

Blockchain based Counterfeit Medicine Authentication System

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Abstract: *The quality and safety of medications are crucial to public health and well-being. Responding to the critical need for medication information provenance and anti-counterfeiting, this study proposes blockchain based solutions for medication information storage, inquiry and anti-counterfeiting along the medicinal supply chain. Leveraging the features of decentralized, tamper proof, traceability and maintenance of blockchain technology, the proposed methodology can assure the transparency and openness of medicinal supply chains. An access control policy model based on smart contracts is designed to prevent medication information from being altered or disclosed at nodes of blockchain. In addition to smart contracts, Practical byzantine fault tolerance (PBFT) is used. The proposed solution eliminates the need for centralized institutions and third-party organizations to provide a full record of medication circulation process. The result is, our method can render high level of security and privacy that is crucial to integrity of a medication information management system.*

Keywords: Medication anti-counterfeiting, traceability, blockchain, PBFT consensus, supply chain

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