



Reassessing the human resources crisis in primary health care: A review of global findings with new evidence from 10 sub-Saharan African countries

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This review verifies the reproducibility of the exhibits included in the paper “*Reassessing the human resources crisis in primary health care: A review of global findings with new evidence from 10 sub-Saharan African countries*”.

Contents in this review:

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Main findings

- **Every exhibit of the paper and appendix has been reproduced accurately.**
- The code was successfully executed on a new computer after:
 1. Updating the working directory in line 4 of the do-file "runfile", and running it.
- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.
- The code takes approximately 1 hour to run.
- We conducted our reproducibility analysis based on the paper shared by the authors by email on May 26, 2026.
- **Verification Process and Data Handling:**
 - The reproducibility package relies on 1 type of data: restricted data.
 - Reviewers used restricted data provided directly by the authors to conduct the reproducibility verification. Intermediate data is included in the reproducibility package.
 - *data_hash_report.csv* lists the SHA256 hashes of all files in the Data folder to support data integrity checks. Users who acquire the restricted data can use this file to verify that the data has not been altered.
- **Reproducibility Summary:**

- **Data:** Some data is restricted and has not been included in the reproducibility package. For more details, please refer to the README file. Intermediate data is included in the reproducibility package and can be used to fully reproduce the results in the paper.
- **Code:** All code files are included in the reproducibility package but operate from intermediate data, not raw data.
- **Outputs:** All outputs are generated by code included in the reproducibility package.
- **Dependencies environment:** The reviewers created a new environment using the latest versions of dependencies available at the moment of the review.

List of exhibits and reproducibility status

Results in the Main Section of the Paper

- **Figure 1** Reproduced.
- **Figure 2** Reproduced.
- **Figure 3** Reproduced.
- **Figure 4** Reproduced.
- **Table 1** Reproduced.
- **Table 2** Reproduced.
- **Table 3** Reproduced.

Results in the Annex

- **Figure 1** Does not apply Adapted from Box 2.1 and Figure B2.1.1 in Gatti, R., Andrews, K., Avitabile, C., Conner, R., Sharma, J., and Yi Chang, A. (2021). The quality of health and education systems across Africa: Evidence from a decade of Service Delivery Indicators surveys under CC-BY 3.0.
- **Figure 2** Reproduced.
- **Figure 3** Reproduced.
- **Figure 4** Reproduced.
- **Figure 5** Reproduced.
- **Figure 6** Reproduced.
- **Figure 7** Reproduced.
- **Figure 8** Reproduced.
- **Table 1** Does not apply The table does not contain analytical output.
- **Table 2** Reproduced.

- **Table 3** Reproduced.
- **Table 4** Reproduced.
- **Table 5** Reproduced.

Reproduction Environment

Paper exhibits were reproduced on a computer with the following specifications:

- OS: Windows 11 Enterprise
- Processor: INTEL(R) XEON(R) PLATINUM 8562Y+ 2.80 GHz (2 processors)
- Memory available: 32.0 GB
- Software version: Stata 19.5 MP