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CYBER THREAT 2021: Your Employees are Still Your Weakest Link

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Part I – Costs of Cyber Attacks

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Costs of Breach

- IBM Ponemon Study - 2019
  - $250 Avg. (US)
  - $429 Healthcare Avg.

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Costs of Breach

- Cyentia

Records	Probability of At Least This Much Loss					
	$10K	$100K	$1M	$10M	$100M	$1B
100	82.0%	49.9%	17.8%	3.3%	0.3%	0.0%
1K	88.4%	60.9%	26.0%	5.9%	0.7%	0.0%
10K	93.0%	71.1%	35.8%	10.0%	1.4%	0.1%
100K	96.0%	79.8%	46.7%	15.8%	2.7%	0.2%
1M	97.9%	86.7%	57.7%	23.5%	5.0%	0.5%

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Nebraska Breach Statistics

Data Description	Total Records	Nebraska Records
Cost per Record (IBM Report)	$ 250.00	$ 250.00
Total Number of Breach Reports	1231	1231
Total Number of Records	5,730,377,134	2,376,143
Total Estimated Cost	$ 1,432,594,283,500.00	$ 2,925,032,033.00
Average Records per Report	4,655,059	1,930
Total Average cost per incident	$ 1,163,764,649.47	$ 482,563.57
2019 Breaches Only	578	578
Victims	118,321,349	326,933
Average Victims	204,708	566
Total Average Response Cost	$ 51,177,054.07	$ 141,407.01
2019 for Nebraska Companies	34	34
Victims	106,767	58,631
Average Victims	3,140	1,724
Total Average Response Cost	$ 785,051.47	$ 431,110.29

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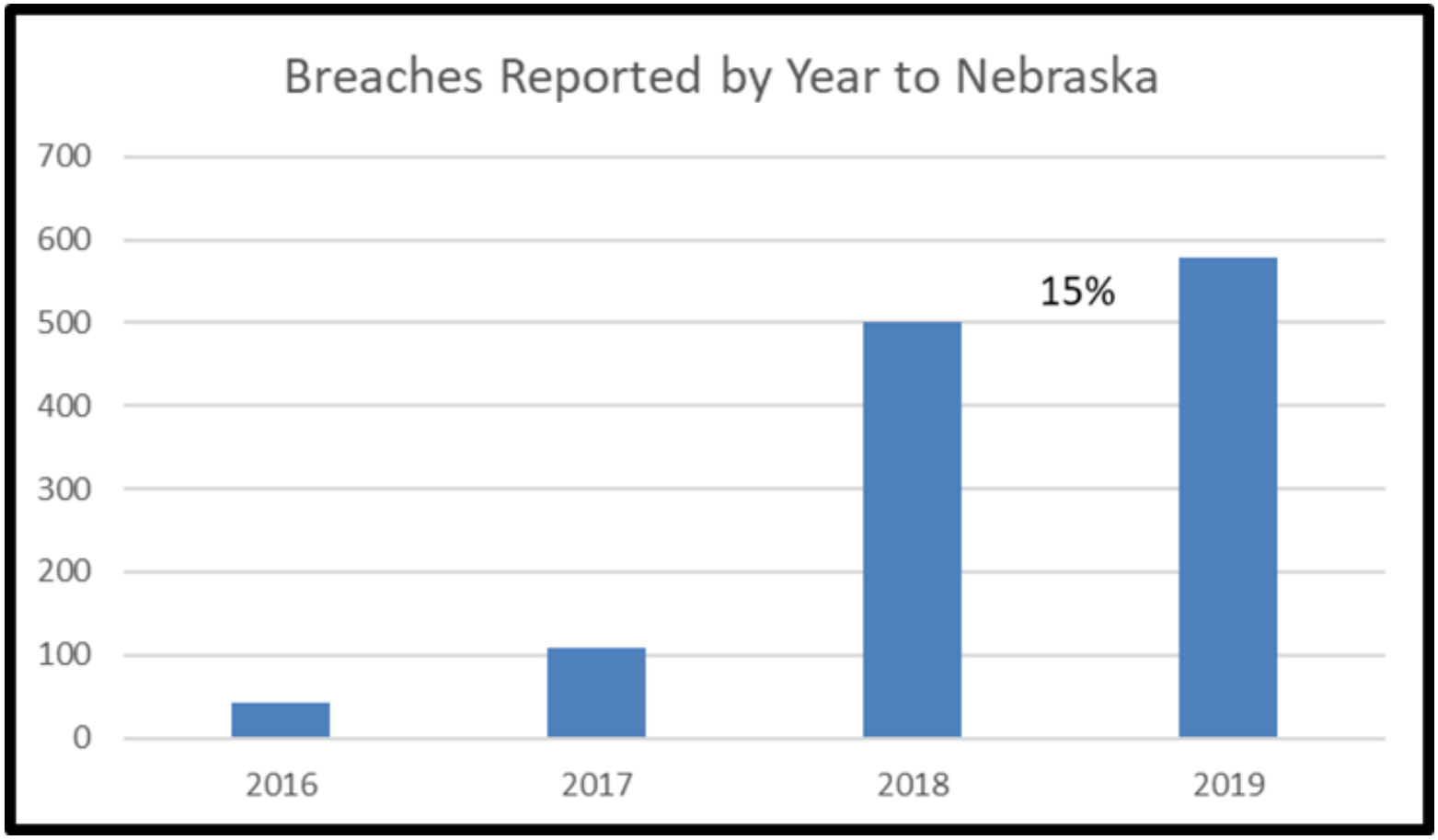
Nebraska Breach Statistics



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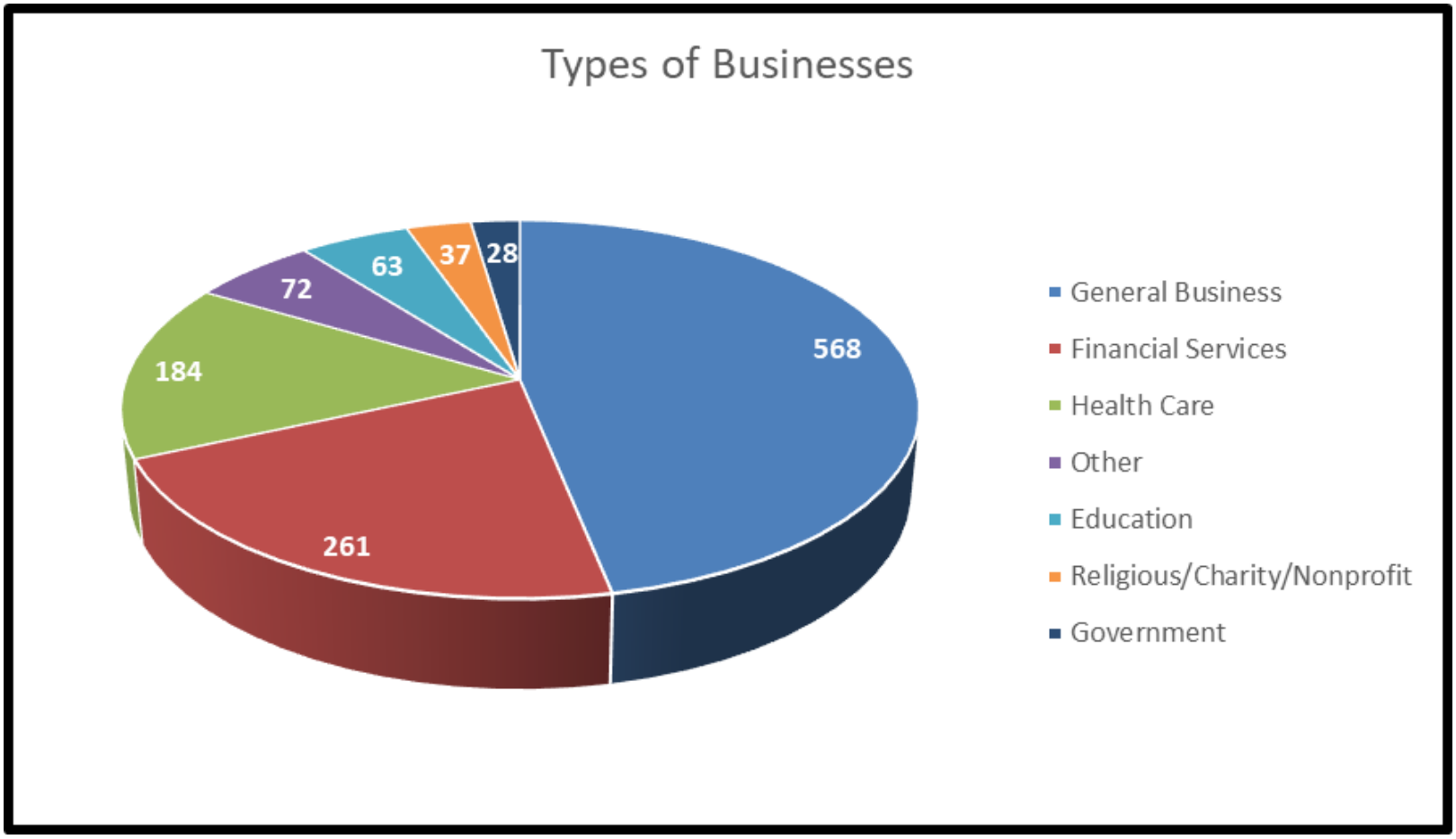
Nebraska Breach Statistics



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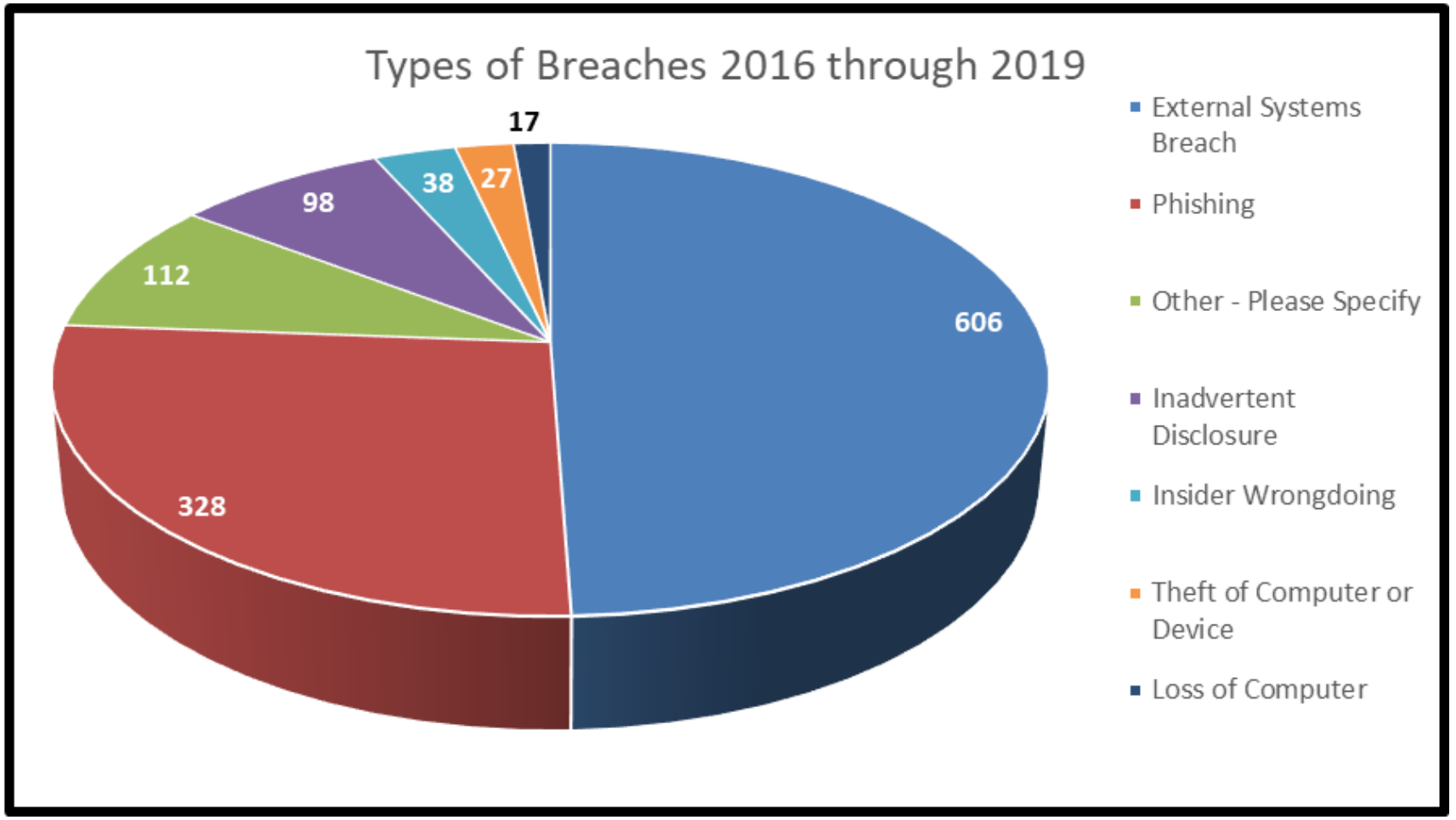
Nebraska Breach Statistics



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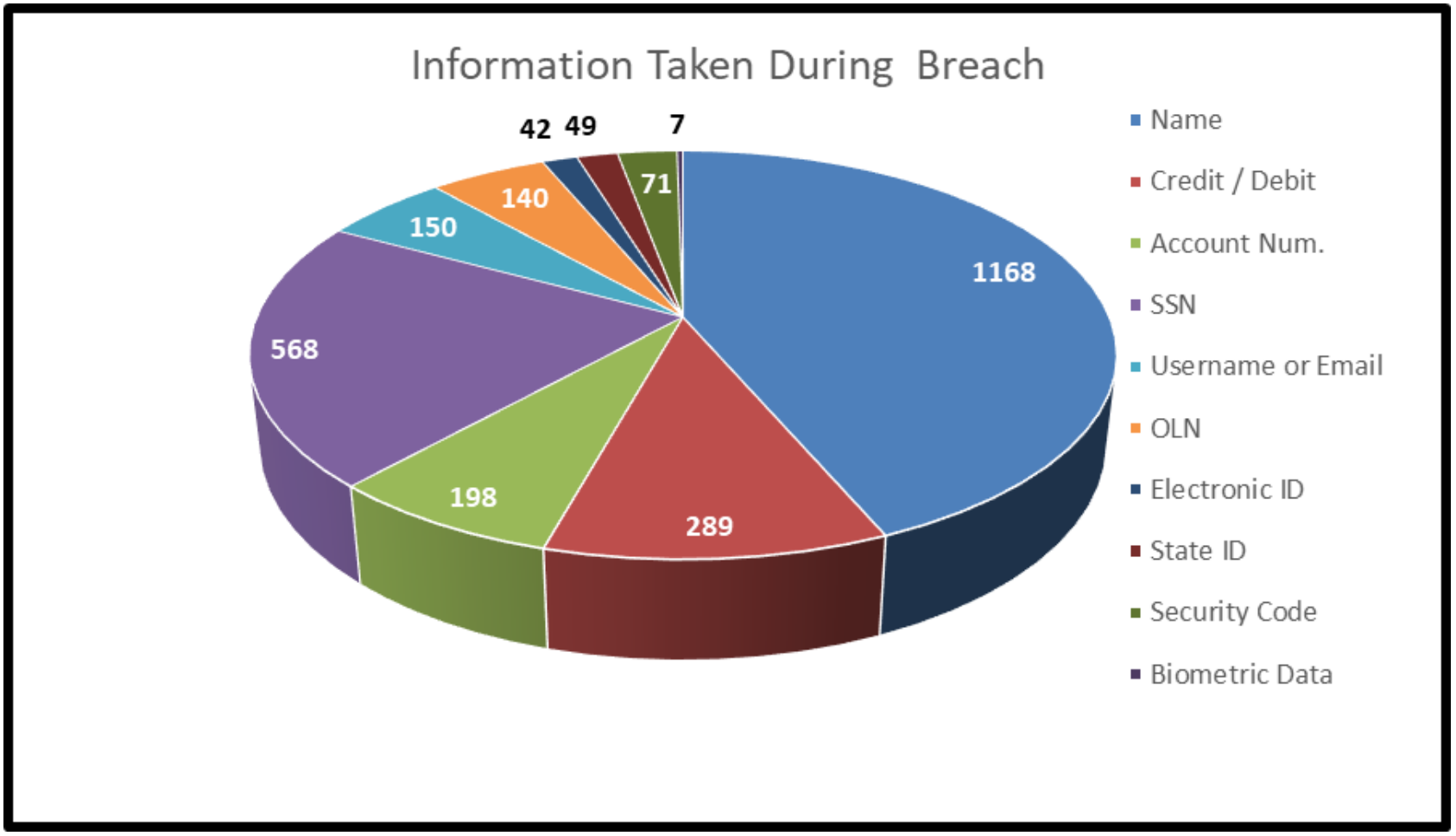
Nebraska Breach Statistics



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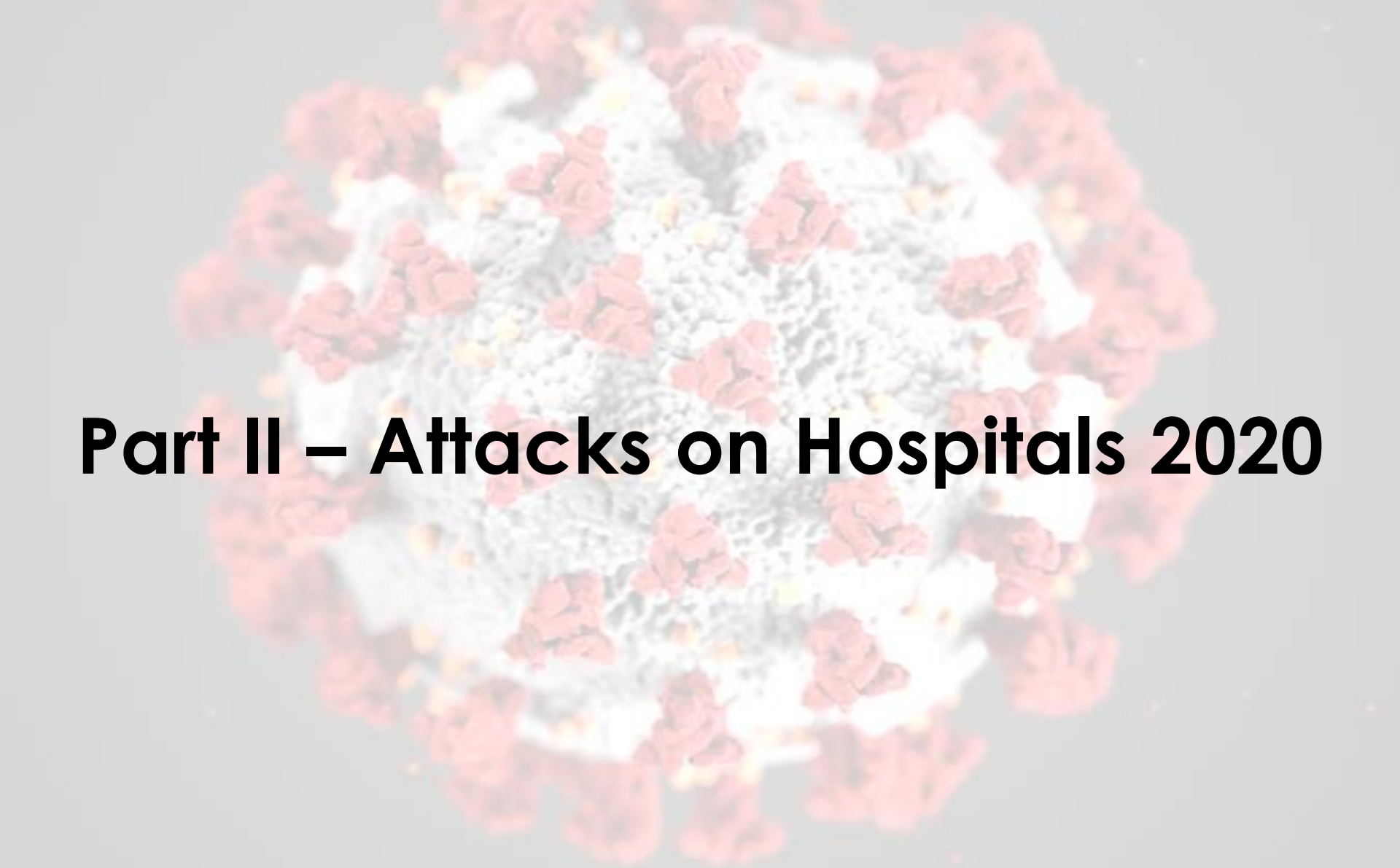

Part II – Attacks on Hospitals 2020

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Headlines

Healthcare providers that underwent cyberattacks in 2020 so far

Original release date: October 28, 2020 | Last revised: November 02, 2020

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Summary

This advisory was updated to include information on Conti, TrickBot, and BazarLoader, including new IOCs and Yara Rules for detection.

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Ransomware Attacks

- Up 148% in March 2020 alone
- Study shows that cost of recovery doubles with ransomware

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Exfiltration of Data

- Cyberattacks involving both data exfiltration and ransomware have increased 152% between Q1 and Q2 2020

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Anatomy of an Attack

- Entry to network
- Movement of tools to network
- Reconnaissance of network
- Retreat to code
- Re-entry to network and
  - Deploy
  - Deploy and destroy
  - Remove, deploy, and destroy

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Entry to Network: Mitre Attack Vectors

1. Drive-by Compromise
2. Exploit Public-facing Application
3. **External Remote Services**
4. Hardware Additions
5. **Phishing**
6. Removeable Media
7. Supply Chain
8. Trusted Relationships
9. **Valid Accounts**

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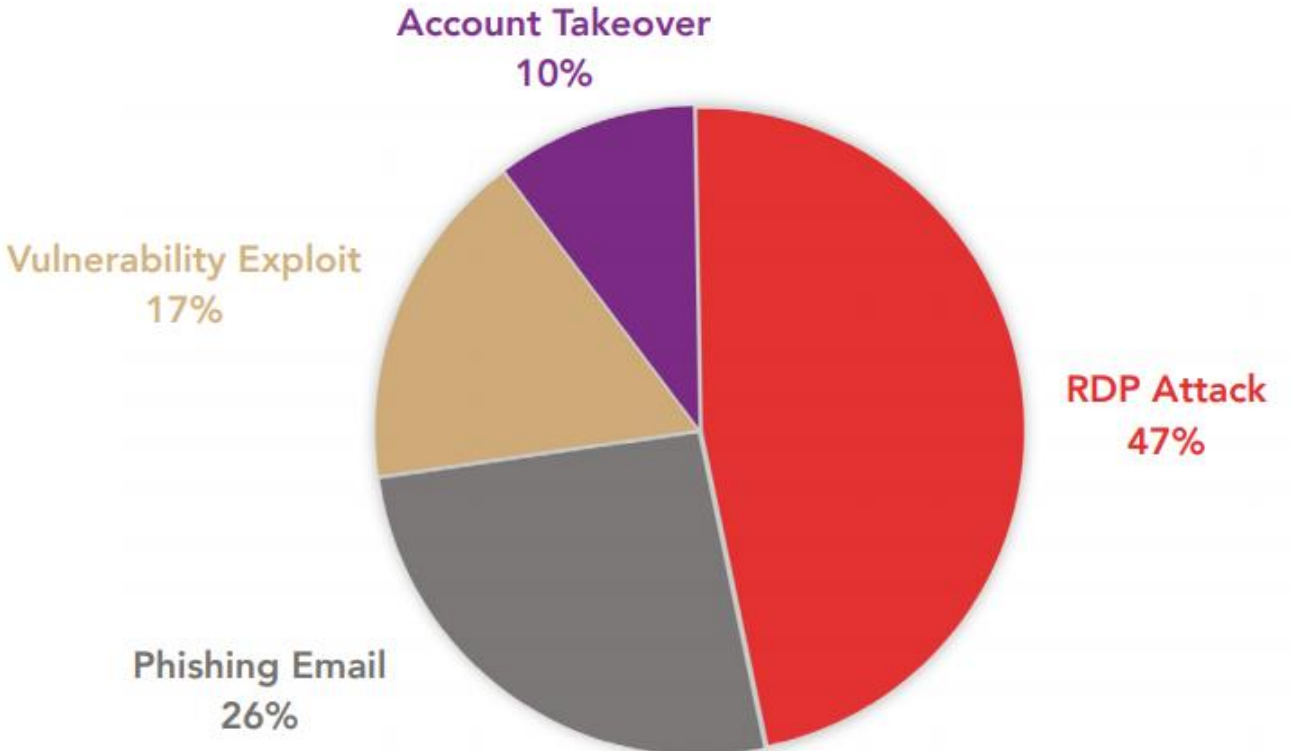
Attacks



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Variants of Ransomware

- Gain Entry:
  - TrickBot
  - BazarLoader/BazarBackdoor
  - Emotet
- Encryption deployment
  - Ryuk
  - Conti
  - REvil

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Remote Desktop Protocol

- More people working from home
- "RDP brute-force attacks grew by 400% in March and April"
- Defense:
  - Passwords
  - Strong Passwords
  - MFA
  - Update Software

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Phishing

- More people working outside of controlled or monitored environment
- Defense:
  - Training!!
  - MFA
  - Monitoring of emails \ Spam protection
  - Domain protection

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Valid Accounts

- 30 Billion usernames and passwords on Dark Web
- Defense:
  - Do not reuse passwords
  - Use harder passwords for more sensitive sites
  - Check for compromised passwords
    - Haveibeenpwned.com

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Part III – Cyber Defense Value

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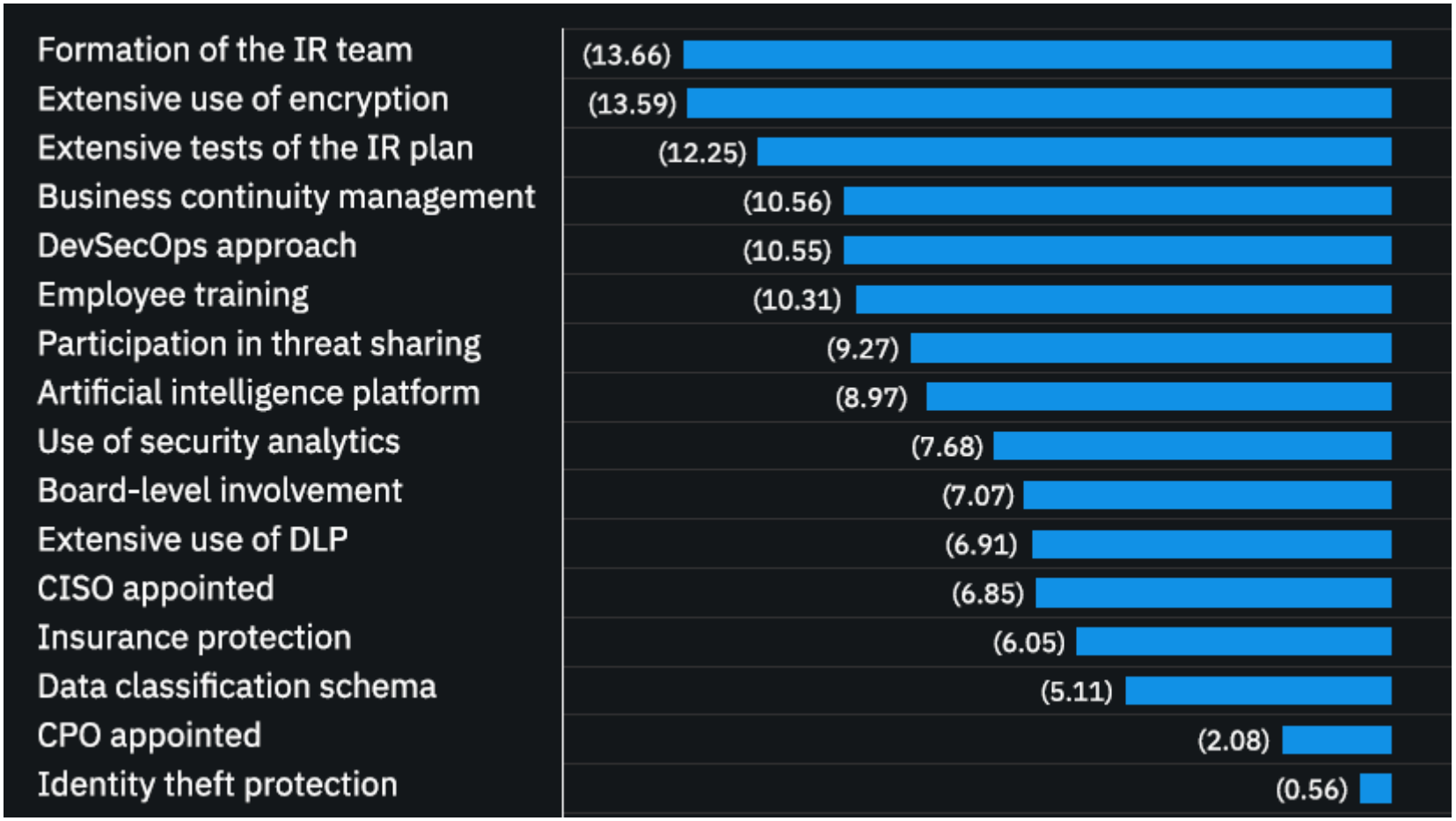
Cyber Defense: Decrease Costs



- Study by IBM and Ponemon Institute LLC

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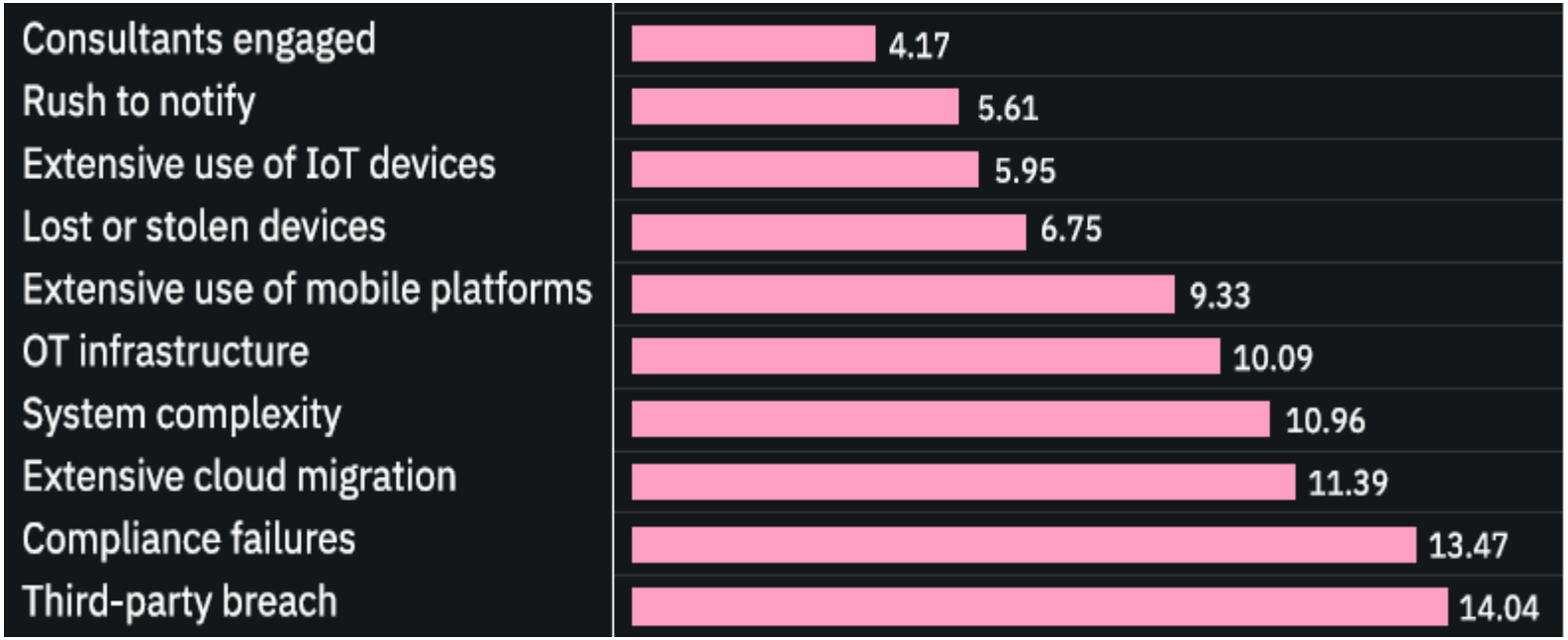
Cyber Defense: Increasing Costs



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H.R. 7898

- Signed into law – January 3, 2021
- If organization can demonstrate that
  - for prior 12 months
  - Had recognized security practices
    - NIST / CSA of 2015 / other statutory recognized
- May
  - Mitigate fines
  - Early termination of audit
  - Mitigate remedies

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Questions?

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Thank You

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