



Is blockchain the solution for fragmented medical info?



The use of different electronic records systems in hospitals and specialist clinics makes it difficult for doctors or care teams to have a complete view of a patient's health history or treatment record. Blockchain has emerged as a possible solution to this data fragmentation problem.

Blockchain, which makes use of distributed ledger technology, offers a way of decentralising information without compromising integrity and security. A pilot project at the Beth Israel Deaconess Medical Center, for example, used the Ethereum network to create so-called smart contracts that pulled patient data from different local storage systems and allowed separate medical practitioners to see it, if consent is given by the patient.

Healthcare blockchains have also been piloted in environments where medical records are hard to maintain. Refugees and migrants have little to no access to their medical history, and the humanitarian workforce that treats them is often transient. In May, start-up Iryo deployed blockchain-based electronic health records in refugee camps in Jordan, enabling people to store health data on their mobile phones, and take it with them.

Blockchain also supports researchers in collecting large amounts of data for their studies. Note that even when patients volunteer their data to be used in research, it can be hard to manage the large volumes of information securely and in a way that gives patients control over permission rights. BreastWeCan.com, a project that encourages women to share the results of their mammograms with medical researchers, uses blockchain to allow people to control their data and grant or deny permission for its use.

Navin Ramachandran, a radiology consultant at University College London Hospital, says distributed ledgers "are not a silver bullet to all our problems". Nonetheless, Dr. Ramachandran believes they are fundamental for data integrity and control. The doctor currently works with the IOTA Foundation, a German non-profit organisation that is developing distributed ledger technology.

Some of the most practical uses of the technology are likely to come from medical professionals themselves, who often innovate to make their work more manageable.

Abdullah Albeyatti, a doctor at Leeds General Infirmary, built a website to standardise the paperwork for the discharge of patients — the documents in which doctors tell general practitioners what happened to their patients and the treatment they received. These often contained patchy information or were inconsistently completed by time-pressed junior doctors. Dr. Albeyatti's standardised forms improved accuracy and lowered costs and so were adopted elsewhere, such as by the Queen Elizabeth Hospital, Woolwich. Dr. Albeyatti has now founded a blockchain-based start-up called Medicalchain, to create a way to securely share and store

patient records.

However, there is danger when multiple blockchain platforms spring up in healthcare — they could replicate the fragmentation bedevilling existing systems if they are not interoperable.

Dr. Ramachandran, who was part of a team proposing a draft strategy to deal with the fragmentation of cancer information in the NHS, is hopeful that medical blockchains could be designed to work with each other.

“We need an overall technical architecture, but one that accepts local differences,” says Dr. Ramachandran. “So you can build a sandbox [a virtual space where new software is run safely] in each region, use similar technology so they can interoperate, and let local actors innovate within the constraints of that interoperability.”

Source: [Financial Times](#)

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