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Harnessing mathematical modeling and simulation for epidiomology and public health for African development and advancement

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Mathematical Modeling has emerged as a powerful tool in epidemiology and public health, enabling researchers and policy makers to predict and analyzes the disease spread , evaluate the intervention strategies and inform policy decision . In the context of African development and advancement, mathematical modeling can play a very significant role in controlling and preventing the spread of the diseases there by reducing morbidity and mortality which promote economic growth and development. The paper therefore seeks to explore the application of mathematical modeling in epidemiology and public health in Africa, highlighting its potential to inform policy decisions, optimize resource allocation and improve public health . By applying mathematical modeling , African countries can develop more effective strategies to address the lingering public heath challenges and promote sustainable development and advancement.

Keywords: Mathematical modeling, Epidemiology, Public Health, Advancement, Sustainable Development

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