NFTI
Natview Foundation for Technology Innovation

NFTI CASE STUDY 002

Health Systems & Data for Decision-Making

Turning Operational Data into a Performance Lens for Primary Health Care in Kano State



A state-inclusive diagnostic review of operational data across five health system domains, delivering the evidence base for a shift from paper records to real-time performance management.

Program	State-Inclusive Diagnostic Review of Operational Data across Five Domain Areas
Location	Kano State, Nigeria — statewide, 44 Local Government Areas
Sector	Primary Health Care · Health Information Systems · Performance Management
Partners	Kano State Government (SMoH, SPHCMB) · Kano Bureau of Statistics · MDAs across five domains
Alignment	State Strategic Health Development Plan (SSHDP) and the GF performance management strategy
Delivered by	Natview Foundation for Technology Innovation (NFTI)
Scope	6 MDAs assessed · 44 PHCs field-visited (1 per LGA) · 5 domains · 9-stage roadmap

Abbreviations and Acronyms

The following abbreviations are used in this case study.

Abbreviation	Full form
BHCPF	Basic Health Care Provision Fund
DMCSA	Kano Drug Management, Consumables & Supply Agency
EM	Essential Medicines
HREC	Health Research Ethical Committee
HRH	Human Resources for Health
HRHMIS	Human Resources for Health Management Information System
GF	Gates Foundation
LGA	Local Government Area
MDA	Ministries, Departments and Agencies
mSupply	Warehouse management and inventory software used for essential medicines
NFTI	Natview Foundation for Technology Innovation
PHC	Primary Health Care / primary health care facility
SMoH	Kano State Ministry of Health
SPHCMB	Kano State Primary Healthcare Management Board
SSHDP	State Strategic Health Development Plan

At a Glance

THE CHALLENGE

Kano State runs its primary health care system on data streams that are fragmented across paper registers, spreadsheets, and partly deployed digital platforms. Decision-makers lacked a clear, real-time line of sight from the facility level up to the state, making it difficult to answer performance questions on staffing, financing, stock, and service readiness with confidence.

THE RESPONSE

NFTI led a state-owned, mixed-methods diagnostic that mapped how operational data is collected, moved, and used across five domains, benchmarked each against a five-stage maturity gradient, and validated the findings with government stakeholders in Kano and Abuja.

THE RESULT

A consolidated evidence base and domain-by-domain improvement roadmap that gives Kano State a sequenced path toward performance-driven primary health care, anchored in institutions the state already owns.

By the Numbers

Metric	Figure
Local Government Areas covered	44 (statewide)
Primary health facilities assessed in the field	44 (one per LGA)
Ministries, Departments & Agencies engaged	6
Health system domains diagnosed	5
Stages in the assessment roadmap	9
Validation sessions held (Kano and Abuja)	2

Context: Why Operational Data Matters

Operational data, the day-to-day records generated as health services are delivered, holds untapped potential to answer strategic questions about how a primary health care system actually performs at the last mile. When it flows cleanly from the facility to the state, it can show policymakers where health workers are, whether commodities are in stock, how funds reach the front line, and whether facilities are ready to deliver services.

NFTI has demonstrated this potential elsewhere in Nigeria. In Kaduna State, an electronic supervision platform is used to understand the service readiness and availability of primary health facilities. In Gombe State, a biometric attendance system helps managers understand the productivity of health workers. These use cases show that consistent operational data streams can measure health outputs and outcomes through a performance management lens, while opening opportunities to improve data quality over time.

Kano State set out to build the same capability. Working within its State Strategic Health Development Plan (SSHDP) and aligned to the Gates Foundation performance strategy, the state partnered with NFTI to first answer a foundational question: *how mature is the use and uptake of operational data across the health system today, and what will it take to move it forward?*

The Five Domains Under Review

The diagnostic dissected the health system into five interlocking domains, each mapped to the Ministries, Departments and Agencies (MDAs) responsible for it:

Domain	What it covers	Lead institutions
Supply Chain Management	Flow of medicines, vaccines and commodities from source to client	SMoH · SPHCMB · DMCSA
Healthcare Financing	Budgeting, disbursement and last-mile financing to facilities	SMoH · SPHCMB · Contributory Mgmt Board · Health Trust Fund
Service Availability & Readiness	Facility capacity, service coverage, quality and commodity availability	SMoH · SPHCMB
Human Resources for Health	Workforce planning, deployment, attendance and productivity	SMoH · SPHCMB · Head of Civil Service · Training Institutions
Data Management	Institutional capacity to manage survey, census and operational data	Kano Bureau of Statistics

The NFTI Approach

The methodology was built on a single principle: the assessment had to be owned by the state, not delivered to it. Every stage was designed to entrench government ownership in the design, conduct and interpretation of the review, so that the findings would be trusted and acted upon.

A Mixed-Methods Design

The review combined qualitative and quantitative methods at two levels. At the state level, desk reviews of existing studies and policy documents were paired with focus group discussions and key informant interviews to establish the current state of play. Process review workshops then deep-dived into how operational data delivers reporting at the policy level. At the facility level, field teams visited 44 primary health facilities, one in every Local Government Area, to test whether the data and processes at the front line aligned with what was reported at zonal and state levels.

- **Governance & institutional assessment** — the legal frameworks, organograms and mandates behind each domain
- **Operational data archetypes** — mapping paper-based, semi-automated and automated data platforms in use
- **Process mapping** — documenting the workflows that move data through the system
- **Field operational data mapping** — verifying facility-to-state alignment across 44 PHCs
- **Performance management mapping** — connecting data to the strategic questions leaders need answered

State Ownership by Design

A fully government-driven coordination framework placed the State Primary Health Care Management Board at the centre of the exercise. The Director of Planning, Monitoring and Evaluation served as the coordination desk, planning stakeholder engagements, supplying study materials, and ensuring the right officials took part in interviews, workshops and validation sessions. To build institutional memory and transfer proven practice, subject matter experts were pooled from both Kano and Kaduna, blending local insight with the operational data experience already built up in Kaduna.

> **ETHICS AND RIGOUR FIRST**
>
> The assessment began with an application for HREC approval from the Health Research Ethical Committee, ensuring it met the ethical and scientific standards required to conduct an assessment in the state. Approval was received from the State Ministry of Health. Findings were then stress-tested in two validation sessions, one in Kano and one in Abuja, before the report was finalised.

A Nine-Stage Roadmap

The work followed a structured, stepwise roadmap that kept state inclusion at the core of every phase:

1. HREC approval from the Health Research Ethical Committee
2. Stakeholder entry meetings to agree deliverables and assessment frames
3. Desk reviews of existing literature across the five domains
4. Focus group discussions and key informant interviews to validate desk findings
5. Process review workshops to deep-dive into operational data archetypes
6. Field assessment of 44 PHCs to test facility-to-state alignment
7. Mapping of operational data to performance management continuums

8. Harmonisation of operational data across the five domains
9. Validation of the consolidated findings with state teams

Results: A Clear Picture of Where Kano Stands

NFTI developed a five-stage maturity gradient to classify how far each domain has progressed in the use and uptake of operational data. The gradient gives the state a common, objective language for measuring progress and setting targets.

The Maturity Gradient

Stage	Weighting score	What it signals
Incubation	0% – 39%	Foundational systems weak or absent; significant investment needed
Maturing	40% – 49%	Building blocks emerging but inconsistent
Standardized	50% – 69%	Core systems in place and functioning with room to optimise
Matured	70% – 89%	Reliable, well-adopted systems generating usable insight
Innovative	90% – 100%	Advanced, data-driven performance management

How the Domains Scored

The assessment produced a differentiated picture: three domains have reached the standardizing stage, while service readiness and the state's central data institution emerged as the clearest priorities for investment.

Domain	Score	Maturity stage
Human Resources for Health	62%	Standardized
Healthcare Financing	58%	Standardized
Supply Chain Management	57%	Standardized
Service Availability & Readiness	42%	Maturing
Data Management (Kano Bureau of Statistics)	37%	Incubation

Scores shown are the domain-level maturity gradient scores recorded in each domain assessment, drawn from the focus group discussions and key informant interviews with subject matter experts.

What the Diagnostic Found

Supply Chain Management — 57%, Standardized

The diagnostic found a clear line of sight for generating performance insights in vaccine management and cold chain equipment, dry store and essential drugs, and last-mile consumption and stock-out tracking, supported by the Drug Revolving Fund at facility level. The main opportunities lie in integrating supply chain operations end to end and improving requisition and delivery. The state has the right digital platforms, but tools such as mSupply are not yet used to full capacity, and vertical program silos distort visibility for forecasting and quantification.

Healthcare Financing — 58%, Standardized

The state runs a digitised macro-financing framework that tracks well-defined health account indicators, and the Basic Health Care Provision Fund provides a complete suite of tools for financial management at the facility level. The priority now is to connect facility-level insight to the macro-financing picture, so leaders can see last-mile financing and judge spending quality against a minimum package of health services. Integrating these tools into a single financing dashboard is the clear next step.

Service Availability & Readiness — 42%, Maturing

Service readiness sits at the maturing stage, with the building blocks in place but not yet generating consistent, actionable insight for the state performance strategy. Strengthening the capacity and capabilities of the service readiness frames is the route to deriving reliable insight on facility readiness, service coverage and quality.

Human Resources for Health — 62%, Standardized

Human resources for health scored highest of the five domains. Kano has taken a proactive approach to workforce planning and built an in-house Human Resources for Health Management Information System (HRHMIS), an important first step. Its full value as a planning tool is held back by limited adoption, which leaves the data incomplete and inconsistent. The diagnostic points to a workforce registry covering all practitioners and employment types, a forecasting and planning module, alignment between facility and state reporting, and a reliable biometric attendance system as the priorities for turning workforce data into decisions.

Data Management: Kano Bureau of Statistics — 37%, Incubation

The Kano Bureau of Statistics, the institution best placed to serve as the state's central data service provider, is at the incubation stage on its capacity to manage survey, census and operational data. Significant, deliberate investment in technical capacity, processes and infrastructure is required to move the Bureau to a level where it can effectively manage operational data archetypes and anchor a whole-of-state data function.

From Diagnosis to Action

The diagnostic is not an end in itself; its value is the sequenced, domain-by-domain improvement roadmap it hands to the state. Across the five domains, a consistent set of priorities emerged, each tied to a strategic question Kano State can now answer with data.

Domain	Priority actions from the diagnostic
Supply Chain	Integrate EM and public-health commodity flows end to end; build mSupply capacity and extend visibility to senior managers; explore open-source warehouse management options
Financing	Consolidate BHCPF tools into a single financing dashboard linking facility and macro views; strengthen fiscal monitoring and last-mile financing visibility
Service Readiness	Build the capacity of service readiness frames to generate consistent, actionable insight for the performance strategy
Human Resources	Deploy an HRH forecasting and planning dashboard; establish a full workforce registry; drive HRHMIS adoption to facility level; implement biometric attendance
Data Management	Invest in the Bureau of Statistics' technical staff, processes and infrastructure to reach data-service-provider maturity

The Bigger Picture

By benchmarking every domain against the same maturity gradient, the diagnostic gives Kano State a baseline it can measure progress against year on year. Because the entire exercise was government-led, from ethics approval through validation, the roadmap lands inside institutions the state already owns, rather than as an external prescription. That ownership is what gives the findings a realistic path to implementation.

Lessons Learned

- **State ownership drives uptake.** Placing the State Primary Health Care Management Board at the centre of coordination, and pooling experts from within the region, made the findings the state's own and increased the likelihood they will be acted upon.
- **A shared measurement language accelerates alignment.** The five-stage maturity gradient gave technical teams and policymakers a common, objective way to talk about progress and set targets across very different domains.
- **Diagnose the whole system, not one part.** Assessing five interlocking domains together surfaced dependencies, such as the central role of the Bureau of Statistics, that a single-domain review would have missed.
- **Digital tools deliver only when adopted.** Across supply chain and workforce data alike, the constraint was rarely the absence of a platform; it was partial deployment and low adoption. Change management matters as much as technology.
- **Meet facilities where they are.** Visiting a facility in every one of the 44 LGAs tested whether facility-level records actually align with state-level reporting, grounding the roadmap in front-line reality rather than headquarters assumptions.

About NFTI

The Natview Foundation for Technology Innovation (NFTI) works at the intersection of technology, data and social impact, partnering with governments and development actors to build the systems that turn data into better public decisions. This diagnostic was delivered in partnership with the Kano State Government, aligned to the State Strategic Health Development Plan and the Gates Foundation performance management strategy.

Natview Foundation for Technology Innovation · 15 Iya Abubakar Crescent, Jabi, Abuja
www.natviewfoundation.org ·

For more information, please write to the Senior Program Officer, Strategic Communications & Advocacy, NFTI, at communications@natviewfoundation.org