patientory

THE FUTURE OF HEALTHCARE SECURITY

"Blockchain technology promises to help the healthcare industry overcome these challenges.

Recent ransomware cyber-attacks have exposed a vulnerable global healthcare IT infrastructure. Personal health information is now at risk. Unfortunately, legacy systems administrate personal health info across siloed database networks. Fragmented electronic health records (EHRs) create cumbersome access points and data exchanges are vulnerable to cyber-attacks.

We've heard that blockchain is the next big thing. But what exactly is blockchain ?

Blockchains are ledgers (like Excel spreadsheets), but they accept inputs from lots of different parties. The ledger can only be changed when there is a consensus (aka verification) among the group. That makes them decentralised and more secure, and it means there's no need for a central authority to approve transactions. Read this to get a better understanding of the blockchain technology.

Blockchain is the underlying technology for Bitcoin. But how does blockchain actually apply to healthcare?

Blockchain technology has many applications in healthcare. I will elaborate on how it is being used in health record management.

There are 3 main types of blockchains, mainly public, private and permissioned.

	Public (eg. Bitcoin)	Private	Consortium / Permissioned (eg. EHRs)
Network type	Decentralized	Partially decentralized	Partially decentralized hybrid between public and private blockchains
What is it ?	Anyone anywhere in the world can read and write on the network. Data is validated by every participant ("node") in the network, thus making it very secure.	Permissions to read and write data onto the Blockchain are controlled by a single "highly trusted" organisation - the owner of the blockchain.	Permissions to verify, read and write on the blockchain controlled by a few predetermined nodes. The choice of predetermined nodes can be different for every entity on the blockchain.
Benefits	Secure as the entire network verifies transactions Transparent as all transactions are made public with individual anonymity	Efficient as verification is done by just owner of the blockchain. Private as the owner can control who has access to read or write on the blockchain	Efficient as relatively lesser nodes verify transactions Private as read and write access can be controlled by the predetermined nodes No consolidation of controlling power
Challenges	Inefficient as all nodes need to verify the transaction	Controlling power is consolidated to a single organization Difficult to align many organizations to use the same blockchain	

Since permissioned blockchains offer privacy, efficiency and security without any consolidation of power to any one organization, this category is picking up pace in its applications across a variety of industries, including healthcare.

My company, Patientory, uses this permissioned blockchain infrastructure to provide a safe space for health data storage and exchange. Patientory combines the blockchain technology with with sophisticated APIs to make EHR interoperability and data storage quick, easy and secure.

> *Blockchain will play an increasingly significant role in healthcare IT and bring beneficial disruption and new efficiencies to every stakeholder in the ecosystem. It is important for healthcare organizations to understand the core of blockchain to ensure they are ready for the changes the technology entails.*

Ever since EHR's have been mandated, they've known to improve patient documentation, however, they came at the cost of increased risk of increased complexity of care coordination and data breaches with fines.

The real question is, despite all of this, how do we improve patient outcomes?

A doctor once shared his plight with Patientory. He said, 'I'm sure like most doctors, I got into medicine because I wanted to help people and make a real difference to their lives. Like many however, I feel like I'm pushed to do more and more with my time, and the quality of my consultations and the general care I can provide to patients is falling. Not only are my consultations shorter than ever before, but the requirement to document every visit is placing a real strain on my quality of service.' "

"On prodding further, he plead, 'It's rare for my patients to come to me in isolation, and often I will have to deal with a number of different service providers to try and provide a degree of holistic care to the patient. As you can imagine, this requires a whole lot of data sharing to ensure we all operate from the same play book, but that in itself is far from straightforward. What's more, when you rely on timely access to patient data to make the best decisions and diagnoses, it's crazy to have to phone up your peers to ask them to fax the documents over to you. I feel like I am failing my patients.' "

A recent survey mentioned that back in 2012, patient privacy concerns were barely on the radar of physician respondents (77%). However, since then, protecting data has become a concern in nearly every sector of society. In 2016, only 8% of physicians believed that there was no threat to patient privacy. When asked about specific threats, over half of physicians cited hacking and misusing information (60%) and unauthorized access and loss of information through malfunction (both 57%).

A number of health experts say that having patients review their data during encounters can help them become more engaged in their treatment and more likely to be proactive toward their own health. Today, more than a third of the patients do not even look at their physician inputs on the EMR real-time.1

Patientory allows different EHR systems to communicate seamlessly and in real-time, all ensuring patient privacy to be a 100% secure. Physicians can now get a holistic view of their patients health and provide the timely and collaborative care that their patients deserve. Patientory also allows patients to add their own inputs and empowers them to control who can access their medical records. All of this is made 100% secure using the proven cybersecurity blockchain technology that splits up, distributes and encrypts data across a large network, making data breaches next to impossible.

A recent survey by the American College of Healthcare Executives says that one of the top 3 biggest concerns for hospital CEOs today are related to patient quality and safety, especially issues like engaging physicians to improve the culture of quality/safety and engaging physicians to reduce clinically unnecessary tests and procedures.

“A part of the reason why this happens is that providers have not been equipped with the right IT to enable this,” says Patientory CEO Chrissa McFarlane. “EHR vendors today use proprietary technology to create their software, and programs from different vendors that don’t talk to each other. This results in discoordinated care and causes doctors to issue unnecessary tests.”

A Govt. mandate requires EHRs speak to each other. “This can be challenging, especially in light of HIPAA compliance, patients not wanting to share their personal information, and recent data security issues,” says Rebecca Altman, managing director and leader of the Population Health Strategy practice at Berkeley Research Group.

80 percent of providers in 2016 admitted that their organization had experienced a recent significant security incident.

“Hospital CIOs today feel the need for more innovative and advanced security tools to be developed to protect against tomorrow's security threats and vulnerabilities,” continues Chrissa.

Patientory, a healthtech startup that has raised $ 3 million already, uses the 100% secure cybersecurity blockchain technology, is HIPAA-compliant and allows different EHRs and patients to communicate seamlessly, and helps build a culture of collaborative care.

42%
Decrease in IT Capital Expenditures

85%
Decrease in Hospital Readmissions and Penalties

0
Healthcare Breaches

$
Increase CMS Reimbursements

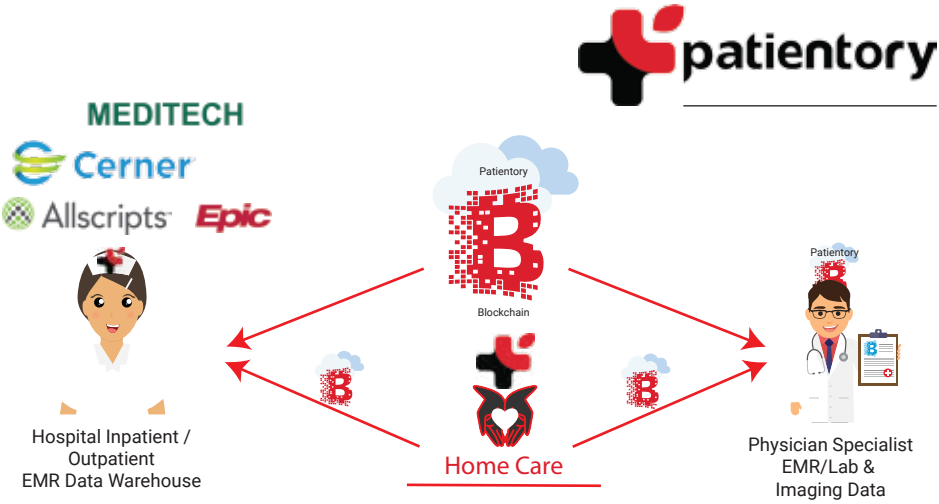
How Patientory Works ?

Patientory is a new system that solves an old problem: how to securely provide a patient's complete medical history to healthcare providers (doctors, hospitals, clinics, etc.) and enable better care?

First, it's important to understand that Patientory is not just another EMR. Patientory acts as a bridge and seamlessly integrates with any EMR system (Meditech, EPIC, Allscripts, Cerner, etc.) in any location across the world. Patient data stays secure and HIPAA-compliant using blockchain technology, a tried and tested security method already in use to secure banking and various financial transactions.

And all the while, the patient controls and manages access to her health information. She can even share it with other providers, labs and diagnostic services as needed.

Let's take a closer look at how Patientory works:



- Using Patientory, a physician or nurse> downloads the patient's integrated medical information. Medical data and history from all of the patient's care providers is included.
- Once the physician or nurse downloads this information, they can access and curate AI-powered care treatment plans. The care treatment plan is then made available directly to the patient's profile with automated required tasks.
- Not only is the clinician able to stay in contact with the patient and their caregivers, she can also track her treatment directives.

It's really that simple!