Senior Living Data Security

How to safeguard sensitive data from online attacks and third-party hacks
Yardi is committed to providing you with continually updated and monitored database security, allowing you to protect sensitive information and feel safe putting your data in our hands.
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In 2016, hacking hit mainstream. Millions of Google accounts were compromised during an ongoing malware attack, and Yahoo made headlines while disclosing not just one, but two major intrusions. That year, broad DDoS attacks took out most of the U.S. Eastern Seaboard, and the San Francisco Muni shut down completely over Thanksgiving. Since then, dozens of significant incidents have been reported, including the Equifax breach in July 2017, a years-long breach Marriott disclosed in November 2018 and numerous cyber attacks on government agencies worldwide. As a result, awareness of network vulnerability remains high, and smart companies are moving quickly to fortify defenses.

Why do hackers want health care data?

Personally identifiable information (PII), including patient data and healthcare records, present an alluring target to hackers. As stolen credit card information diminishes in value due to market saturation, the type of information stored by medical facilities has become increasingly valuable.
In the Data Breach Investigations Report for 2019, Verizon once again ranked ransomware as one of the biggest threats of the year, particularly in the healthcare sector. For the second straight year, ransomware accounted for over 70% of all malware attacks on healthcare. With the recent large-scale data breaches, it’s now more important than ever for companies to be proactive. The Experian Data Breach Resolution team asserts that all organizations, both public and private, must ensure they are using the most robust technology available to thwart attacks, including going beyond traditional cybersecurity and adding fail-safes to ensure continued operation.

Ransomware typically invades a network through spam email, a camouflaged link or a “Trojan Horse” attachment, encrypting data and locking out users. Paying the ransom releases the data and the device. Payment demands range from small sums to thousands of dollars. While in the past ransomware primarily struck individuals, the latest victims involve data-rich institutions like hospitals and government agencies.

For perpetrators, ransomware is purely a moneymaking enterprise. For healthcare providers, ransomware attacks can have catastrophic ramifications. With life-threatening risks involved, ransomware attackers expect their victims to pay up quickly. Unfortunately, every time a ransomware victim capitulates, attackers become emboldened.

Over the past few years, several high-profile ransomware attacks on health facilities made the news, including incidents at East Ohio Regional Hospital, Hollywood Presbyterian Medical Center and Kentucky’s Methodist Hospital. In mid-2019, ransomware attacks hit multiple New York-based medical groups, blocking access to EHR systems and forcing care providers to make do with pen-and-paper charts. While the team scrambled to restore services, patients were asked to provide their own medication records and medical histories.

“[Paying the ransom] has unintended consequences of funding more research and development by attackers who in turn develop more sophisticated and targeted attacks.”

- Experian

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According to the Identity Theft Resource Center (ITRC), the total number of U.S. data breaches dropped slightly in 2018, but the amount of personal records exposed jumped over 125%, from 198 million in 2017 to 447 million in 2018. The ITRC also notes that the actual total likely exceeds the reported number substantially, since only half of organizations shared their numbers for records exposed.

Of the five industry sectors the ITRC tracks, the medical/healthcare industry had the second highest percentage with 29% (363 breaches) of the overall total number of breaches.\(^5\)

Modern Healthcare, a leader in healthcare business news, research and data, claims that by 2024 everyone in the U.S. will have their healthcare data compromised if online theft keeps accelerating at the current pace.\(^6\)

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Hacking continued to rank highest in the type of attack at 39% of all breaches. Although the leading form of data breach, hacking resulted in only the third highest exposure of records at 16 million. Unauthorized access exposed the most at a staggering 404 million, followed by accidental exposure at 22 million. In the face of this ever-increasing risk, the ITRC reemphasizes the need for stringent data security from both consumers and businesses.
Vulnerabilities in senior living

Network penetration leaves data at risk

Problem: Poor network protection and preparation

Whether it is a phishing scheme or a compromised password, once a network’s security has been penetrated, all the data stored within it is at risk. Historically, organizations may have felt safe using perimeter protection like firewalls and tightening access at network entry points. Unfortunately, hackers are constantly developing new techniques, and companies can struggle to keep up. Hackers can now pass unnoticed even through the strongest perimeter protection. Once malware infects the network, it can stay dormant for months. The malicious code works slowly and invisibly, seeking out weak points and probing for vulnerabilities as it travels laterally through the network in search of databases and file servers. Once it finds something valuable, it can exfiltrate data outside the network, or encrypt files as part of a ransomware attack.

The network
“Hackers are constantly deploying attacks, and you never know where it’s going to hit,” says Jay Shobe, vice president of technology at Yardi. “It’s akin to trying to open every car in a parking lot. You’re not actually targeting anything in particular; you’re just looking for vulnerabilities.”

**Solution: A trusted cloud provider**

Within the Yardi cloud, client data resides behind multiple layers of firewalls and intrusion prevention systems. Strong password policies and SSO integration ensure that users are authenticated in real time, and role-based application security verifies users can only access data they are authorized to see. In addition, multiple encryption layers of both data at rest and data in motion guarantee that if a breach occurs, the data remains protected.

Yardi constantly backs up and replicates all data to an off-site center to ensure business continuity. Yardi partners with world-class data center providers, and exclusively hosts in tier 3 co-location spaces to establish full redundancy of all components, including power, internet connectivity and more.

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- Jay Shobe, VP of Technology at Yardi

**Things to look for when choosing a cloud provider:**

1. A completed Standard Information Gathering (SIG) questionnaire. This industry-standard questionnaire covers all areas of cyber security.

2. Relevant audit docs, including SSAE18, ISO, PCI, HIPAA.

3. Latest security tests results, including network penetration tests and application penetration tests.

4. Business continuity plans, including verification of maximum data and time loss before site is back online.

5. Guaranteed uptime for the application. Usually expressed in “nines”. Three “nines” equals a 99.9% uptime guarantee, or about 45 minutes of unscheduled downtime per month.

6. Scheduled maintenance hours. Is there a cap on maintenance that affects system availability?

7. Data center redundancy. Is your data being saved in multiple locations to provide a backup in the event the main database is compromised?
Problem: Weak security awareness

Another issue with a perimeter-only approach to data security is that access through a single entry point makes the employee the first line of defense. As a result, one poorly trained staff member can compromise an entire organization's database with just one click on a phishing email or an inadequate password. Lack of staff training and failure to prioritize security awareness means employees are often the weakest link when it comes to network security.

Solution: Security awareness training and security tests

It's not enough to simply identify the threat and create a set of security strategies. Employees need to be trained on phishing schemes and the importance of strong password protection. For example, security awareness training programs can deploy anti-phishing campaigns that send suspicious emails with links. If clicked, those links trigger a pop-up screen alerting the employee of their error and directing them to online security awareness training.

Are paper records a safety measure?

As Shobe explains, moving to electronic health records opens up the risk of a data breach. Nevertheless, the reality is that the demand for improved data accuracy, productivity and convenience will not diminish in the near future. It is important to create flexible and adaptable applications backed by powerful security protocols able to evolve as new threats emerge. Companies need to make data secure while also making sure the right people can access the right information.
Problem: No mobile device management

Due to the changing nature of the healthcare industry, mobile applications and even laptops have exponentially increased the amount of hackable entry points. Not only can physical devices be stolen and used to access the network, insecure devices mean data can be accessed over insecure Wi-Fi networks.

“Mobility is not going away,” says Shobe, “even though the ability for people to access systems from their devices adds an entirely new level of security concerns. Having the ability to really monitor endpoints – like desktops, laptops and mobile devices – is becoming increasingly important.”

Solution: Mobile device management

Mobile device management (MDM) enables system administrators to control which devices can access company assets. MDM also allows for enforcement of the company’s security protocols regarding app downloads as well as Wi-Fi and PIN policies. With MDM, company devices can be remotely wiped of all content in the event of a breach or after an employee is terminated. Even personal devices can be blacklisted or whitelisted using MDM. For employee-owned devices, MDM can be limited to company data only, leaving any personal records untouched.
**Problem: Inadequate front-end security**

Using multiple software programs from multiple vendors can heighten risk exposure, especially when sensitive data is shared across different platforms with disparate security levels. A weak password or inadequate authorization policy could allow users, or malicious parties, to access information they are not authorized to see. Switching between multiple systems creates additional layers of vulnerability, making comprehensive network security difficult to maintain.

**Solution: Front-end security administration**

The Yardi Voyager platform features a comprehensive security system that allows system administrators to apply granular settings to users and groups. System administrators use a convenient front-end administrative tool to assign resources and privileges, so users can access only relevant, authorized information and tasks. Data security tools easily create multiple levels of access (e.g., read-only, read/write) for users or groups of users.

**Voyager security layers**

1. Data sent over the internet is always encrypted.
2. Defense-in-depth security with multiple layers of protection from the network exterior to the application and database servers.
3. Real-time anti-virus and anti-malware software safeguards all Yardi servers.
4. Active Directory security ensures users only have access to their organization’s specific applications.
5. Multiple layers of database encryption ensure security of data at rest. The system authenticates any attempt to log in to the database server.
6. User-defined access allows system administrators to authorize users from within the program to access program features and reports and can define “idle” periods for session timeouts.
7. Strong password policies including password length, complexity rules and change policy can be defined by system administrators.
Conclusion: The best defense is a good offense

Data security presents a moving target. Every time an attack is thwarted or a breach is mended, the invaders evolve. As a result, one of the biggest threats to data security is complacency. It is not enough to put security protocols in place. Organizations need to be proactive. Staying informed of recent trends in data breaches is essential. As Experian explains in their report, “Organizations can’t wait until an attack happens to ensure they are protected – they need to look at the signs early on to start preparing for new types of security threats.”

Staying on top of the latest developments in database security is one of the many vital services Yardi provides to its cloud customers. With more than a decade of cloud computing experience, Yardi’s award-winning Cloud Services division manages over 5,000 clients in 12 data centers around the world. Our dedicated cloud support team focuses on delivering clients the most secure environment possible and are subject to regular rigorous security audits. By providing a deeper understanding of the solutions available for companies tasked with recording, utilizing and storing sensitive data, Yardi can help you prepare for any security challenges.
The Yardi Senior Living Suite is delivered with multiple levels of security designed to meet or exceed industry best practices and employ the latest security protocols and techniques.

Clients can operate all aspects of their senior living business feeling confident that all their data – from patient records to accounting information and other sensitive material – is protected by the most effective security measures available. Peace of mind is enhanced by guaranteed data recovery and around-the-clock monitoring of server operation, even in the event of an unexpected natural disaster, such as a hurricane, earthquake or wildfire.

Conclusions:

1. You need to implement a program of continuing education to keep staff educated on evolving security threats.

2. You need a world-class cloud provider ensuring your data is secure.
Thank you for downloading

For more information about Yardi Senior CRM or any other product from the Yardi Senior Living Suite, contact us. We're here to help!

Sales@Yardi.com

800.866.1144

Senior living thrives on Yardi

At Yardi our mission is to provide our clients with superior products and outstanding customer service, while we take care of our employees and the communities where we work and live. With that commitment, Yardi leads the industry in providing full business software solutions for real estate investment management, property management, financial accounting, asset management and ancillary services. Organizations like yours have been using our proven and mature software with confidence for decades.

Yardi Systems, Inc. 430 South Fairview Avenue, Santa Barbara, California 93117
phone: +1 800 866 1144 | email: sales@yardi.com | Yardi.com

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