



# VELOCITY HEALTHCARE DATA BREACH REPORT 2022

An analysis of healthcare data breaches  
from 2009 through 2021

JUNE 2022

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# Executive Summary

## Over 4,000 Healthcare Breaches Analyzed

In its first annual healthcare data breach report, Stern Security has critically analyzed over 4,000 data breaches since the Health and Human Services began tracking the information in 2009. Stern Security utilized data from their HealthcareBreaches.com website as well as published information from Health and Human Services to create this comprehensive report.

This report shows thought-provoking insights into healthcare breach trends over the past 12 years. It covers everything from the number of breaches attributed to ransomware to third-party (business associate) breaches. More healthcare breaches occurred in 2021 than any other year and this report illustrates the detailed analysis.



# Findings

## Number of PHI records lost nears U.S. population

The United States Department of Health and Human Services (HHS) published its first healthcare breach notification on October 21st, 2009. It must be noted that all of the breaches published by HHS contain 500 or more Protected Health Information (PHI) records lost so the data within this report fit the same criteria.

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4,441

Number of healthcare breaches from 10/21/2009 - 12/31/2021

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321,965,915

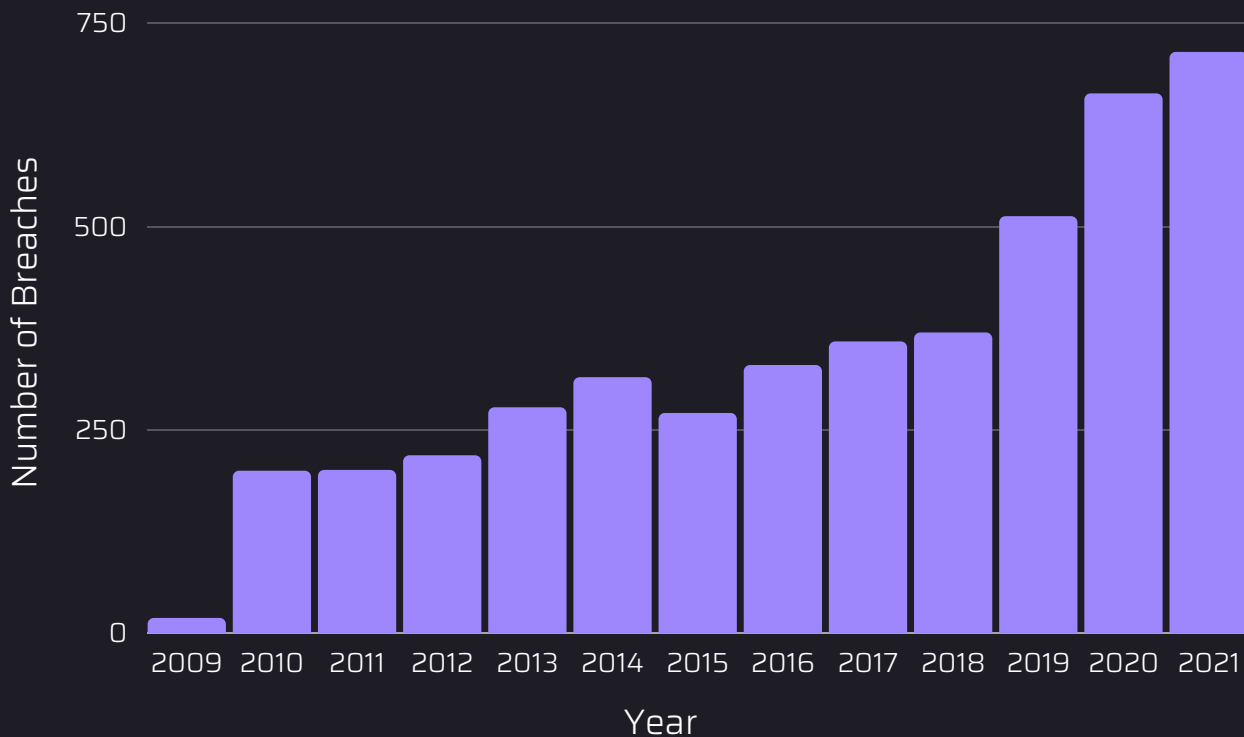
Number PHI records lost between 10/21/2009 - 12/31/2021

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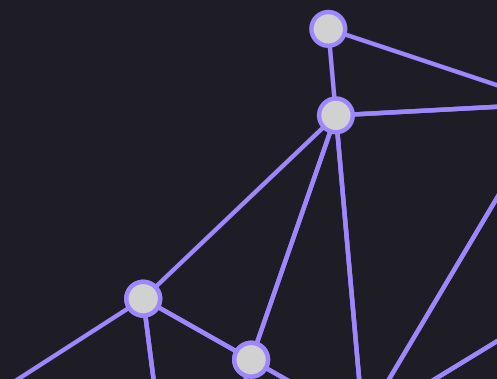
Between 10/21/2009 and 12/31/2021, there were 4,441 healthcare breaches. Those breaches caused a loss of 321,965,915 PHI records. To put this number in prospective, the entire US population is roughly 332,402,978 (United States Census Bureau, 2021). However, it is likely that some breached PHI records cross-reference to the same individuals.

Healthcare breaches continue to climb every year with an average of 46 more breaches per year. There was a 7.7% increase in breaches from 2020 to 2021. There were 714 reported healthcare breaches in 2021 making it the largest number of breaches recorded in a single year.

Number of Healthcare Breaches by Year



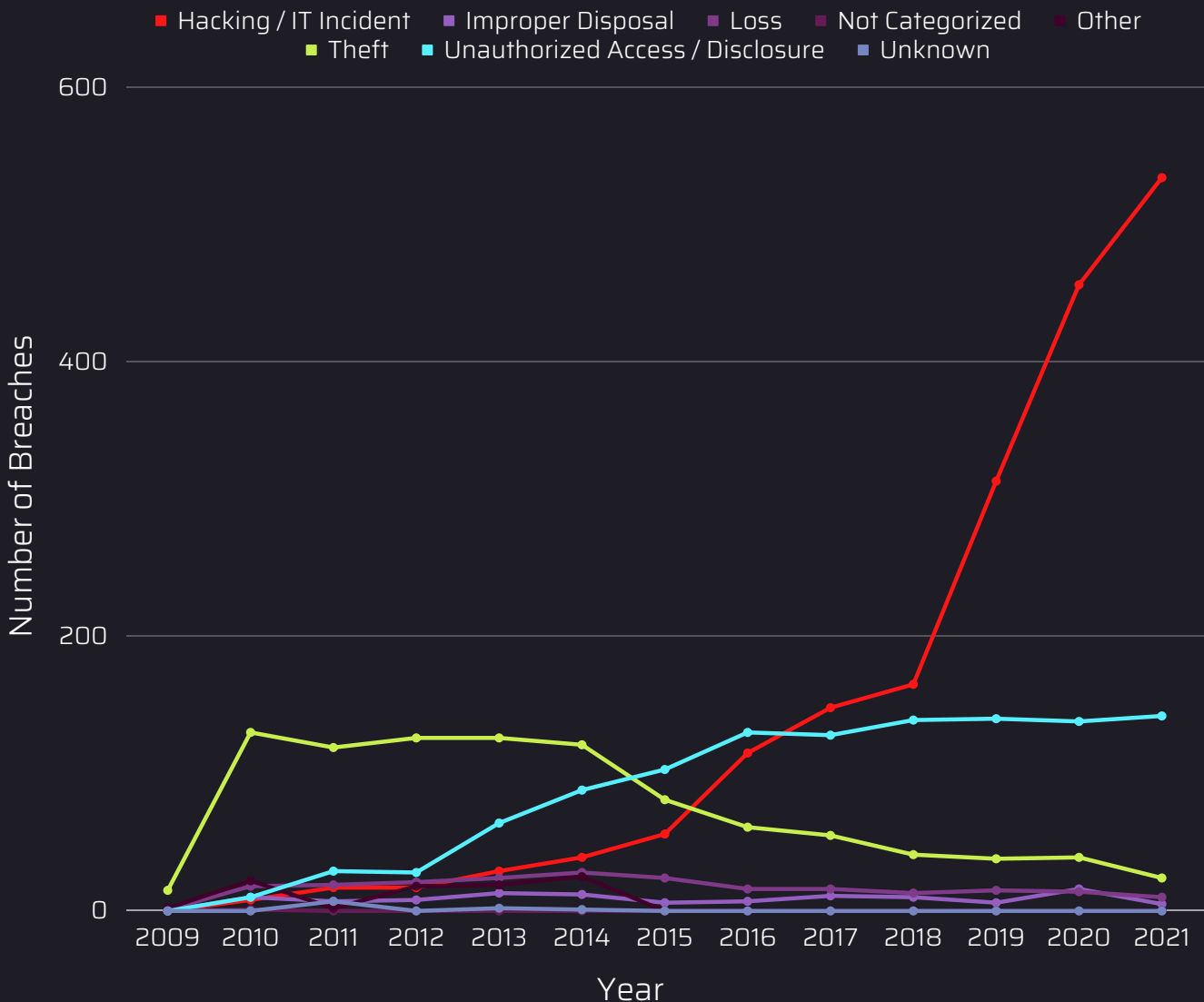
**714**  
HEALTHCARE  
BREACHES IN  
2021



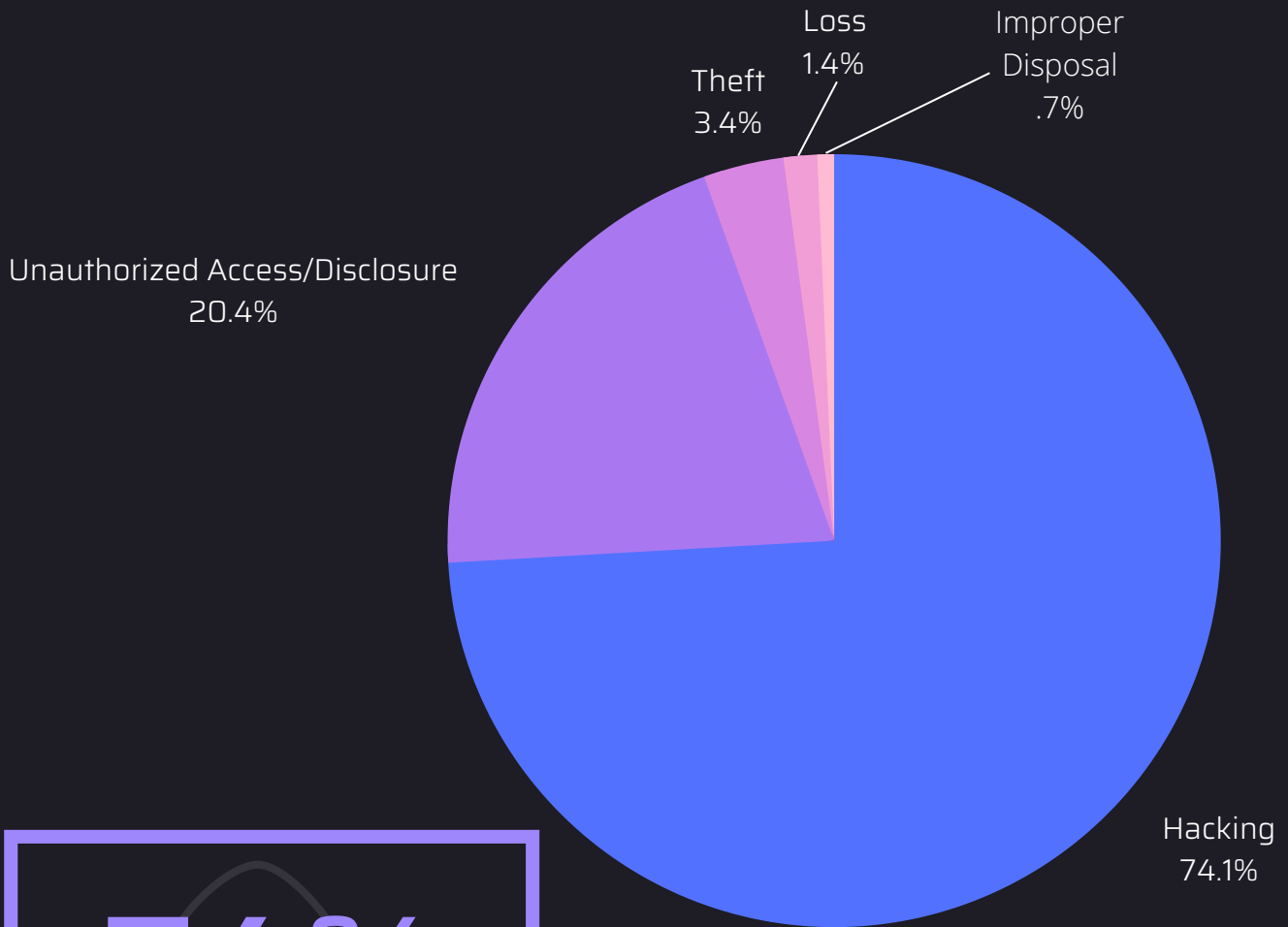


Healthcare breaches are divided into different categories depending on how the breach occurred. The primary categories are Hacking, Theft (physical), and Unauthorized Access/Disclosure. Examples of Unauthorized Access/Disclosure include patient records sent to the incorrect patient, inadvertently published PHI, and healthcare workers accessing data that they were not authorized to do so. While there are multiple sources of data breach, the high breach trend is mostly due to hacking which is clearly visible in the graphs.

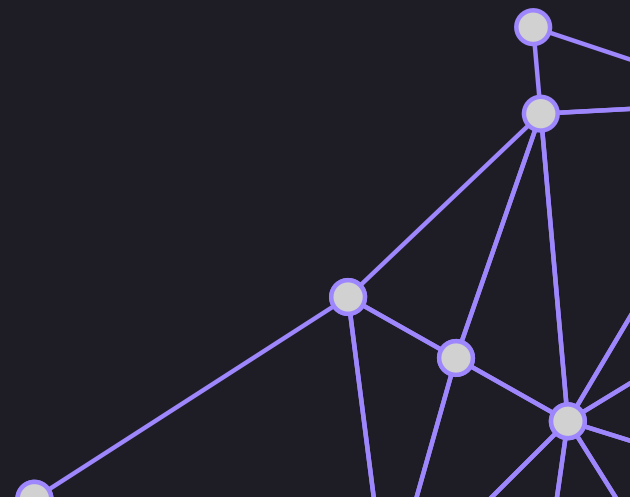
### Healthcare Breaches by Type



At 529 (out of the total 714) breaches, 74% of healthcare breaches in 2021 were due to hacking. The number of breaches due to "Unauthorized Access/Disclosure" came in at a distant second place, but still had a visible impact on breach counts.

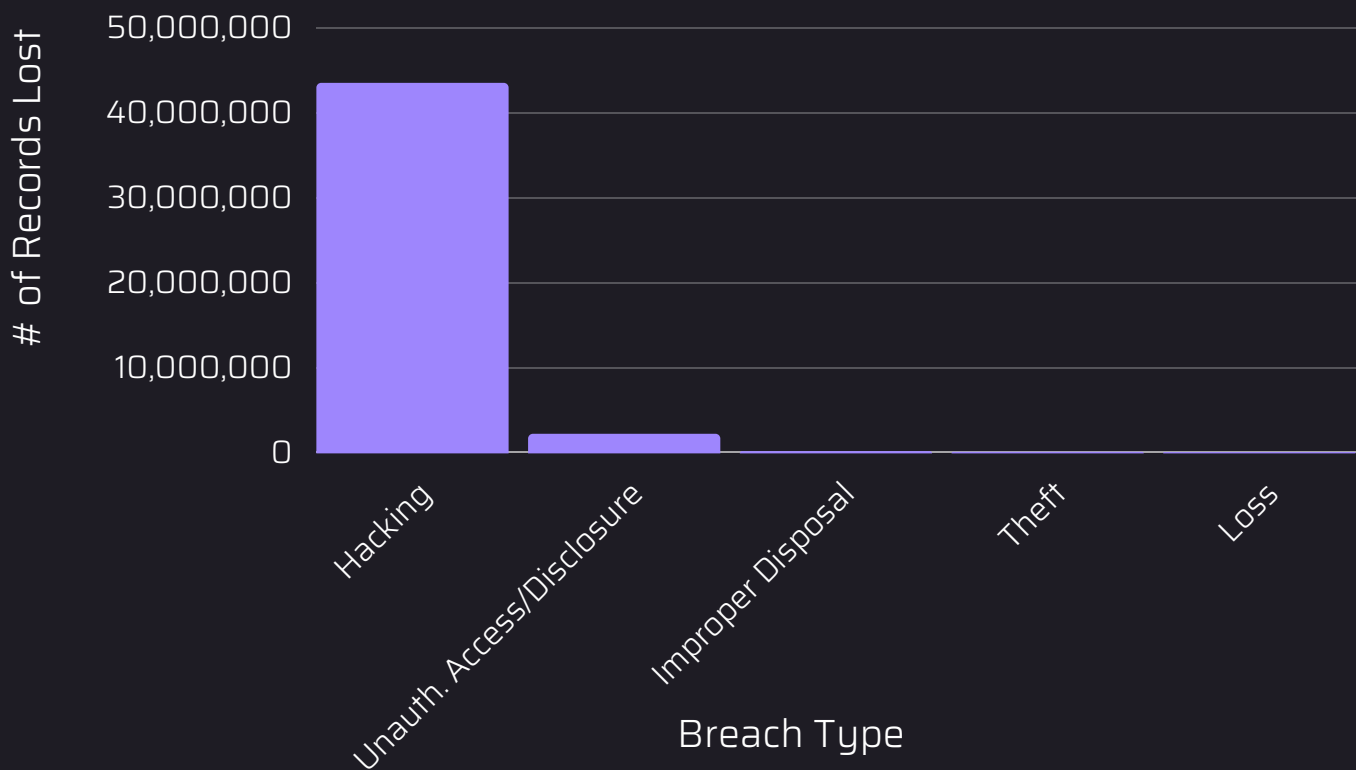


**74%**  
BREACHES  
DUE TO  
HACKING

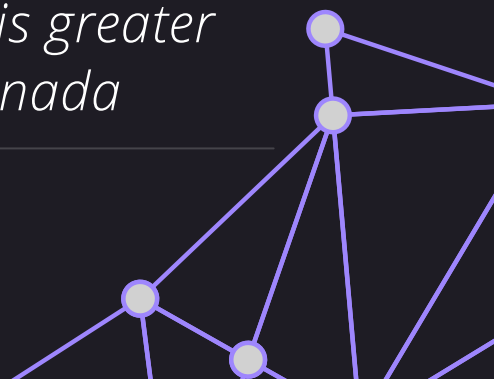


Not surprisingly, most of the PHI lost in 2021 was due to hacking. During the year, 43,482,244 PHI records were lost due to hacking alone. To put this in perspective, there were more PHI records lost due to hacking than the entire 2021 population of Canada which was 38,067,903 (CIA, 2022).

Number of Protected Health Records Lost in 2021 by Breach Type



*The number of Protected Health Information records lost in 2021 due to hacking is greater than the entire population of Canada*

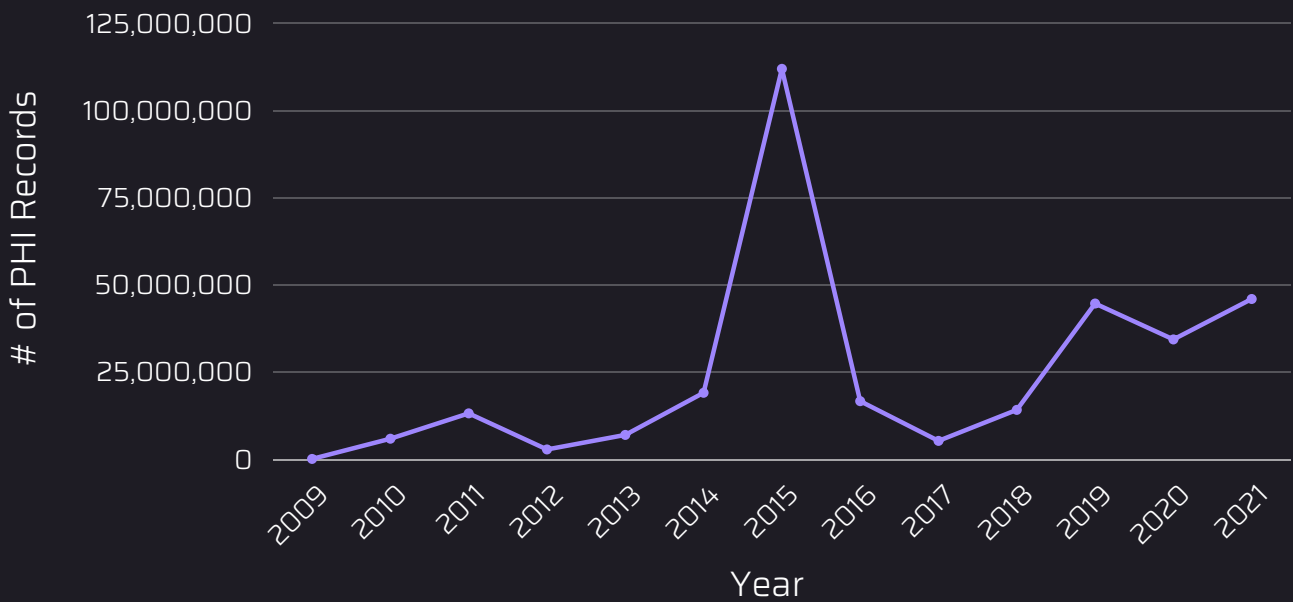






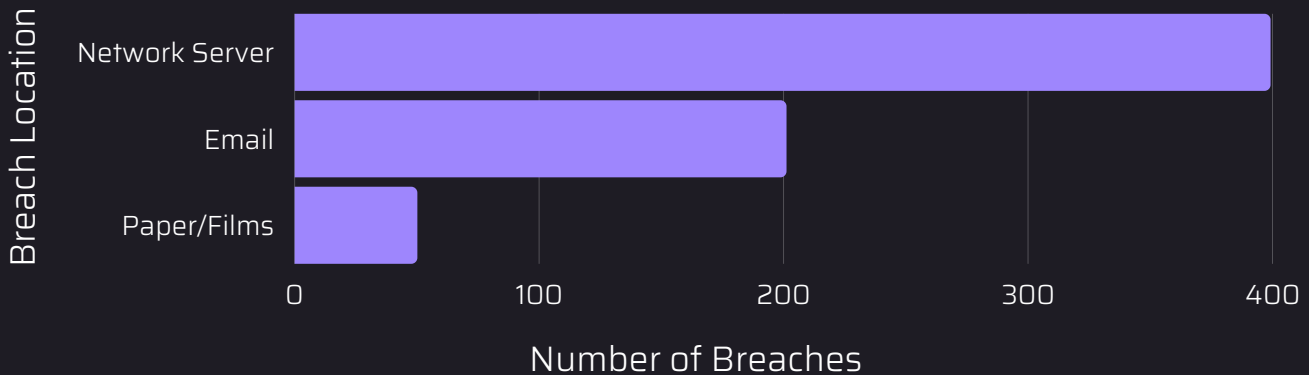
With the exception of a few very large data breaches in 2015, the number of Protected Health Information (PHI) records lost has generally increased over the years.

Number of PHI Records Lost over the Years

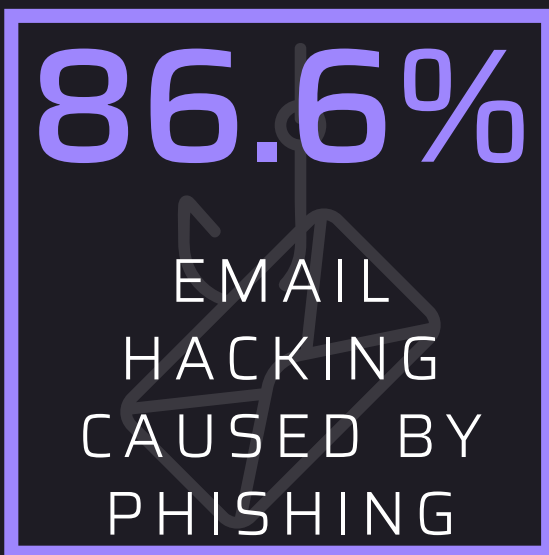


The Department of Health and Human Services (HHS) tracks the type of system that the breach occurred. The top three sources included Network Server, Email, and Paper/Films.

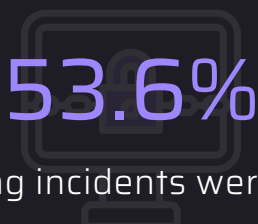
Top 3 Breached Systems in 2021



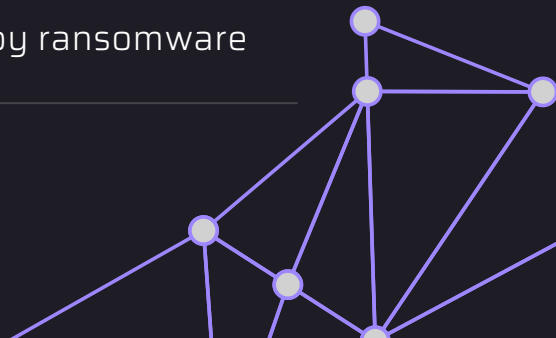
Some of the publicly known healthcare breaches have descriptions of the incident which enable us to understand additional insights into how breaches occur. Phishing has clearly had an impact on healthcare breaches as 86.6% of email hacking incidents from 2017 through 2021 that contained descriptions, involved phishing. The email hacking incidents in 2021 that contained descriptions all involved phishing. Many of the email breaches that were not related to hacking involved employees inadvertently sending PHI to the incorrect recipients via email.



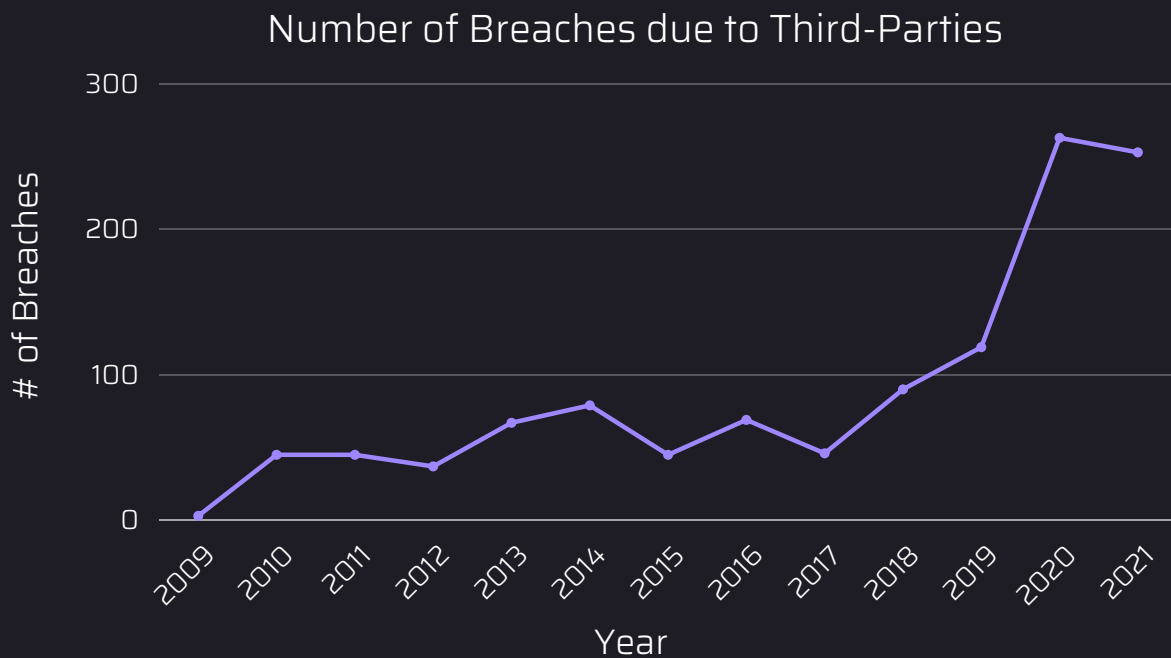
Ransomware has also had a large impact on the healthcare industry. In 2021, 53.6% of the non-email related hacking incidents with descriptions were due to ransomware.



Non-email related hacking incidents were caused by ransomware



Third-parties, referred to as “Business Associates” in healthcare, have had a significant impact on breaches. In 2021, while third-parties were responsible for 35.4% of the healthcare breaches, they were responsible for 50% of the records lost. Healthcare breaches due to third-parties are on an exponential growth pattern, with an average growth rate of 25.3% per year.

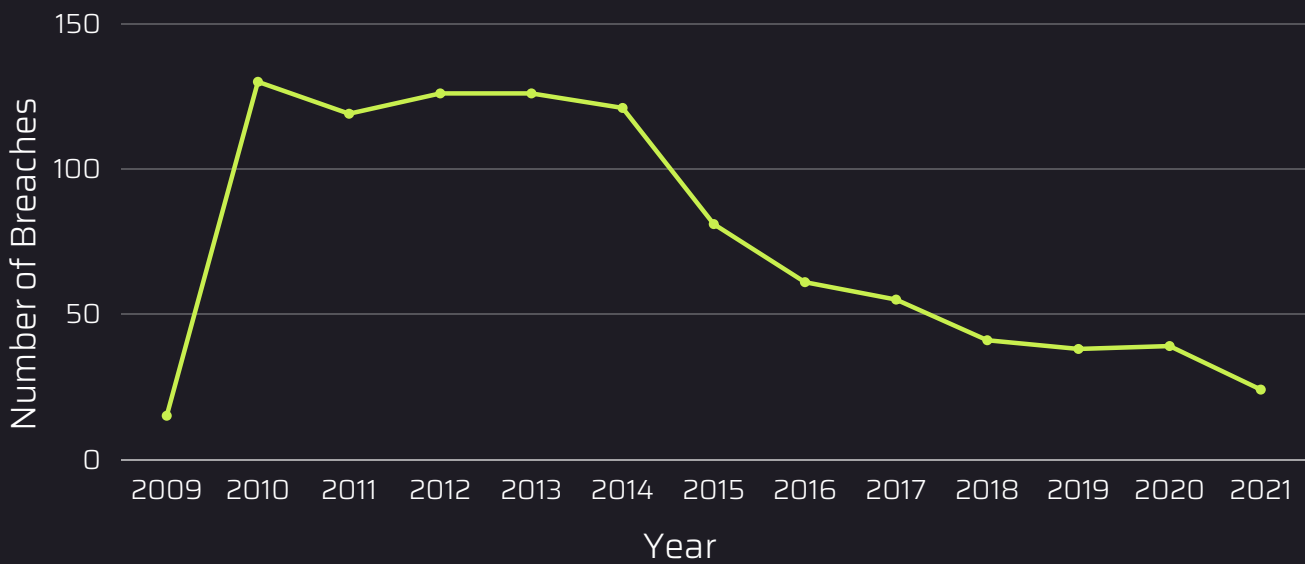


49.8%

PHI breached due to 3rd parties in 2021

There is good news - Breaches due to physical theft have been on a steady decline. Examples of healthcare breaches due to theft include stolen laptops and filing cabinets that contain PHI. This decline could be because of an increased use of full disk encryption on devices combined with less use of paper records.

Number of Healthcare Breaches due to Theft



## Good Breach News?

Healthcare Breaches due to theft have been on a steady decline.



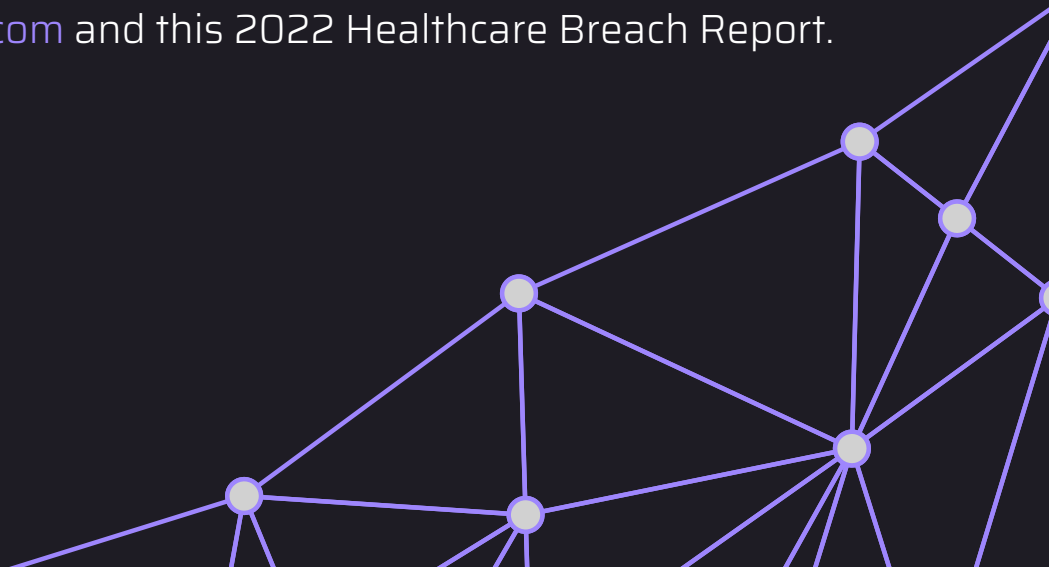
# Outlook

The trends point to a continued increase in the rate of healthcare breaches each year with hacking leading the surge. Ransomware and phishing have had a large impact on healthcare breaches. Breaches due to third-parties (business associates), continue to increase at an alarming rate and show no signs of slowing down. The number of PHI records lost will surpass the United States population in 2022.

On a positive note, we have seen some trends go in the right direction such as the steady drop in the number of breaches due to theft over the years. One could hope that we can learn from these incidents, secure this incredibly sensitive PHI and flatten the breach curve.

# Resources

Health and Human Services (HHS) publicly posts a list of breaches of Protected Health Information (PHI) affecting 500 or more individuals per section 13402(3)(4) of the HITECH Act. Stern Security utilized the information posted by HHS to create both [HealthcareBreaches.com](https://www.healthcarebreaches.com) and this 2022 Healthcare Breach Report.





# Company

Stern Security is a leading cybersecurity company and the creator of the [HealthcareBreaches.com](https://www.healthcarebreaches.com) Executive Dashboard.

Stern Security developed [Velocity \(https://www.velocitysec.com\)](https://www.velocitysec.com), the innovative internal and third-party risk assessment platform that prioritizes risk accuracy and effectiveness of results. Try Velocity for free today.

Stern Security's services division conducts comprehensive [penetration testing](#), threat emulation, and Virtual CISO (Chief Information Security Officer) engagements. "Secure the Planet" is Stern Security's motto and we believe that everyone can play a role.


# Contact Information

If you appreciated the report and would like to hear more about our products and services (or just want to say thank you), please contact us!


Contact form: <https://www.sternsecurity.com/contact/>

 LinkedIn: <https://www.linkedin.com/company/sternsecurity>

 Twitter: [https://twitter.com/stern\\_security](https://twitter.com/stern_security)

 Instagram: <https://www.instagram.com/sternsec/>

 Vimeo: <https://vimeo.com/sternsecurity>

 Facebook: <https://www.facebook.com/sternsec>

Velocity Internal and Third-Party Risk Platform:  
<https://www.velocitysec.com/>



# Works Cited

CIA. (2022, June 15). Explore All Countries - Canada. Retrieved from CIA.gov: <https://www.cia.gov/the-world-factbook/countries/canada/>

U.S. Department of Health & Human Services. (2022, March 30). U.S. Department of Health and Human Services Office for Civil Rights. Retrieved from Breach Portal: Notice to the Secretary of HHS Breach of Unsecured Protected Health Information : [https://ocrportal.hhs.gov/ocr/breach/breach\\_report.jsf](https://ocrportal.hhs.gov/ocr/breach/breach_report.jsf)

United States Census Bureau. (2021, July 1). QuickFacts New York. Retrieved from United States Census Bureau: <https://www.census.gov/quickfacts/NY>

United States Census Bureau. (2021, December 31). U.S. and World Population Clock. Retrieved from United States Census Bureau: <https://www.census.gov/popclock/>

