Abstract

The production and distribution of counterfeit drugs is an urgent and increasingly critical worldwide issue, especially in developing countries. The market value of pharmaceutical counterfeiting has reached billions of dollars annually. One of the reasons for drugs counterfeiting is the imperfect supply chain system in pharmaceutical industry. Drugs change ownership from manufacturers to wholesaler, distributor and then pharmacist before it reach the customer. In current supply chain system, information is not shared between systems, manufacturers don’t know what happened to their products, drugs regulatory authority has no visibility of the system, recalls are complicated and costly, and companies cannot follow-up patients. In this paper we explain how to use blockchain technology in pharmaceutical supply chain to add traceability, visibility and security to the drugs supply system. The proposed system will be used in pharmaceutical industry to track the drugs from its manufacturing until its delivery to patient. After the usage of a drug, its effect on patient will be recorded to a database for future statistics. A permissioned blockchain will be used for storing transactions and only trusted parties will be allowed to join the network and push data to blockchain.
References


Index Terms

Computer Science

Information Sciences

Keywords

Blockchain, Information Security, Counterfeiting, Pharmaceutical Supply Chain.