REPORT DOCUMENTATION

Gombe State Health Labour Market Analysis 2026

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Excel · Python · Node.js · Word · HTML

76	11	5	9
pages in four parts	Local Government Areas	analytical pillars	workforce information systems reviewed

This is a government report for the Gombe State Ministry of Health. This document explains how the report was produced. It does not reproduce the findings or figures in it. The full report is available on request where the Government allows it.

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01 THE STORY BEHIND THE REPORT

> *Imagine a commissioner of health is asked a plain question: how many health workers does Gombe have, where are they, and how many more does the State need? Each office answers differently. The nominal roll gives one number, the establishment list another, the hospital board a third.*
>
> *A Health Labour Market Analysis is the attempt to answer the question properly. It puts the records side by side, decides which count to trust and says why, and then follows the workforce through training, hiring, posting, pay and exit.*

The Gombe State Health Labour Market Analysis 2026 is the State's first look at its health workforce as a labour market. It runs to 76 pages and follows the WHO framework, prepared for the Gombe State Ministry of Health with the analytical framework of the Federal Ministry of Health and Social Welfare, technical and financial support from UNICEF Nigeria, and technical implementation by the Innovative Hub for Research in Africa (IHfRA).

It covers the State's public health workforce across its eleven Local Government Areas. It was reworked after a methodological review, and the changes, which include population sensitivity bands and sections on implementation constraints and gender, became the standard for the other States.

02 MY ROLE

- Led the analysis and wrote the report.

- Reworked the report through the review round and rebuilt the analysis on the validated data the State supplied.
- Added population sensitivity bands, and sections on implementation constraints and gender.
- Carried the method forward into the later state reports.

03 WORDS USED IN THIS DOCUMENT

Word	What it means
HLMA	Health Labour Market Analysis. It treats the health workforce as the product of two markets, one that educates people and one that employs them.
Pillar	One of the four parts of the WHO framework: supply, economic demand, population health need and financial space.
Thematic area	A chapter group of the report. The questions are sorted into five: population health need, economic demand, education and production, supply and distribution, and financing.
Policy question	A question the State asked the analysis to answer, for example "are staff posted where the people are?".
Clinical workforce	Doctors, nurses and midwives, community health cadres, pharmacy, laboratory, radiography and dental cadres. Densities use these cadres only.
Density	Clinical workers for every 10,000 people. It lets a small area and a large area be compared fairly.
WHO threshold	44.5 doctors, nurses and midwives per 10,000 people, the level the WHO links to the health goals of the SDGs.
Staff Availability Ratio	Workers the State has, divided by workers the threshold says it needs. A ratio of 1 means the need is met.
Register	A list kept by one office, such as a nominal roll, an establishment list or a training return.
Release	The money actually paid out against an approved budget. Approval is a promise; release is the cash.
Pace	A stated yearly growth in the clinical workforce used in a projection. It is a policy scenario, not a forecast.
Void	A register that exists but is empty. In this work a void is recorded as a finding and is never filled with a guess.

04 THE QUESTIONS THE STATE ASKED

The State ranked its policy questions with stakeholders across the five pillars: population health need, economic demand, education and production, supply and distribution, and financing. Annex A of the report lists each question under its pillar, Annex B gives the finding against each, and Annex C lists data sources, instruments and limitations.

Where the State supplied validated data in the review round, that data replaced the earlier return, and the report says so.

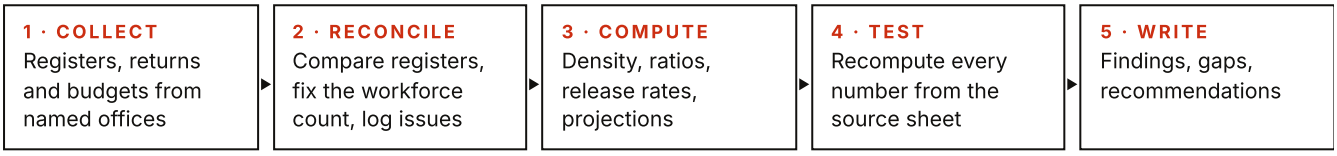
05 WHERE THE EVIDENCE CAME FROM

The analysis used administrative records already held by State agencies, aggregated so that no individual worker is identifiable.

Source	What it supplied	Feeds
Workforce registers	Nominal rolls, cadre and skill-mix registers, establishment (approved, filled, vacant posts).	Supply

Source	What it supplied	Feeds
Service statistics	DHIS2 returns: outpatient visits, antenatal care, deliveries, disease counts, by Local Government Area.	Need, supply
Budget records	Approved budgets, releases, spending and wage-bill lines, several years.	Demand, financing
Training returns	Admissions, enrolment, graduation, licensing, accreditation, faculty and internship, by institution.	Education
Surveys and national data	Population projections, household surveys, insurance enrolment, WHO and national benchmarks.	Need, financing
Salary scales	CONMESS and CONHESS bands, used to ground cost ranges.	Financing

06 HOW THE ANALYSIS WAS BUILT



Sensitivity, not a single answer

Because the State has no settled population growth rate, the projections carry population sensitivity bands. A reader can see how much each conclusion depends on the assumption.

Small samples

With only eleven Local Government Areas, area comparisons are treated as descriptive associations. No inferential statistic is drawn from them.

Three conventions are applied throughout and stated in the method chapter of each report.

1. Where two registers disagree, show both, say which is used and why. Never choose silently.
2. Where a source table is empty, record the void as a finding and name the document that would fill it. Never substitute an estimate.
3. Where a figure is a lower bound because its source says it is incomplete, label it as a lower bound wherever it appears.

07 HOW THE KEY NUMBERS ARE WORKED OUT

Clinical density

Density is the first number every chapter leans on. It is simple, but it is easy to get wrong, so the rules are fixed before any table is built.

THE FORMULA

```
density  =  clinical workers  ÷  population  ×  10,000

Excel:   =ROUND( B2 / C2 * 10000 , 1 )
```

HOW IT WORKS, STEP BY STEP

1. Count only the cadres on the clinical list. Health information, environmental health and lay community workers are set aside.

2. Use one population figure, from one year, for every row, so that every density shares a denominator.
3. Divide the workers by the population, then multiply by 10,000.
4. Compare with the 44.5 threshold, and say which cadres the threshold was written for.

> **An everyday example.** A district with 1,200 clinical workers and 400,000 people has 1,200 ÷ 400,000 × 10,000 = 30 workers per 10,000. That is two thirds of the threshold.

Staff Availability Ratio and shortfall

THE FORMULA

```
requirement  =  population ÷ 10,000 × 44.5
ratio        =  workers available ÷ requirement
shortfall    =  requirement − workers available
```

> **An everyday example.** A State of 500,000 people needs 500,000 ÷ 10,000 × 44.5 = 2,225 workers. If it has 1,000, the ratio is 0.45 and the shortfall is 1,225.

Builds on: Clinical density. The same workers and the same population feed both.

Projection to the end year, by pace

A forecast needs a long history of the workforce. The States do not have one, so I did not fit a trend. I built scenarios, each with a stated yearly growth in clinical workers, and showed what each one does to density and to the gap.

THE FORMULA

```
workforce(year+1)   =  workforce(year)   × (1 + pace)
population(year+1)  =  population(year)  × (1 + growth)
density(year)       =  workforce(year) ÷ population(year) × 10,000
```

HOW IT WORKS, STEP BY STEP

1. Take the clinical workforce and the population in the base year.
2. Choose the paces: replacement only (no growth), the current pace, and an accelerated pace.
3. Grow the workforce by the pace and the population by the stated growth rate, year by year.
4. Read off density and the shortfall against the threshold for the end year.

> **An everyday example.** Start with 1,000 workers and 400,000 people. At a pace of 10% for five years, the workforce is 1,000 × 1.1^5 = 1,611. With population growing 3% a year it is 463,710. Density is 1,611 ÷ 463,710 × 10,000 = 34.7.

Population growth is a stated assumption in every report. Where the State's own series contained a one-off rebasing step, I did not fit the growth rate across it, because that would have overstated future growth.

Release rate

THE FORMULA

```
release rate  =  amount released  ÷  amount approved
```

> **An everyday example.** If 100 million naira is approved and 25 million is released, the release rate is 25%. The other 75 million was appropriated and never paid.

Testing a relationship

Where the question is whether staffing follows population or patient volume, I used a correlation coefficient and gave the p-value, so the reader can judge. With 11 to 25 areas the sample is always small, so the result is reported as indicative, not as proof.

08 PROBLEMS FOUND IN THE RECORDS AND WHAT I DID

Recorded in the method chapter and carried through the findings.

Issue	What I did	Why
Headcounts stored against posts, with no entry date, exit date or reason for leaving	Said age and attrition analyses cannot be done	Imputing them would give false precision
Workforce total recorded in more than one way	Showed the versions and stated which one each table uses	Density needs one denominator
Training budget columns hold transposed figures	Did not compute cost per worker	A transposed column gives a wrong cost
Internship, accreditation, attrition and skill-mix registers blank	Treated each void as a finding	A void tells the State what to start recording
Nine workforce information systems, none with a funded budget line	Reported it as an implementation constraint	It explains why the records stay fragmented

09 WHAT IS IN THE REPORT

Part	What it does
Part I	Context, framework, data sources, methods and the fiscal setting.
Part II	The five thematic areas in turn, each ending with the findings carried forward.
Part III	The workforce arithmetic: projections, the needs-based requirement and the cost of the additions.
Part IV	The evidence base: which questions the records answer and which they cannot.
Part V	Recommendations, with who leads, when, and how progress is monitored.

The report also carries three annexes: the five pillars with their policy questions, the finding against each question, and the data sources, instruments and limitations.

10 CHAPTER BY CHAPTER

The table follows the contents page of the Gombe State report. Page numbers are those printed in the report. A section starts on the page shown and runs to the start of the next one.

Section	Title	Page	The question it answers
1	Introduction and background	16	Why the report exists and what it covers
2	Methodology	19	How the analysis was done
3	Political economy and fiscal context	23	The policy and fiscal setting
4	Population Health Need and Workforce Requirements	29	Need: how many workers the population requires

Section	Title	Page	The question it answers
5	Economic Demand for Health Workers	35	Demand: what the State can afford to employ
6	Education and Production of Health Workers	40	Education: who is trained and how many qualify
7	Health Workforce Supply, Distribution and Retention	47	Supply: who works where, and who stays
8	Health Workforce Financing and Investment	54	Finance: what is spent and when it is released
9	Clinical Workforce Projections to 2030	62	Where the workforce is heading
10	Needs-Based Requirements and the Staff Availability Ratio	66	How far supply meets need
11	What the Record Can Price	70	What closing the gap would cost
12	The evidence voids	73	What the records cannot yet answer

11 HOW TO READ IT IN TWENTY MINUTES

A READING ORDER FOR A BUSY READER

1. Read the executive summary first. It gives the main findings, and the report is organised around five analytical pillars: need, demand, education, supply and finance.
2. Read Section 12, The evidence voids (page 73), to see which policy questions the records could not answer and which document would answer them.
3. Go back to the pillar that matters most to your decision and read that section in full.

12 LIMITATIONS STATED IN THE REPORT

There are no individual-level workforce records, so attrition is unmeasured. Several registers are blank. The training budget columns hold transposed figures. No field survey was run. Population growth is a stated assumption. Where the data could not support a reliable conclusion, the limitation is stated and no estimate is substituted.

13 OUTPUTS AND HOW THEY WERE USED

A written analysis the State can act on, with every finding traced to a named register, each gap in the evidence recorded as a finding, and prioritised recommendations built on the State's own data.

An analytical workbook that recomputes every figure in the report from the source sheets, so a reviewer can follow any number back to the office that supplied it.

Input to the consolidated six-state report, which sets the findings beside those of the other five States.

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