



## 2020 Reflections: How a Pandemic Will Catalyze Innovation

Katie Crenshaw, MPA, Senior Manager Informatics, HIMSS

**Keywords:** identity, trust, revenue cycle, provenance, quality, blockchain

**Section:** Discussion

The COVID-19 pandemic has caused a major disruption to how we move through the world and has upended our daily lives. Without a clear end insight, the world has needed to reassess how we move forward, what our immediate needs are, and what systems are necessary to function effectively and securely in the long term. The current pandemic has thrust the door open for emerging solutions and technologies to address the challenges plaguing our world, as well as forcing us to reevaluate the status quo and think about how we can more effectively fulfill our needs and goals. Like so many of us, the Healthcare Information and Management Systems Society (HIMSS) Blockchain in Healthcare Task Force continues to monitor developments in the health information and technology arena, where distributed ledger technology has immense opportunities to further enable and deliver efficiencies within the healthcare ecosystem.

### TRANSFORMING REIMBURSEMENT

The financial impact that COVID-19 has had on the society-at-large, and health care specifically, is tremendous. As healthcare organizations rebound, they have a chance to strategically reconsider their existing revenue cycle management (RCM)

systems and work to optimize these ingrained processes. Current RCM typically includes a variety of processes involving multiple players from the moment a patient registers to after they have received care. Blockchain technology can address various aspects of RCM by providing transparency and access to all players, automating elements of the process using smart contracts, and enabling trust with immutable data and a consistent, automated process. As healthcare organizations and payers add in new forms of reimbursable care, such as telehealth services, there are opportunities to make available key documents for reimbursement via the blockchain and to leverage smart contract automation to streamline steps around prior authorization, provider directory, clinical reconciliation, claims processing, and payment between the provider, payer, and patient.

### MANAGING AND VERIFYING DIGITAL IDENTITIES

Identity management plays a major role in health care, from the tracking and validation of devices, supply chain processes, software, drugs and materials utilized in care delivery, the verification of credentials for clinicians providing care, and the matching of the correct

patient to their related health data. The management of these various identities is complex. While the issue is not new, COVID-19 has highlighted opportunities to streamline antiquated identity proofing and authentication processes and expand the use of digital identities as more businesses move online. Decentralized identity and verifiable credential solutions can provide an opportunity to establish trust and verification without the traditional intermediary. Beyond just health care, collaborative efforts are underway to standardize and align frameworks around self-sovereign digital identities that are built upon frameworks to establish trust and security.

### **DETERMINING DATA QUALITY**

COVID-19 has clearly exposed opportunities to improve the sharing, tracking, and verification of the quality and integrity of data across multiple sources that contribute to care delivery, research efforts, and coordinated pandemic responses. Currently, pandemic data are collected from a wide array of sources, from healthcare organizations, local public health departments, and third-party testing sites, from which trust may need to be established before assessing as part of aggregated data for our pandemic response. Furthermore, nontraditional care settings have become even more essential during the COVID-19 era with their growing capabilities to establish home-based care techniques. Tracking information about data collection, such as data source types and the collection methods and conditions, is critical to assess the quality of these data. Data provenance provides historical information around the data's journey and is a type of data, which is suited for blockchain's transparency and immutability characteristics. Blockchain is designed to provide tamper-proof data provenance that can be leveraged to inform the overall data quality.

COVID-19 has forced many innovative processes to be designed and implemented at a rapid pace. The HIMSS Blockchain in Healthcare Task Force continues to explore blockchain proofs of concept and pilots emerging as part of the response efforts. Several members are actively contributing to initiatives that aim to collaboratively solve many inefficiencies that currently exist in health care, both before, during and will continue, after this pandemic is over. The industry is in need of creative ways to address deep-rooted challenges, and the opportunity is upon us to apply blockchain technology to several critical use cases that address the immediate ramifications of this pandemic. We must be thoughtful and cautious when applying new solutions to old paradigms that pave the way for sustainable and scalable results addressing the needs in health care.

### **ACKNOWLEDGMENTS**

Mari Greenberger, MPPA, Senior Director Informatics, HIMSS; Jorge A. Ferrer, MD, MBA, LSA, FAMIA, Medical Informatician-Health System Specialist, U.S. Department of Veterans Affairs.

### **Conflicts of Interest**

The authors declare no potential conflicts of interest.

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