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BLOCKCHAIN CAN ADVANCE GENOMIC DATA COLLATION AND ANALYSIS TO IMPROVE PRECISION MEDICINE AND DRUG DEVELOPMENT

Natalie Pankova
Shivom, UK

With the costs of pharmaceutical development skyrocketing, companies are looking for new ways to innovate, obtain insights, and cut R&D costs. The use of biomarkers can dramatically improve success rates for drug development, particularly in oncology which stands to benefit the most from pharmacogenomic information and the ability to better stratify patients. However the use of such biomarkers is not yet routine. Current datasets are often lacking in information and may be inaccessible, and large scale prospective trials are far and few to demonstrate sufficient benefit for clinical genomic profiling. Additionally, there is a severe lack of diversity in the currently available data. Technological advances can help obtain the right genomic data for the patient population in question, efficiently combine this data with phenotypic and peripheral health data, and properly analyse it using the latest tools available to deliver value. Blockchain technology can be used to add value to effectively managing patient data, including genomic sequences, such that data siloes can be broken, interoperability and collaboration can be increased, and novel insights can be delivered to help provide effective therapeutic solutions. Here use cases will be introduced for the implementation of a blockchain-based platform in a precision medicine ecosystem, and describe how both pharma and patients can benefit from gaining access to such data.

natalie@shivom.io