



Telemedicine in Chronic Disease Management: A Case Study in South African Urban Centers

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Abstract

Telemedicine has emerged as a promising solution for chronic disease management in underserved populations, particularly in rural and urban areas of developing countries like South Africa. A mixed-methods approach was employed, combining quantitative data from electronic health records (EHR) with qualitative interviews to assess patient satisfaction and service utilization. Telemedicine services showed a significant improvement in medication adherence ($R^2=0.75$, $p < 0.01$), where 85% of patients reported better control over their chronic conditions compared to the pre-telemedicine period, with an average reduction of 30% in hospital admissions. The implementation of telemedicine services has led to improved patient outcomes and reduced healthcare costs in urban South African centers, demonstrating its potential as a scalable solution for chronic disease management. Further research should explore the scalability and sustainability of these interventions across different regions and populations. Policymakers are encouraged to support telemedicine initiatives that integrate with existing healthcare infrastructure. Telemedicine, Chronic Disease Management, Urban Areas, South Africa

Keywords: *Sub-Saharan, African, Multicenter, Cohort, Telecare, Remote, social-distancing, clinical-research*

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