Government & Policy

ONC unveils winners of Blockchain health IT challenge

The Office of the National Coordinator for Health IT said that the winners offer new uses for Blockchain digital technology to protect and exchange electronic health data in a secure fashion.

By **Bill Siwicki (/content/bill-siwicki)** | August 29, 2016 | 05:08 PM

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Vindell Washington, MD, the National Coordinator for Health IT, said that the contest shows the potential for innovative ways to use Blockchain in healthcare.

The Office of the National Coordinator for Health Information Technology has announced the winners of its "Use of Blockchain in Health IT and Health-related Research Challenge." Most commonly associated with

digital currency, a Blockchain is a data structure that can be time-stamped and signed using a private encryption key to prevent tampering.

The ONC received more than 70 submissions from a wide range of individuals, organizations and companies addressing ways that Blockchain technology might be used in health and health IT to protect, manage and exchange electronic health information.

"While many know about Blockchain technology's uses for digital currency purposes, the challenge submissions show its exciting potential for new, innovative uses in healthcare," said Vindell Washington, MD, the new national coordinator for health IT.

ONC selected the winning papers based on several factors, including: a proposed solution's or recommendation's market viability; creativity; ability to inform and foster transformative change; and potential to support a number of national health and health information objectives, including advancing the flow of health information for where and when it is needed most.

According to the ONC, the final winning papers, which are posted at HealthIT.gov, include:

- Blockchain and Health IT: Algorithms, Privacy, and Data. A peer-to-peer network that enables parties to jointly store and analyze data with complete privacy that could empower precision medicine clinical trials and research.
- Blockchain: Securing a New Health Interoperability Experience. Blockchain technologies can support many existing healthcare business processes, improve data integrity and enable at-scale interoperability for information exchange, patient tracking, identity assurance and validation.
- Blockchain Technologies: A Whitepaper Discussing how Claims Process can be Improved. Smart contracts, Blockchain and other technologies can be combined into a platform that enables drastic improvements to the claims process and improves the healthcare experience for all stakeholders.
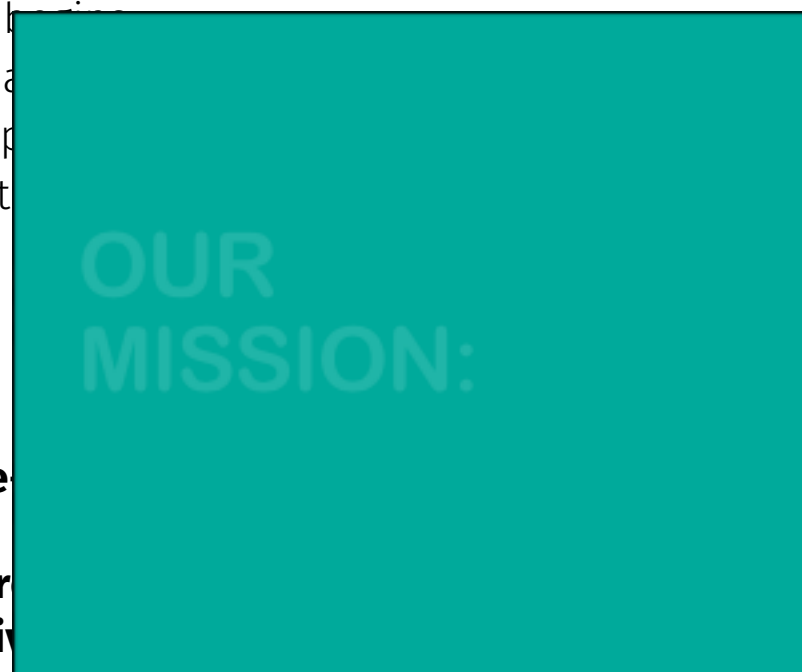
- Blockchain: Opportunities for Health Care. Presentation of an implementation framework and business case for using Blockchain as part of health information exchange to satisfy national healthcare objectives.
- A Case Study for Blockchain in Healthcare: MedRec Prototype for Electronic Health Records and Medical Research Data. A decentralized record management system to handle electronic health records, using Blockchain technology that manages authentication, confidentiality, accountability and data sharing.
- The Use of a Blockchain to Foster the Development of Patient-Reported Outcome Measures. Use of the Internet of Things in combination with Blockchain technology for Patient Reported Outcome Measures.
- Powering the Physician Patient Relationship with 'HIE of One' Blockchain Health IT. 'HIE of One' links patient protected health information to Blockchain identities and Blockchain identities to verified credential provider institutions to lower transaction costs and improves security for all participants.
- Blockchain: The Chain of Trust and its Potential to Transform Healthcare – Our Point of View. Potential uses of Blockchain technology in healthcare including a detailed look at healthcare pre-authorization payment infrastructure, counterfeit drug prevention and detection, and clinical trial results use cases.
- Moving Toward a Blockchain-based Method for the Secure Storage of Patient Records. Use of Blockchain as a novel approach to secure health data storage, implementation obstacles, and a plan for transitioning incrementally from current technology to a Blockchain solution.
- ModelChain: Decentralized Privacy-Preserving Health Care Predictive Modeling Framework on Private Blockchain Networks. ModelChain is a framework used to adapt Blockchain to enable privacy-preserving healthcare predictive modeling and to increase interoperability between institutions.
- Blockchain for Health Data and Its Potential Use in Health IT and Health Care Related Research. A look at Blockchain based access-control manager to health records that advances the industry interoperability challenges expressed in ONC's Shared Nationwide Interoperability Roadmap.
- A Blockchain-Based Approach to Health Information Exchange Networks. A Blockchain-based approach to

sharing patient data that trades a single centralized source of trust in favor of network consensus, and predicates consensus on proof of structural and semantic interoperability.

- Adoption of Blockchain to enable the Scalability and Adoption of Accountable Care. A new digital healthcare delivery model that uses Blockchain as a foundation to enable peer-to-peer authorization and authentication.
- A Blockchain Profile for Medicaid Applicants and Recipients. A solution to the problem churning in the Medicaid program that illustrates how health IT and health research could leverage Blockchain-based innovations and emerging artificial intelligence systems to develop new models of healthcare delivery.
- Blockchain & Alternate Payment Models. Blockchain technology has the potential to assist organizations using alternative payment models in developing IT platforms that would help link quality and value.

The remaining submissions will be posted on HealthIT.gov on the first day of National Health IT Week, which begins September 26, 2016, in conjunction with the two-day "Blockchain for Healthcare and Research" workshop hosted by the ONC and the National Institute of Standards and Technology.

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