

# Replication of Okeke 2023

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## 1 Scoping

For my analysis, I chose to evaluate the first two claims of the paper:

- that the intervention led to large and significant improvements in access to doctor- provided care
- that health outcomes improved in communities where a doctor was randomly assigned, but not in communities assigned an additional (midlevel) health-care worker

To assess these claims, I replicated all of the figures from the main paper, and the tables that support the claims I am evaluating.

## 2 Assessment

The data and Stata code that this replication is based on can be found [here](#).

The cleaning code works as intended, but a number of the figures produce slightly different results than the results shown in the paper. Nothing significant, just slightly different names for variables in the balance table, and some of the variables require treating NAs as 0, while others don't. Those sorts of small irregularities. I believe that this would be an 8/10 level of computational reproducibility, since the cleaning code has does not perfectly replicate the results shown in the paper, though they do not change the overall findings of the paper.

## 3 Improvement

I have made significant improvements to the reproducibility of this work. One, I have rewritten all of the data cleaning code, the figures, and the first three tables in R. I am able to replicate the results published in the paper for all. Two, I have increased the readability and clarity of the code by adding copious comments. Finally, I have published the code and data to Github, where it will be version controlled and can be more easily contributed to by others.

## 4 Robustness

I believe that converting the entire codebase to R is itself a form of robustness check. Stata and R have meaningful differences in the way they calculate estimators under the hood, and the fact that I am able to replicate Okeke's results speaks favorably to the replicability of the work.

## 5 Summarizing findings

This paper evaluates the computational reproducibility and robustness of Okere (2023), which examines the impact of doctor assignments on healthcare access and outcomes in Nigeria. I focus on two key claims: (1) that the intervention improved access to doctor-provided care, and (2) that health outcomes improved in communities randomly assigned doctors but not in those assigned additional midlevel providers.

Using the author’s publicly available Stata code and data, I find the work achieves a high level (8/10) of computational reproducibility. While the cleaning code functions as intended, some figures produce slightly different results than those published—primarily due to minor inconsistencies in variable naming and NA handling rather than substantive analytical differences. These discrepancies do not alter the paper’s main conclusions.

To enhance reproducibility, I rewrote the data cleaning code, figures, and first three tables in R, successfully replicating the published results. I improved code readability through extensive commenting and established version control by publishing all materials to GitHub. The successful replication across different statistical environments (Stata and R) provides additional confidence in the robustness of Okere’s findings, as these platforms employ different underlying computational methods for their estimators.

This replication exercise demonstrates that Okere’s primary claims are computationally reproducible and robust to alternative implementation approaches. It focuses on reproducibility, possibly at the expense of evaluating robustness, leaving the path open for future work.