



# Methodological Evaluation of District Hospitals Systems in Rwanda Using Quasi-Experimental Design

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**Published:** 05 September 2002 | **Received:** 13 April 2002 | **Accepted:** 05 August 2002

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**DOI:** [10.5281/zenodo.18738921](https://doi.org/10.5281/zenodo.18738921)

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## Abstract

In Rwanda, district hospitals play a critical role in healthcare delivery, yet their efficiency remains underexplored. A comprehensive search of peer-reviewed literature was conducted, focusing on studies employing quasi-experimental designs. Methodological rigor, study quality, and applicability were assessed. The review identified a trend towards the use of multivariable regression models to measure efficiency gains in district hospitals, with some studies reporting significant improvements in service delivery metrics. Quasi-experimental design can be effectively applied to evaluate district hospital systems in Rwanda, providing insights into operational efficiencies and areas for improvement. Future research should prioritise the replication of these findings across different districts and consider longitudinal designs to assess sustained impacts. Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *Sub-Saharan, district hospitals, efficiency measurement, quasi-experimental design, randomized control trial, health systems reform, econometric analysis*

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