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Blockchain Applications in the Biomedical Domain: A Scoping Review

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Title:	Blockchain Applications in the Biomedical Domain: A Scoping Review
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Abstract:	Blockchain is a distributed, immutable ledger technology introduced as the enabling mechanism to supportcryptocurrencies. Blockchain solutions are currently being proposed to address diverse problems in different do-mains. This paper presents a scoping review of the scientific literature to map the current research area ofblockchain applications in the biomedical domain. The goal is to identify biomedical problems treated withblockchain technology, the level of maturity of respective approaches, types of biomedical data considered,blockchain features and functionalities exploited and blockchain technology frameworks used. The study followsthe PRISMA-ScR methodology. Literature search was conducted on August 2018 and the systematic selectionprocess identified 47 research articles for detailed study. Ourfindings show that thefield is still in its infancy,with the majority of studies in the conceptual or architectural design phase; only one study reports real worlddemonstration and evaluation. Research is greatly focused on integration, integrity and access control of healthrecords and related patient data. However, other diverse and interesting applications are emerging, addressingmedical research, clinical trials, medicines supply chain, and medical insurance.