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Privacy and Security of Wearable Sensors in Healthcare: An Exploratory Literature Analysis*

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Abstract

Wearable wireless sensor networks (WWSN) are increasingly used in healthcare to monitor patients and collect relevant data. In addition, user data can be shared with health experts through the wireless network. This work examines the security and privacy concerns of employing WWSN in healthcare and communicating the collected data by wireless networks. To cover the extensive research in this area, this paper employs meta-analysis to methodically review and identify current issues and their evolving solutions to enhance the acceptance of WWSNs in healthcare. The study uses definitive keywords and searches on Google Scholar, Scopus, IEEE Xplore, and Web of Science bibliographic databases. In addition, PRISMA flow diagrams are used to effectively screen the literature and consolidate the relevant outcomes of the searches. This paper summarizes the findings on methods or technologies that cause severe security or privacy concerns. It also discusses the major proposed approaches that are most widely reported for addressing such issues.

Keywords: Wearable sensors, Privacy and Security, Healthcare, Methods and Technologies, Meta-analysis

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