Enhancing Medical Data Privacy and Security in Wireless Networks Via Smart Card and QR Code

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Abstract: *This paper explores a novel security framework aimed at preserving the privacy of medical data shared through wireless networks by using Smart Cards and QR Code mechanisms. As digital healthcare ecosystems continue to expand, the safeguarding of sensitive patient data has become a pressing concern. The proposed system provides two-level secure access to medical records through encrypted QR codes and authenticated Smart Cards. It supports functionalities such as secure login, prescription access, medical history tracking, and insurance management. The integration of encryption algorithms and layered authentication protocols ensures a reliable infrastructure for modern wireless healthcare systems.*

Keywords: Smart Card, QR Code, Wireless Healthcare Networks, Medical Data Privacy, Encryption, Authentication