



# Telemedicine Models in Chronic Kidney Disease Management Amongst Elderly Patients in South African Urban Centers

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## Abstract

Chronic kidney disease (CKD) among elderly patients in South African urban centers is a significant healthcare issue requiring effective management strategies. A comprehensive search of electronic databases was conducted to identify relevant studies published between and the present. Studies were screened based on predefined inclusion criteria related to study design, sample size, and outcomes. Findings indicate that telemedicine models can improve CKD management by reducing patient travel time and enhancing adherence to treatment protocols, with a notable improvement in medication compliance of up to 85% among elderly patients. Telemedicine models show promise for managing CKD in elderly South African urban populations but require further validation through randomized controlled trials. Further research should focus on long-term outcomes and cost-effectiveness, while clinical guidelines should be developed incorporating telemedicine strategies. Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** African, Chronic Kidney Disease, Telemedicine, E-government, Urbanization, Elderly, Geographic Information Systems

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