Year-Long Impact Assessment of Water Sanitation Programmes on Child Health in Urban Lagos Slums,

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Abstract

This study addresses a current research gap in Medicine concerning Water Sanitation Programs' Impact on Child Health Outcomes in Urban Slums of Lagos, Nigeria: Year-Long Follow-Up Study in Nigeria. The objective is to formulate a rigorous model, state verifiable assumptions, and derive results with direct analytical or practical implications. A structured analytical approach was used, integrating formal modelling with domain evidence. 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. Water Sanitation Programs' Impact on Child Health Outcomes in Urban Slums of Lagos, Nigeria: Year-Long Follow-Up Study, Nigeria, Africa, Medicine, case study This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Treatment effect was estimated with $text\{logit\}(\pi) = beta\,0 + \vec{\beta}\,p\,X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African, Lagos, Epidemiology, Interventions, Sanitation, Hygiene, Surveillance*

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