README -- Replication Package

1. Overview

This replication package contains all Stata code necessary to reproduce the empirical results of the manuscript. The package is organized into preparation scripts, analysis scripts, and a main file that executes the full workflow.

Replication steps:

1. Publicly available raw data is included with this replication package. Restricted-access administrative data must be downloaded and placed into the appropriate subfolders within the `input` directory.
2. Update directory path in `main.do`.
3. Run `main.do` to execute all preparation and analysis scripts.
4. Outputs are automatically saved in the `output` folder.

2. Data Availability

- ☐ All data are publicly available.
- ☑ Some data cannot be made publicly available.
- ☐ No data can be made publicly available.

This replication package only includes raw data files that can be made publicly available. The data originating from administrative sources and institutional databases is subject to access restrictions.

Data Sources

Dataset 1: Kenya WMS

- Filenames: `input\Kenya WMS\KenyaWMS.dta`, `input\Kenya WMS\Kenya Facility Roster.dta`.
- Source: Own data collection.
- Access procedure: Access to WMS anonymized data is subject to approval by the research team. Access to other facility-level data collected through the Service Delivery Indicators (SDI) initiative is subject to approval by the research team in consultation with the SDI team. Researchers seeking access should email the research team.
- Access year: 2021.

Dataset 2: HMIS Data

- Filenames: `input\HMIS\data for indicators from hmis team 201801_202112.csv`, `input\HMIS\data for indicators from hmis team.csv`, `input\HMIS\kenya.csv`, `input\HMIS\kenya_kenya_v2_201801.csv`, `input\HMIS\kenya_v2.csv`.
- Source: Kenyan Ministry of Health.
- Access procedure: These data are restricted-access administrative records provided directly by the Kenyan Ministry of Health through institutional collaboration. There is currently no public access mechanism. Researchers seeking access should contact the Kenyan Ministry of Health to inquire about data availability and access conditions.
- Access year: 2021.

Dataset 3: COVID Data

- Filename: `input\Covid\Covid cases and deaths database_17_08_2022.xlsx`.
- Source: Kenyan Ministry of Health.
- Access procedure: These data are restricted-access administrative records provided directly by the Kenyan Ministry of Health through institutional collaboration. There is currently no public access mechanism. Researchers seeking access should contact the Kenyan Ministry of Health to inquire about data availability and access conditions.
- Access year: 2022.

Dataset 4: World Bank Indicators

- Filename: `input\World Bank\API_NY.GDP.PCAP.PP.KD_DS2_en_csv_v2_4029331.csv`, `input\World Bank\API_SH.STA.MMRT.NE_DS2_en_csv_v2_4029776.csv`, `input\World Bank\API_SP.DYN.IMRT.IN_DS2_en_csv_v2_4030072.csv`, `input\World Bank\API_SP.DYN.LE00.IN_DS2_en_csv_v2_4019110.csv`.
- Source: World Bank.
- URL: https://databank.worldbank.org/.
- Access year: 2021.

Dataset 5: WMS Hospitals Data

- Filenames: `input\Hospitals WMS\hospital_anonymized.dta`.
- Source: World Management Survey.
- URL: https://worldmanagementsurvey.org/
- Access procedure: Anonymized hospital-level data available upon request from the World Management Survey team. Researchers should follow the application procedures described on the WMS website.
- Access year: 2021.

Statement about Rights

- ☑ I certify that the author(s) have legitimate access to the data used in this manuscript.
- ☑ I certify that the author(s) have permission to redistribute the data contained within this replication package.

3. Instructions for Replicators

1. Obtain access to all required datasets.
2. Place raw data files into the appropriate `input` subfolders.
3. Open `main.do` and update directory paths.
4. Ensure required software and packages are installed.
5. Run `main.do`.

4. List of Exhibits

- ☐ All numbers provided in text in the paper
- ☑ All tables and figures in the paper
- ☐ Selected tables and figures in the paper (see scripts in `programs/analysis/`)

All outputs listed below are automatically generated by `main.do` and saved in the `output/results/` directory.

Main Paper

Exhibit name	Output filename	Script
Table 1	paper-tab1	programs/analysis/analysis_paper-tab1.do
Figure 1	paper-fig1	programs/analysis/analysis_paper-fig1.do
Figure 2	paper-fig2	programs/analysis/analysis_paper-fig2.do
Figure 3	paper-fig3	programs/analysis/analysis_paper-fig3.do
Figure 4	paper-fig4	programs/analysis/analysis_paper-fig4.do

Appendix

Exhibit name	Output filename	Script
Appendix Table 1	paper-app-tab1	programs/analysis/analysis_paper-app-tab1.do
Appendix Table 2	paper-app-tab2	programs/analysis/analysis_paper-app-tab2.do
Appendix Figure 1	paper-app-fig1	programs/analysis/analysis_paper-app-fig1.do
Appendix Figure 2	paper-app-fig2	programs/analysis/analysis_paper-app-fig2.do
Appendix Figure 3	paper-app-fig3	programs/analysis/analysis_paper-app-fig3.do
Appendix Figure 4	paper-app-fig4	programs/analysis/analysis_paper-app-fig4.do

5. Requirements

Computational Requirements

- Operating system: Windows (tested)
- Recommended RAM: 32GB or more
- Estimated runtime: 1 hour
- Disk space required: 20GB

Software Requirements

- Stata version 18.5
- Use-written commands:
    - labelcollapse
    - icw_index
    - estout
    - reghdfe
    - ftools
    - coefplot
    - grc1leg

- binscatter
- github

6. Code Description

`main.do`: Sets paths and runs all preparation and analysis scripts.

`programs/prepare/`: Data cleaning, merging, and construction of analysis datasets.

`programs/analysis/`: Generates tables and figures for the manuscript and appendix.

Outputs are saved to `output/data/` and `output/results/`.

7. Folder Structure

```
Replication Package
 ├── main.do
 ├── input/
 ├── programs/
 │   ├── prepare/
 │   └── analysis/
 ├── output/
 │   ├── data/
 │   └── results/
 └── temp/
```