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## **Blockchain in Healthcare: A Cure for Administrative Costs and Innovation Barriers**

*Rahul Nadendla, MD, Jack Buckanavage*

*09/25/2023*

To most physicians, blockchain technology is often associated with cryptocurrency and is quickly criticized and dismissed when evaluating its potential integration into healthcare. However, blockchain is an innovative technology being adopted by other industries like banking, real estate, and transportation. If one were to search “Blockchain Healthcare” on any search engine, they would see there are all types of organizations experimenting, adopting, and integrating blockchain, usually with the hopes of improving operational inefficiencies.

Growing administrative costs are a prohibitive factor in any healthcare organization, large or small. In fact, administrative costs in the U.S. healthcare system are estimated to be nearly 25% of total healthcare spending, which equates to roughly \$1 trillion each year, [according to a study from McKinsey and Company in 2021](#). For both small and large health companies, issues such as securing medical documentation, communicating with patients in a HIPPA-compliant format, scheduling appointments, and billing/collections inhibit the success of healthcare programs and make it nearly impossible for startups to get off the ground. Both the significant time and cost required, which could be months or years and hundreds of thousands to millions of dollars, provide too big of a hurdle for almost any institution to develop and implement new technologies. For example, a healthcare system creating a remote patient monitoring (RPM) program to treat those suffering from heart failure or diabetes struggle with barriers of entry due to high technology and infrastructure builds which require large initial investments before seeing

their first patient. This disincentivizes innovators and entrepreneurs and prevents the development of digital health platforms designed to help patients.

Blockchain technology can reduce costs and decrease certain barriers of entry.

[Blockchain is a](#) decentralized, digitally distributed ledger that facilitates, records, and tracks transactions and files within a secure network. In simpler terms, it is a technology that enables the secure sharing of information that is far superior to email or saving files on “drives” within computers and networks. By being self-executable, self-verifiable, and without the need for third-party intermediaries, blockchain is inherently cost-efficient and resistant to fraud and errors. For example, in finance and banking, blockchain is used to reduce cost and increase efficiency in international money transfers by reducing the number of intermediaries required, removing fraud, and automatically creating and saving an audit trail. As the COVID-19 pandemic has shown, supply chains are vital to nearly every sector, including healthcare. Blockchain allows for real-time tracking and traceability throughout each step of a supply chain, which can eliminate the need for third-party services and technology platforms and remove data transfer errors – along with all staff needed to provide these services. It is not just hypothetical either. Well-known companies such as Amazon, IBM, and Microsoft have already adopted blockchain technology to improve efficiencies.

Blockchain has the ability to help the healthcare industry in numerous ways. Since it is inherently secure, blockchain can house sensitive medical data and protected patient information (PHI), increasing information security. Additionally, it can facilitate the sharing of medical records between medical providers or health systems due to it being decentralized. This removes the time-consuming process of obtaining access to medical records, which can delay patient care. It also removes the cost of storing sensitive data in a single database, which can be expensive and

susceptible to hacking. Not to mention, Blockchain improves payment efficiency by removing third-party payment vendors and their associated fees. By automating the billing and payment system, providers and health systems can receive fast and secure payments.

One company utilizing blockchain technology to revolutionize healthcare is Solve.Care. Solve.Care's main goal is to administer and coordinate healthcare while reducing costs. Their platform integrates within the infrastructure of healthcare systems and aids in many services, such as secure medical record documentation and storage, HIPPA-compliant patient communication, appointment scheduling, and billing and coding. I spoke with CEO Pradeep Goel, who wants to provide a system in which providers and healthcare teams can create specific care networks for patients in a matter of weeks rather than months or years and that cost thousands rather than millions. Their solutions cost a tenth of the price of competitors and can be developed and implemented in a fraction of the time. They are leveraging blockchain to identify and solve everyday problems in healthcare. Although they can improve certain functions of a traditional electronic medical record (EMR), their goal is not to compete or replace an EMR but to provide add-on solutions that simplify healthcare.

Solve.Care's solution is a blockchain-bound smart contract that keeps all parties in sync, whether that is patient-doctor, patient-insurer, or doctor-pharmacist. An ideal system will contain an entire care team to allow collaboration and instantly deliver care. They created Care.Cards that serve as applications that can be specific to a patient's or provider's needs. These cards are as quick to create as a powerpoint presentation. Patients can use these Care.Cards to send secure information and communication to providers, pharmacists, nurses, or family members without any prior connection or established relationship. Of course, patients need to give their permission

to send these Care.Cards and retain control of who has access to their data and for how long. Once patients join a specific network or health system, the larger health system can ensure no patient errantly sends data to somebody who should not have access. This is a second layer of protection provided to the patient that does not exist today.

Solve.Care aims to free patients and providers from traditional red tape by decentralizing the administration functions of healthcare while still ensuring the highest levels of security and compliance. Goel describes blockchain as “the governance layer” of Solve.Care as it does not contain any data or medical records (those remain the property of the patient) but tracks the consent process instantaneously. Solve.Care and blockchain take patient privacy and data security to a higher level and significantly simplify infrastructures, all while decreasing costs to benefiting institutions. Institutions would be at less risk of holding and maintaining centralized databases full of PHI that could be inappropriately accessed or stolen and would lower their cost of data storage.

This all leads to what Goel says is the real mission behind Solve.Care, the ability to quickly create physician-authored care models or patient-centric care teams that can collaborate in an easy and secure way. Goel summarizes, “You can build a complete network for, let's say, diabetes care or oncology care or pediatric care or dementia care or whatever disease condition, whatever patient population you want to deal with. You can spend years to build a network without Solve.Care for millions of dollars. However, we can build your care network for any patient population in weeks for a fraction of the cost. That's our value proposition ... all you must do is author the care journey, and that should be your focus, not on the back-end infrastructure.”

Blockchain technology eventually will remove the administrative, compliance, and security barriers that currently exist in healthcare. This will lead to considerably decreased costs for both small and large healthcare companies and decrease barriers of entry for other innovative entities.

*The authors have no conflicts to report.*