

Integrating AI, Blockchain, and Wearable Tech for Chronic Disease Management



In *Current Medical Science*, researchers at Huazhong University of Science and Technology discuss a patient-centric technical framework integrating artificial intelligence, blockchain, and wearable technology in chronic disease management.

Wearable technology can record and monitor physiological and metabolic parameters for disease diagnosis and treatment to help people pursue a healthier lifestyle. Organising and analysing this data presents challenges in quality of life, patient outcomes, and privacy protection. AI can analyse this mass of physiological data to diagnose and treat diseases. Blockchain can address privacy and reliability issues by authorising decentralised data sharing, protecting users' privacy, providing data empowerment, and ensuring data management reliability. These technologies used together can shift existing chronic disease management models from hospital-centred to patient-centred.

The authors point out that AI, blockchain, sensors, and wearable devices can improve the efficiency of chronic disease prevention, but first requires integration and AI development for high-performance data calculation. An integrated solution in telehealth can regularly send drug intake reminders to patients, process the collected monitoring data in real-time, and issue abnormal data warnings to patients and doctors, which can benefit elderly patients in remote areas.

Internet of things (IoT) devices can significantly accelerate this process, but there are ethical considerations on security and accuracy which have the potential of causing harm. Since humans design the algorithms that collect the patient data, their ethical review remains under human purview. Medical IoT devices send and receive data; thus, the possibility exists for tampering with this communication. As the communication infrastructure is external to IoT devices, network interruptions can delay medical alarms. Blockchain standardisation among different providers can enable the formation of largescale health ecosystems. Regulatory infrastructure must be in place to encourage the development and integration of these technologies.

Source: [Current Medical Science](#)

Published on : Wed, 29 Dec 2021