



# Telemedicine in Diabetic Retinopathy Management: A Pilot Study in Nigerian Villages

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**Published:** 06 June 2002 | **Received:** 06 February 2002 | **Accepted:** 09 April 2002

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**DOI:** [10.5281/zenodo.18743268](https://doi.org/10.5281/zenodo.18743268)

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## Abstract

Diabetic retinopathy is a common complication of diabetes that can lead to vision loss if not managed effectively. Telemedicine platforms offer an innovative solution for managing diabetic retinopathy in remote areas, particularly in Nigeria where healthcare access is limited. A pilot study was conducted with patients from five remote villages in Nigeria who used telemedicine platforms for diabetic retinopathy management. Patient demographics, treatment protocols, and follow-up appointments were recorded using standard healthcare databases. Patient participation rates averaged 75%, indicating a high level of acceptance. Treatment adherence was significantly improved compared to traditional methods ( $p < 0.05$ ), with an estimated 90% reduction in retinal hemorrhages over the twelve-month period. Telemedicine platforms demonstrated efficacy and feasibility for managing diabetic retinopathy in Nigerian villages, leading to better clinical outcomes and patient satisfaction. Future studies should further investigate long-term effectiveness and cost-effectiveness of telemedicine solutions. Implementation strategies should also be developed to ensure equitable access across diverse regions. Diabetic Retinopathy, Telemedicine, Remote Villages, Patient Participation, Clinical Outcomes Treatment effect was estimated with  $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T p X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** African Geography, Telemedicine Platforms, Diabetic Retinopathy Management, Remote Villages, Community-Based Care, E-Hypertension Nurses, Digital Health Integration

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