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Content Management in HealthCare - Blockchain to Secure Communication and Sensitive Patient Data

Blockchain has been steadily a buzzword for a couple of years now. Whether personally you’re against the idea of cryptocurrencies that are based on blockchain or has never been introduced to such concepts, what are blockchains and how can we use them to elevate our day-to-day experiences from online shopping to sharing information safely. Blockchain, in simple terms, the ”chain” in blockchain is just that. Each link, or block in this instance, is dependent on each other and only can exist because of the previous chain. Once you’ve created a new chain, it is unable to be unlinked or changed. Going a little more in depth, the chain is started with the “Genesis Block” and hashed to ensure the text is not altered. The next block data along with the previous block’s hash are then combined creating a new hash. This process is continued indefinitely.

With all of this in mind, what can we take from this concept? Blockchain is highly effective against tampering from other parties because of the inability to rewrite a block once it is set. If someone were to try and decrypt a block, the risk would outweigh the reward. It would require an extreme amount of computing power plus the equipment to decipher the hash. This is perfect for securing sensitive data including patent records, transactions, and verifying prescription drug supply chains. There are a number of blockchain-based software that caters to these needs specifically in the healthcare world.

Medicalchain are a medical technology manufacturer based in London and *“uses blockchain technology to securely manage health records for a collaborative, smart approach to healthcare.”* (Albeyatti, 2022)Their aim is to “*…put the patient in control of their medical data, giving them the power to share the single, most comprehensive version of their record, with every organization in their medical network.”* (Albeyatti, 2022) Their product, MyClinic.com, “*is an application that utilizes Medicalchain technology to provide immediate retrieval of health records, thereby allowing patients to communicate directly with doctors and share their health records for online consultations.”* (Albeyatti, 2022) This application can improve discrepancies within healthcare providers by streamlining the communication between the healthcare system and patients avoid discrepancies that could cost valuable time and money.

Blockchain has come a long way since the talk of it began 1991 by Stuart Haber and W Scott Stornetta in the cryptographic world. Later in 2000, *“Stefan Konst publishes his theory of cryptographic secured chains, plus ideas for implementation”* (ICAEW, 2024). Under the pseudonym Satoshi Nakamoto, the developer started establishing the blockchain model and implemented the first public ledger made using bitcoin in 2009. The Blockchain 2.0 technology can be used for other applications beyond cryptocurrencies. This is where we are currently at, exploring the other potential uses of blockchain 2.0.

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