Blockchain in Healthcare: Tackling Data Sensitivity & Strengthening the UAE Healthcare Sector at the International Forum

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Blockchain technology mechanism promises to provide utmost privacy assuring the appropriate users for the easy addition and to access a permanent record of information. In the current scenario, data sensitivity and criticality are the most important aspects when classifying the security of information. Data sensitivity concerns information which should be protected from unauthorized access or disclosure due to its sensitive nature. This might include proprietary information about a business, or even personally identifiable information about patients or clients. On the other hand, data criticality has to do with the level of importance of data to the success and processes of a business.

• The MediLedger uses blockchain to strengthen the track-and-trace capabilities for prescription medicine. Which is more, it allows users to create an interoperable system for identification and tracking specific prescription drugs, this meeting law and operational needs of the industry.

• Connecting care is a blockchain-based platform for providers together from different clinical organizations to access the same data for shared patients. This project is credible and adoptable by the healthcare industry that will boost the development of the healthcare data marketplace.

• Robomed Network is a blockchain-based medical network aimed to provide the most effective medical care. It will connect patients and healthcare service providers by means of smart contracts. It is expected to boost the shift of healthcare to value-based care (when a patient pays for results instead of paying for procedures). Robomed already has nearly 9000 patients and 30,500 services.

In future the use of technology in healthcare, blockchain will become one of the crucial drivers along with the Internet of Things (IoT) and machine learning to trigger new and more effective digital processes. It will revolutionize healthcare. In fact it has already started to do so. With the development and prevalence of blockchain technology, it will become easier to convince healthcare providers to deploy the technology for the smart storing of data, different transactions, temperature, and complex software-driven medical appliances control, patient care and research.

Blockchains are also called distributed ledgers – sequential lists of transactions with identical copies shared and maintained by multiple parties. There is no single source that claims authority over the true data, which is instead declared by consensus amongst the multiple parties holding the data. Which is why blockchains are referred to as decentralized. Such an arrangement protects the data from tampering not just by individual keepers of the blockchain, but also external attempts at the damage. In one example, the decentralization of blockchain solutions offers intrinsic protection against assaults because the blockchain would only be affected if simultaneously attacked at many sites.

Why blockchain is the new talk of the town?

New ventures are looking to apply blockchain technology to solve real-world problems, including to track public health, centralize research data, monitor and fulfill prescriptions, lower administrative overheads, and organize patient data, monitor and fulfill prescriptions. The technology offers a platform which can be used to address issues and many potential application in healthcare. Several MNC giants have already adopted and developed blockchain-based technology. It is also estimated that the automation offered by blockchain-enabled software could save the financial service industry $15-20 billion annually within the next five years. According to Interactive Data Corporation (IDC), by 2020, 20 percent of healthcare organizations will have moved beyond pilot projects and will be using blockchain for supply-chain management and patient identity.

Among the most innovative projects involving blockchain for healthcare, there are many prominent blockchain healthcare startups:

• MedRec saves the digital family history of medical records by means of the blockchain.

Blockchain in the UAE

Blockchain promises imminent changes in health data management. UAE aims to achieve a world-class healthcare system and feature among the leading countries. In the UAE, confidentiality of health information is very crucial. The DHA announced its two initiatives that are set to power a new health record database, becoming the largest integrated patient information system in the Middle East. The DHA has braced itself to introduce a bill of rights to be given to patients before their surgeries, as well as electronic investigation procedures for cases of medical malpractice where patients will be able to submit their complaints electronically. This will not only improve healthcare services for residents, but also for medical tourists. The UAE's vision is geared towards creating a unique digital system that enhances patient data protection, even from afar.

Ensuring data security is paramount to creating trust and transparency between patients and their healthcare providers. And now, a consequence of the rise of medical tourism is an increase in the amount of patient data. To protect the medical data, the country already has certain set laws. However, considering the medical industry, more specific laws are set out to address the issue of data collection. Both Federal Law No. 7 of 1975 concerning the Practice of Human Medicine Profession and the Ministry of Health Code of Conduct 1988 stipulate the obligation of confidentiality imposed on healthcare practitioners, where they are prohibited to share any personal information related to a patient without his/her prior consent.

Thus, the use of 'Private Chains' also known as 'permissioned blockchains' is necessary which is not open to everyone. The people who want to participate in the private chain must gain permission to be a part of this network and this is what which will support and strengthen the need of data security in the medical industry and health insurance. These private chains offer lot of features such as fast transactions, privacy, and high security.

The blockchain is immutable & traceable and so patients can easily send records to anyone without the fear of data corruption or tampering. Likewise, a medical record that has been generated and added to the blockchain will be completely secure. Pharma companies need to have an extremely secure supply chain because of the kind of product they carry. Pharma drugs are consistently stolen from the supply chain to be sold illegally to various consumers. Also, counterfeit drugs alone cost these companies, nearly $200 billion annually. A transparent blockchain will help these companies to enable close tracking of drugs to their point of origin and thus help eliminate falsified medication.