicate compliance, HR, and/or cyber security policies and procedures to set expectations for employee behaviors regarding phishing.

Practical Steps for Improve Behaviors

Gain leadership's consensus to address phishing risk

- Business case: cost of program vs. risk reduction
- "If peer organizations are phishing their employees, shouldn't we too?"

Benchmark your vulnerability:

- Phish your employees and measure the results
- Report results to leadership & build confidence

Develop program & train/test employees regularly:

- Monthly phishes
- Communicate & publicize successes
- Vary the difficulty level
- Phish the most likely targets (CEO, CFO, COO, VPs)

Preparing Your Organization

Build Incentives -- positive & negative -- with HR

Educate Your Organization

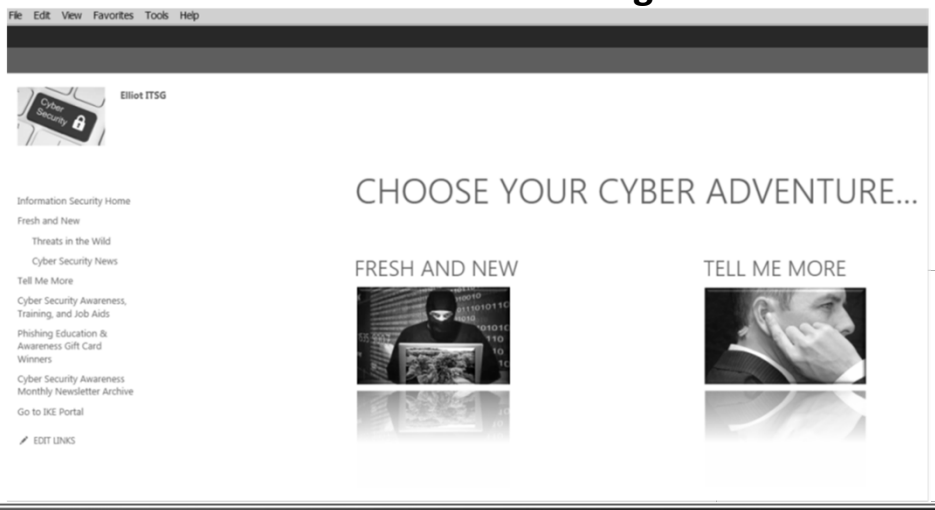
New Hire Orientation

New Hire Phishing Online Training

Elliot Health System

Educate Your Organization

Deliver “when I want it” training & info



Educate Your Organization

Cyber Security Training

Cyber Newsletter - May 2018

Cyber Security Job Aids

Cyber Security Games

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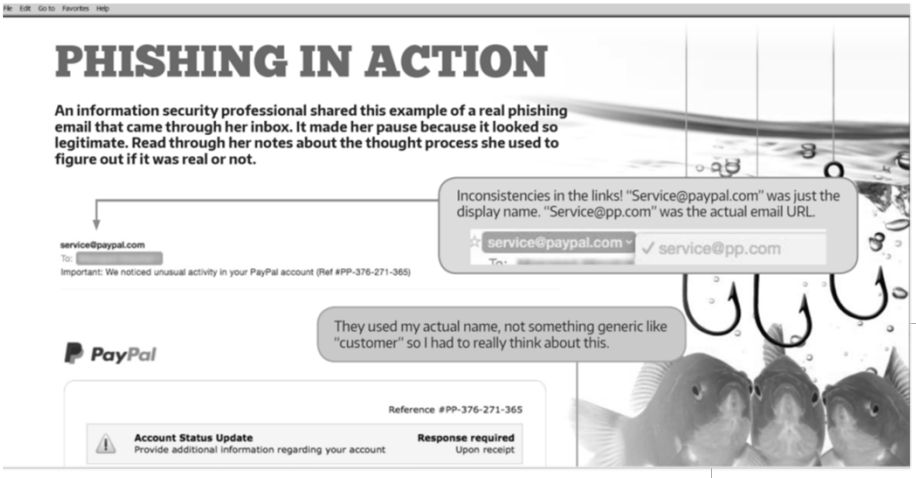
Educate Your Organization



Example "Tips & Tricks" on internal website

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Tools give quick feedback

Real Life: It Takes Time

Thank you!

Compliance + Cyber = Teammates

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Questions and Comments

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