



# Digital Health Literacy Education Programmes for Chronic Disease Patients in Johannesburg: Impact on Self-Management Outcomes

Nthabi Mkhulane<sup>1</sup>

<sup>1</sup> Wits Business School

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[Correspondence: nmkhulane@hotmail.com](mailto:nmkhulane@hotmail.com)

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## Author notes

*Nthabi Mkhulane is affiliated with Wits Business School and focuses on Medicine research in Africa.*

## Abstract

This study addresses a current research gap in Medicine concerning Digital Health Literacy Education Programs for Patients with Chronic Diseases in the Johannesburg Metropolitan Area, South Africa: Impact on Self-Management Outcomes in South Africa. The objective is to formulate a rigorous model, state verifiable assumptions, and derive results with direct analytical or practical implications. A mixed-methods design was used, combining survey and interview data collected over the study period. The results establish bounded error under perturbation, a convergent estimation process under stated assumptions, and a stable link between the proposed metric and observed outcomes. The findings provide a reproducible analytical basis for subsequent theoretical and applied extensions. Stakeholders should prioritise inclusive, locally grounded strategies and improve data transparency. Digital Health Literacy Education Programs for Patients with Chronic Diseases in the Johannesburg Metropolitan Area, South Africa: Impact on Self-Management Outcomes, South Africa, Africa, Medicine, original research This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Treatment effect was estimated with  $\text{text}\{logit\}(\pi) = \beta_0 + \beta^T p X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *African geography, Chronic disease self-management, Digital literacy, Health education programmes, Information technology in healthcare, Patient outcomes assessment, Self-care interventions*

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