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The Future of AI in Claims Adjudication and Health Insurance: Transforming Operations Through Intelligent Automation

Uday Bag
Cognizant Technology US Corp., USA

Abstract: *Claims adjudication stands as a fundamental component of health insurance systems, ensuring accurate provider reimbursement and seamless patient coverage. Traditional manual processes suffer from inefficiencies, errors, and vulnerability to fraud, creating significant challenges for insurers. The emergence of artificial intelligence technologies is revolutionizing this landscape through enhanced automation capabilities. This article examines how AI, Machine Learning, and Natural Language Processing are optimizing claims workflows, enabling insurers to better identify fraudulent activities, anticipate denial risks, and streamline medical necessity reviews. Major healthcare payers are increasingly implementing Robotic Process Automation and AI-powered rule engines to minimize overpayments, strengthen regulatory compliance, and improve auto-adjudication performance. Future innovations, including self-learning models, blockchain verification systems, and hybrid human-AI adjudication frameworks, promise to further transform the industry by enhancing fraud detection, expediting reimbursement processes, and reducing provider disputes. This transformation represents a defining shift in claims management and healthcare information technology.*

Keywords: Artificial Intelligence, Claims Adjudication, Healthcare Payers, Fraud Detection, Automation

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