TECHNICAL DOCUMENTATION

Health Workforce Profiles and State Registries: Delta, Ogun and Rivers

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Android data capture · iHRIS · DHIS2 · Excel · Word

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States with a registry and a profile	Local Government Areas across the three	sections in each profile	Android tool replacing paper forms

This is government work for Delta, Ogun and Rivers States under the Federal Ministry of Health. This document explains how the work was done. It does not show the figures in the profiles. A full walkthrough is available on request.

WHAT IS INSIDE

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01 THE STORY BEHIND THE PROJECT

> *Imagine a state asked how many nurses it has. The primary health care agency has one list, the hospitals board another, the teaching hospital a third, and some of the lists are paper. Nobody can say how many nurses there are without three phone calls and a guess.*
>
> *A registry replaces the guess. It is one list, kept by the State, that can be updated when someone joins, moves or retires.*

Delta, Ogun and Rivers States each needed one trusted count of their health workers, held somewhere they could keep current. The exercise, under the Federal Ministry of Health with Global Fund support, set out to establish a State Health Workforce Registry in each State, linked to the federal iHRIS platform, and to produce a validated Health Workforce Profile for each.

02 MY ROLE

- Built the Android data capture tool that replaced paper forms.
- Piloted the tool and trained State enumerators.
- Cleaned, standardised and reconciled the records, and aligned them with the national DHIS2 framework.
- Wrote the Delta profile in full and produced the Ogun profile and digital e-bulletins. The Rivers profile follows the same format, with the Clinton Health Access Initiative as technical partner.
- Produced the final copies of both profiles from the Federal Ministry of Health's review.

03 WORDS USED IN THIS DOCUMENT

Word	What it means
Registry	A maintained list of health workers that the State can update, not a one-off count.
Profile	A report that describes the registry: how many workers, which cadres, where, how experienced.
iHRIS	The open-source human resources information system used for the federal registry.
DHIS2	The national health information platform.
Reporting entity	An organisation that supplied records, such as a hospitals management board.
Enumerator	A person who collects records at a facility or agency.
Licensed cadre	A cadre whose members must register with a statutory council.

04 HOW THE REGISTRY AND PROFILE WERE BUILT



The data capture tool

Records were captured on Android devices using a form that follows national data standards. The same field means the same thing in every facility, so records from different places can be joined without being re-keyed.

Cleaning and reconciliation

- Duplicate entries were removed, including workers who appear at more than one reporting entity.
- Cadre classifications and variable formats were standardised.
- Missing or inconsistent values were checked, and totals were cross-checked across variables such as gender, cadre and location.
- Where needed, inconsistencies were resolved through logical checks and alignment with the records available.

05 WHAT EACH PROFILE CONTAINS

Section	What it covers
1 Introduction and background	State overview, health system, rationale, objectives, scope and coverage, governance.
2 Methodology	Data sources, collection, cleaning, analytical approach, limitations, how density is measured.
3 Workforce overview	Distribution by level of care and gender, licensed share.
4 Demographics	Age, gender, marital status, age and sex structure.
5 Cadre mix	Distribution by cadre, age by cadre, licensing authority, appointment status, licence record completeness.
6 Geography	Distribution by Local Government Area, gender and age by Area, state of origin and residence, rural and urban.
7 Level of care	Cadres, ages and gender across primary, secondary and tertiary care.
8 Experience	Early, mid and late career, and cadre by years of experience.

Section	What it covers
9 Density	Licensed workforce density against population.
10 Training	Training background of the workforce and the State's training institutions.
11 Retirement and recruitment	Who is due to retire, and recent intake.

Each section closes with key insights for planning. The front matter carries an executive summary, abbreviations and a glossary.

06 HOW THE KEY NUMBERS ARE WORKED OUT

Licensed workforce density

THE FORMULA

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density  =  licensed workers in an Area  ÷  Area population  ×  10,000
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HOW IT WORKS, STEP BY STEP

1. List the cadres that require registration with a statutory body, such as doctors, nurses, pharmacists, laboratory, community health, records, radiography and rehabilitation cadres.
2. Count the workers in those cadres in each Area. Administrative, financial and support cadres are left out.
3. Divide by the Area's population projection for the year.
4. Multiply by 10,000.

> **An everyday example.** An Area with 300 licensed workers and 150,000 people has 300 ÷ 150,000 × 10,000 = 20 per 10,000.

A cadre-based definition is used, not recorded licence numbers, because licence details are missing for a large share of records. Density is also reported for doctors, nurses and midwives against the WHO threshold of 44.5 per 10,000.

Career stages

THE GROUPING

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early career:  under 5 years of professional experience
mid career:    5 to 19 years
late career:   20 years or more
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Retirement outlook

THE PUBLIC SERVICE RULE

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retires when:  age 60   or   35 years of service,  whichever comes first
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HOW IT WORKS, STEP BY STEP

1. Take each worker's date of birth and date of first appointment.
2. Work out the date each would reach 60, and the date each would complete 35 years.
3. Take the earlier of the two as the retirement date.
4. Count how many fall due now, and in each of the next five years.

> **An everyday example.** A nurse born in 1975 who joined in 1990 reaches 60 in 2035 and 35 years of service in 2025. Retirement is 2025, because the service rule comes first.

The profiles note that the federal government approved a retirement age of 65 for clinically skilled health workers in 2025 and that states are adopting it at different speeds, so projections use the 60 and 35 rule and say so.

07 PROBLEMS FOUND IN THE RECORDS AND WHAT I DID

Issue	What I did	Why
The same worker on more than one list	Matched records and removed duplicates	Counting one person twice makes a State look better staffed
Different spellings of cadre, facility and Area	Standardised to one list	Otherwise one cadre appears as several
Licence details missing for a large share of records	Defined licensed workers by cadre, not by recorded licence number	A definition that follows missing data would undercount
Missing or impossible dates of birth and first appointment	Flagged them and noted them in the retirement projections	A wrong date puts a worker in the wrong year
Private, military, faith-based and NGO facilities not covered	Scoped the profile to the public sector and said so	No return recorded them

08 WHAT IT DELIVERED

Each State holds a workforce profile built from its own registry, and a registry to keep it current, so the next count starts from a maintained list and not from scratch.

09 LIMITATIONS

The profiles describe government facilities, agencies and training institutions. Counts are a verified minimum, because only workers whose records were submitted in the collection window are included. A profile is a snapshot, so it cannot measure exits, migration or dual practice, and without approved posts it cannot give vacancy rates.

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