Blockchain For HealthCare System

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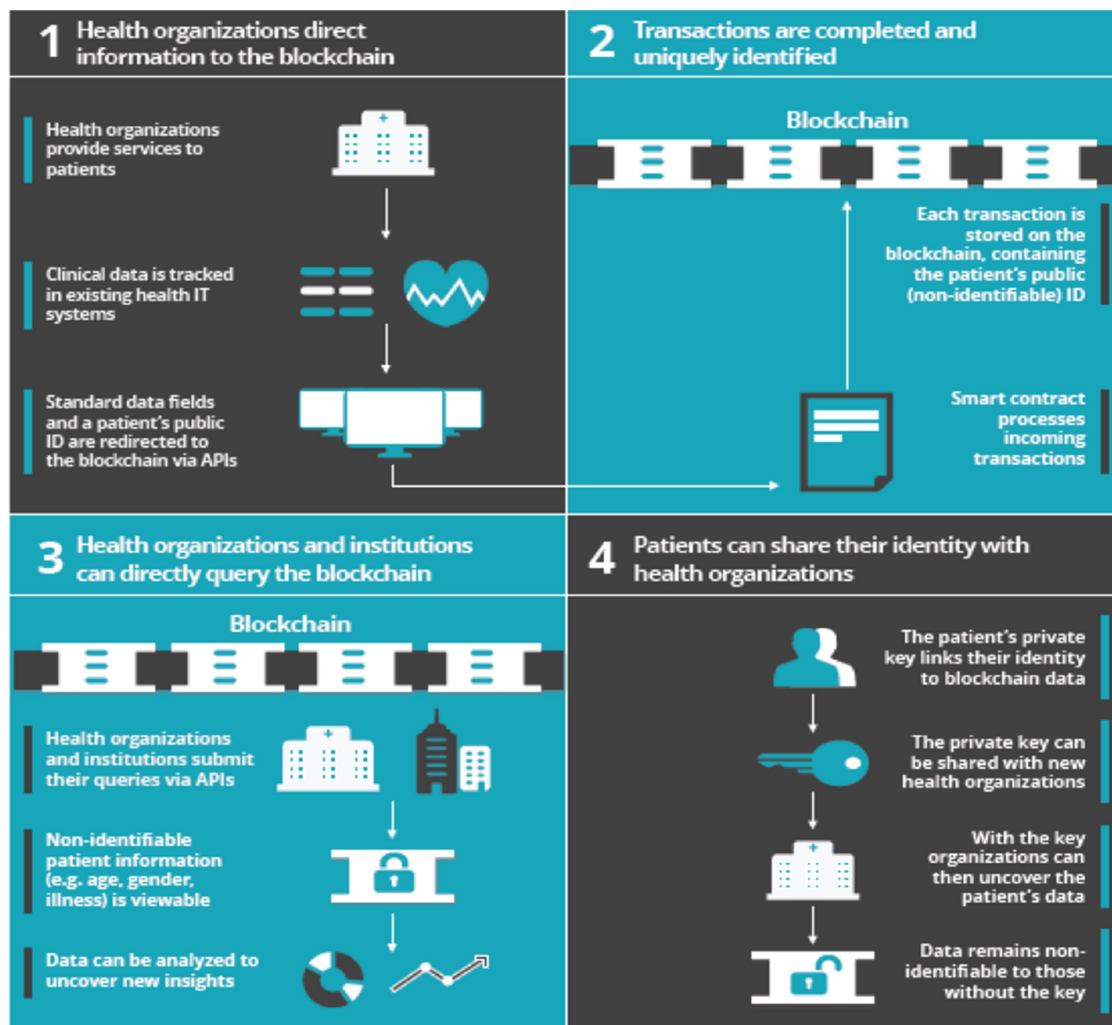

What is Blockchain?

It is a technology that creates immutable and distributable data records which are shared peer to peer between networked database systems. Growing businesses demand the need to bring as time and technology progress. When it comes to the field of health care, the urgency of growth escalates to higher levels.

Blockchain is an effective technology that can help prevent data breaches in the healthcare industry. It is a secure and reliable method of recording, storing, and sharing sensitive data. Caregivers will definitely benefit from implementing this technology.

Nowadays what Healthcare does?

Many healthcare facilities today are still dependent on outdated systems for keeping patient records. This can make difficult for the doctor to diagnose which is time-consuming for the doctor, In healthcare, critical information is scattered across multiple systems and sometimes, it may not be accessible when needed the most.

So why should blockchain be implemented in healthcare sector,**the reasons are:**

1 Health organizations direct information to the blockchain

Health organizations provide services to patients

Clinical data is tracked in existing health IT systems

Standard data fields and a patient's public ID are redirected to the blockchain via APIs

2 Transactions are completed and uniquely identified

Blockchain

Each transaction is stored on the blockchain, containing the patient's public (non-identifiable) ID

Smart contract processes incoming transactions

3 Health organizations and institutions can directly query the blockchain

Blockchain

Health organizations and institutions submit their queries via APIs

Non-identifiable patient information (e.g. age, gender, illness) is viewable

Data can be analyzed to uncover new insights

4 Patients can share their identity with health organizations

The patient's private key links their identity to blockchain data

The private key can be shared with new health organizations

With the key organizations can then uncover the patient's data

Data remains non-identifiable to those without the key

Data Provenance and Integrity

With an ongoing increase in patient numbers, healthcare providers have to manage more and more data on a regular basis. As the data increases each year, it becomes harder for hospitals and clinics to process and store information.

Accuracy Usability

Row Count

Domain Integrity

Completeness

Referential Integrity

Data Integrity

Consistency

Redundancy

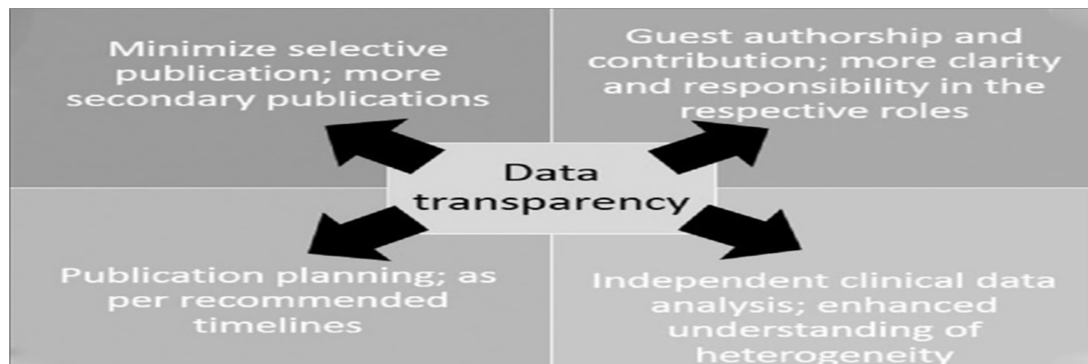Validity

Data managed by medical organizations includes:

· Patient health information

· Medical insurance claims

Thus, allow both healthcare providers and their entities to verify the correctness of data. When information is recorded and encrypted, it becomes impossible to change or remove the data.

 This is where blockchain comes in useful, as one of its **main advantage is data integrity**.

Data Transperancy

Along with data integrity and provenance, healthcare providers see transparency as one of the top advantages of using blockchain in their healthcare industry. It provides a decentralized register of ownership by recording every transaction made through the system It stores all details starting from the formation of a data block, and ending with any digits related to a specific transaction. .

Blockchain in healthcare includes usage of issues;

- Patient Data
- Data Security
- Drug traceablity

Why should blockchain be incorporated in healthcare?

In my opinion, one of the biggest things that make the use of blockchain in healthcare is the lack of a central administrator, because a database is still a tangible thing. If the contents of the database are stored in the physical memory of a particular system, anyone who has access to that system could corrupt the data within.

With blockchain, there will be no need for a central administrator- eliminated by clever cryptography and all the users are in control of all their information and transactions.

Solutions to the issues

Refrences:

https://cryptobriefing.com/healthcare-industry-blockchain-technology/
https://www2.deloitte.com/content/dam/Deloitte/us/Documents/public-sector/us-blockchain-opportunities-for-health-care.pdf

Conclusion

Blockchain technology creates unique opportunities to reduce complexity, enable trustless collaboration, and create secure and immutable information.

Blockchain for healthcare allows multiple entities of the healthcare ecosystem to stay in sync and share data on a commonly distributed ledger.

It helps in achiveing data integrity, data transperancy and data proverance.