

## ABSTRACT

Master's dissertation: 84 p., 14 pictures., 22 tables., 34 sources.

**Topicality.** To date, most of the accounting system of regulated medicines in Ukraine have network architecture to monitor several compositions at once (autonomous solutions for warehouse systems are less common and less common). The network significantly accelerates the movement of data within the system, allows you to track the movement of drugs immediately in several warehouses in real time. In general, such systems are client-server architecture software, therefore, the administration has full control and the system itself is not immune to the illegal activity of administrators. Due to the possible manipulation of data in the database, unauthorized access to servers, the formation of "necessary" accounting, which can lead to corruption, impunity for theft of various medical products, "money laundering" and other illegal activities.

Therefore, it is advisable to improve the system of accounting for regulated medicines through the use of blockchain technology, which greatly increases the reliability of the preservation and the immutability of the accounting history. This makes the system more resistant to fraud and illegal activity.

**Relationship with academic programs, plans, themes.** Work performed at the Department of ASOIU at the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" within the topic "Methods and technologies of high performance computing and performing of big data". Governments register number 0117U000924.

**The aim of the research** is to improving the reliability of data storage and the unchanging history of inventory due to the use of blockchain technology.

To achieve the goal you need to accomplish the following tasks:

- analyze the blockchain technology;
- analyze modern platforms for creating decentralized online services based on blockchain;
- development of the model of the database of blockchain;

- development of the architecture of the accounting system for medicinal products;
- development of algorithm for comparison of data sets from blockchain and database;
- development of a system of medical records accounting on the basis of the blockchain technology.

**Object of research** – the process of accounting for regulated medicines.

**Subject of research** – blockchain technology, methods for integrating it into modern medical records systems, decentralized software applications, smart contracts, methods for finding differences in the data set from the blockchain and the usual database.

**The scientific novelty of the results** is to integrate the blockchain technology into the usual medical records system, the development of the software architecture and the system as a whole. Also, the algorithm for comparing the data set from the blockchain and the usual database, where the discrepancy will point to fraud attempts against the users of the system

**Published works.**

Nevmerzhytskyi D.O. System of accounting of regulated drugs using blockchain technology // Materials of the All-Ukrainian Scientific and Practical Conference of Young Scientists and Students "Information Systems and Management Technologies. APIMD - 2018.

INVENTORY CONTROL, BLOCCHAIN, SMART CONTARCT, ETHEREUM, DECENTRALIZATION