REPORT DOCUMENTATION

Ondo State Health Labour Market Analysis 2026

Prepared by Temidayo Sunday Alade, Public Health Data Scientist

Excel · Python · Node.js · Word · HTML

108	18	33	6
pages in five parts	Local Government Areas	prioritised policy questions	field survey instruments

> This is a government report for the Ondo 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.

WHAT IS INSIDE

1 The story behind the report
2 My role
3 Words used in this document
4 The questions the State asked
5 Where the evidence came from
6 How the analysis was built
7 How the key numbers are worked out
8 Problems found in the records and what I did
9 What is in the report
10 Chapter by chapter
11 How to read it in twenty minutes
12 Limitations stated in the report
13 Outputs and how they were used

01 THE STORY BEHIND THE REPORT

> *Imagine a commissioner of health is asked a plain question: how many health workers does Ondo 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 Ondo State Health Labour Market Analysis 2026 is the State's first look at its health workforce as a labour market. It runs to 108 pages and follows the WHO framework, prepared for the Ondo 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, the institutions that train it and the money that pays for it, with 2026 field surveys of health workers, facility managers, students and graduates, training institutions and patients added to the administrative record.

02 MY ROLE

- Led the analysis and wrote the report.
- Set the field survey results beside the administrative record so each could test the other.

- Classified the cadre-mix return by cadre title and computed every density from it.
- Wrote the synthesis that lines up one indicator for each link in the chain of constraint.

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

Thirty-three policy questions were organised across five pillars: population health need, economic demand, education and production, supply and retention, and financing. State stakeholders ranked them by impact and feasibility. The workshop also named the questions stakeholders wanted answered that the record could not answer, and those are reported as findings.

Annex A of the report lists the five pillars and thirty-three questions, Annex B gives the finding against each, and Annex C lists sources, instruments and limitations.

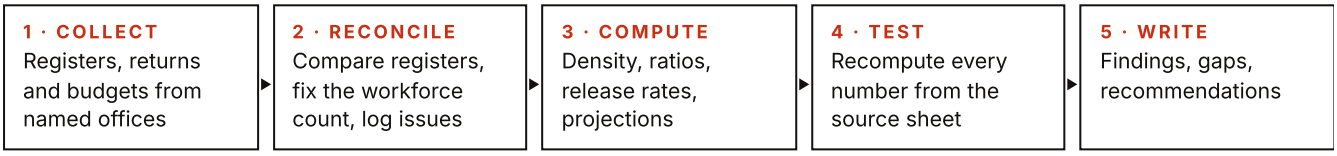
05 WHERE THE EVIDENCE CAME FROM

The analysis proceeded in four stages: assemble the registers and the question workbook, prioritise with stakeholders, compute indicators against benchmarks, and run field surveys to test the record against lived experience.

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
Field surveys 2026	Six instruments: health workers, facility managers, students and graduates, training institutions, patients and a key informant. The health worker survey is large enough to read as measurement; the others are indicative.	All
Equipment inventory	Diagnostic equipment availability.	Supply

06 HOW THE ANALYSIS WAS BUILT



Registers first, surveys second

The surveys came after the registers so they could test them. A survey result is reported next to the register figure it tests, so the reader can see where lived experience agrees or differs.

Reading samples honestly

Large samples are read as measurement. Small, purposive samples are read as indicative testimony. The report states which is which wherever a survey result is used.

One indicator for each link in the chain

The closing synthesis lines up one indicator for each link in the chain of constraint, from need through to financing, so the reader can see where the chain is weakest.

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
Workforce total recorded differently in three registers	Showed the three and stated which one each analysis uses	No single total can be traced from decision to named staff
Larger headcount series with no cadre breakdown	Used it only for trends in total employment, never for density	Density needs cadre detail
No entry date, exit date or reason for leaving	Withheld age and attrition analysis	They are not in the record, so they are not guessed
Purposive field samples of different sizes	Read the large one as measurement and the rest as testimony	Small samples cannot be generalised
Thin or empty registers for absorption, out-of-pocket spending and private employment	Treated each as a finding	A void names what to start recording

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.

Part V is the longest, because the field surveys and the synthesis sit there beside the recommendations.

10 CHAPTER BY CHAPTER

The table follows the contents page of the Ondo 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	18	Why the report exists and what it covers
2	Methodology	22	How the analysis was done
3	Political economy and fiscal context	25	The policy and fiscal setting
4	Population Health Need and Workforce Requirements	31	Need: how many workers the population requires
5	Economic Demand for Health Workers	40	Demand: what the State can afford to employ
6	Education and Production of Health Workers	47	Education: who is trained and how many qualify
7	Health Workforce Supply, Distribution and Retention	55	Supply: who works where, and who stays
8	Health Workforce Financing and Investment	64	Finance: what is spent and when it is released
9	Clinical Workforce Projections to 2030	74	Where the workforce is heading
10	Needs-Based Requirements and the Staff Availability Ratio	80	How far supply meets need
11	Financial Feasibility of Workforce Investment	84	What closing the gap would cost
12	Exploratory Labour Market Analysis	87	Extra evidence on the labour market
13	Cross-Cutting Synthesis and Policy Options	90	How the findings fit together
14	Recommendations, Implementation, Risks and Monitoring	99	What to do about it

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. Turn to Section 13, Cross-Cutting Synthesis and Policy Options (page 90), to see how the findings connect.
3. Go back to the pillar that matters most to your decision and read that section in full.

12 LIMITATIONS STATED IN THE REPORT

The principal limitation is the absence of individual-level workforce records, which made it hard to track attrition. Registers for absorption, out-of-pocket spending and private-sector employment are thin or empty, and the report treats each gap as a finding. Field samples are purposive. Population growth is a stated assumption.

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.

Temidayo Sunday Alade · aladetemidayo7@gmail.com · dayo@startechone.com.ng · linkedin.com/in/aladetemidayo-sunday