

The Fax and the Furious...

The Prescription for Modern
Healthcare Data Exchange

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Agenda

What to look out for...

- ▶ >Whoami
- ▶ Background
- ▶ Legacy of Fax Machines
- ▶ Security Pitfalls of Fax Machines
- ▶ Barriers to Care
- ▶ Digital Transformation
- ▶ Electronic Health Records (EHRs)
- ▶ Secure Messaging & Advent of Telemedicine
- ▶ The HIE Highway
- ▶ FHIR Up Innovation
- ▶ From Fax to Future
- ▶ Conclusion

>WHOAMI

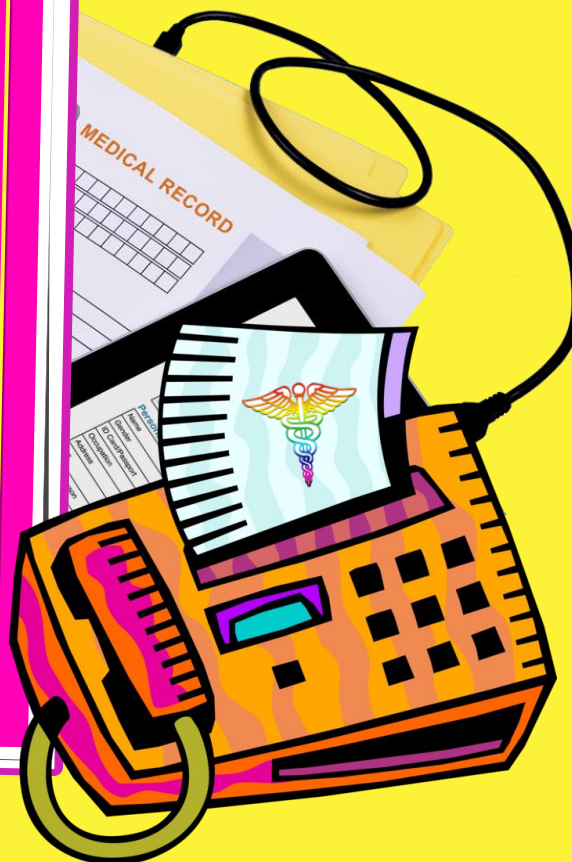
- ▶ Technology Professional, >15 years
- ▶ Sr. Product Manager @ Microsoft
- ▶ New Yorker / Nuyorican
- ▶ Mom
- ▶ Star Trek Fan
- ▶ Had brain surgery in 2016;
radiation in 2022
- ▶ I don't drive ㄟ(ˉ▽ˉ)ㄟ





The Fax

And the Furious



Why We're Shifting Lanes

Getting under the hood, to understand our mission...

WTF IS A FAX AND WHY TF DOES IT MATTER



- ▶ Unpacking the Fax Phenomenon
 - The genesis of rapid data exchange; still a critical tool in healthcare operations
- ▶ Why are we at a crossroads?
 - Antiquated technology and suboptimal medical care
- ▶ What's our north star?
 - A secure healthcare ecosystem, ensuring patient confidentiality and care delivery



HISTORICAL ACCELERATION



The first fax machine, or facsimile machine, **was invented in 1843** by Alexander Bain



Commercial Success in 1960s: **By 1970s, the fax entered healthcare**, marking a new era in medical communication



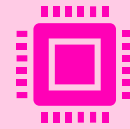
Fax was the **Lifeline of Healthcare Communication**, for Quick, Reliable Patient Information Sharing





Endurance Race

Understanding Fax's Tenacity in Healthcare



Established as a standard due to its widespread availability and simplicity



Continues as a legacy system due to entrenched habits and resistance to change



Fax machines are deemed compliant with HIPAA and other privacy laws

High-Speed Hazards: Pitfalls of Faxes in Healthcare

Security Spinout: Losing Control in the Fast Lane

- ▶ Lack of encryption and secure authentication
- ▶ Risks of physical document theft in communal areas
- ▶ Misdialed numbers and machine errors can cause serious information mishaps
- ▶ Delays in fax communication can lead to slower patient care and treatment
- ▶ Dependence on fax machines may exclude or inconvenience patients without easy access to fax technology



Speed Traps and Security Gaps



Roadblocks to Healthcare

Fax in the Rearview

- ▶ Equipment and Operational Constraints
 - Faxes require specific hardware that may not be readily available to all patients or providers, particularly in remote or underserved areas
- ▶ Challenge for patients without fax access
 - Delays in obtaining necessary medical information can affect treatment timelines



Outrunning the Outdated

- ▶ Fax technology not immune to Common Vulnerabilities and Exposures (CVEs)
 - Discovered by Check Point researchers, Faxploit exploits weaknesses in the communication protocol used by fax machines
 - Through compromised phone lines, attackers can send maliciously crafted images which, when processed by a fax machine, allow them to infiltrate connected networks



Risky rides, Safe Shifts



Digital Overdrive & Next Gear
Necessity – Shifting Up to Safer
Healthcare Communication Lanes



The Need for Digital Overhaul

- ▶ Digital platforms offer **robust security protocols**, including multi-factor authentication and end-to-end encryption
- ▶ Automated digital workflows minimize human error and **enhance data integrity and traceability**
- ▶ Facilitate **real-time data exchange**, equipped with **advanced threat detection and response mechanisms**
- ▶ Support **scalable security measures**, adapting to evolving cyber threats and regulatory requirements





A Turbocharged Upgrade for Healthcare Data Protection

- ▶ Transitioning from traditional faxing to secure electronic methods is crucial for modernizing healthcare data exchange:
 - **Secure messaging** platforms offer encrypted communication channels for sharing sensitive patient information
 - Integrating **Electronic Health Records (EHR)** with secure communication systems streamlines data exchange and enhances interoperability
 - **Health Information Exchange (HIE)** Messaging platforms facilitate secure and standardized exchange of patient health information among healthcare entities



Thank You



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