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Comprehensive Approaches for Managing MDR Gram-Negative Infections

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Artificial Intelligence (AI)-driven genomic analysis is transforming healthcare management by enabling precision medicine and large-scale population health monitoring. This study explores the integration of Machine Learning (ML) and cloud computing to analyze genomic data, predict disease risks, and personalize treatment strategies. ML algorithms enhance genomic sequencing by identifying genetic markers, uncovering complex patterns, and improving diagnostic accuracy. Cloud computing facilitates secure, scalable, and real-time data sharing, allowing healthcare providers and researchers to collaborate on global genomic datasets while ensuring data privacy and compliance. Additionally, AI-powered genomic insights contribute to early disease detection, targeted therapies, and public health interventions. This research highlights the benefits, challenges, and ethical considerations of AI-driven genomic analysis, emphasizing its role in revolutionizing precision medicine, optimizing healthcare workflows, and improving patient outcomes in an increasingly data-driven medical ecosystem.