

# Impact Report on Vaccine Data CoLab in Nigeria

October 2023



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# Introduction



## Our Shared Goal for Vaccine Data in Nigeria

Concerns about vaccine hesitancy emphasise the need for an effective vaccine deployment strategy that requires a geographically targeted approach for designing, executing, and monitoring its performance. However, the lack of data and statistical resources, especially in many low- and middle-income countries (LMICs), with COVID-19 as a notable example, can affect the efficiency of a vaccine rollout and implementation plan.

The FCDO's Vaccine Data CoLab has recognised hyperlocal data systems as a vital tool for identifying the target population, their spatial distribution, and the impact of social, cultural, and political factors on specific behaviours, particularly concerning vaccine hesitancy. Studies have shown that hyperlocal data on both vaccine supply and demand will generate interest when vaccine doses are available.

Therefore, it is crucial to provide LMICs with the necessary statistical resources and expertise to identify who is hesitant, the reasons behind their hesitancy, their geographic location, and the most appropriate approach to boost vaccine acceptance among this hesitant population, coupled with a systemic understanding of the barriers and enablers in place and what array of changes could make this future possible.

### The Approach

Our approach focuses on working closely with multi-sector national and sub-national stakeholders to understand the existing vaccine data landscape, agree priorities, surface local solutions and talent, and connect actors and contexts facing similar challenges through learning networks.



#### Assess local data needs and gaps

Understand the existing vaccine data landscape and work with key national and sub-national stakeholders to imagine a better future and identify gaps and prioritise opportunity areas.



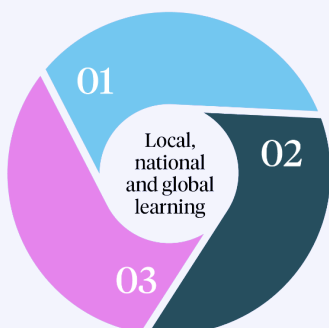
#### Targeted Actions

Implementers, govts and partners are addressing gaps in the health data system and testing targeted interventions to drive the uptake of data for vaccine decision making.



#### Learn together on common challenges and what works

Bring together actors facing similar challenges to learn together. Measure impact and performance of targeted interventions to iterate, improve, and share learnings.



01

#### The Co: Local and National

A diverse group of local and national implementers, policy-makers, funders and researchers working to strengthen data systems for vaccine decision making

02

#### The Lab

Grant funding a diverse portfolio of interventions across country priorities

03

#### The Co: Global

Championing country learning into global spaces such as WHO



## Objectives of the CoLab

Our aim is to bring together partners and funders to create a long-term vision on country vaccine data & health systems strengthening.

We are:

1. Building local, national and global coalitions with a shared vision for change.
2. Actioning ideas through a portfolio of catalytic grants.
3. Providing behavioural innovation and data expertise.
4. Sharing our learning with local and global networks.

### We hope that our learning will be useful for stakeholders across the vaccine data ecosystem:

- for funders to align upcoming projects with country priorities;
- for government decision and policymakers to understand more about unmet needs and opportunities domestically;
- to increase the visibility that data experts have of the breadth of datasets and tools currently used;
- to clarify the upstream use cases of data for vaccine and healthcare professionals.

In Nigeria, the Vaccine Data CoLab partnered with National Primary Health Care Development Agency (NPHCDA) to support the enhancement and sustainability of vaccine deployment capacity for both national and sub-national governments. NPHCDA is a crucial partner in Nigeria, where it holds a central role in the governance mechanism for vaccination. Through collaborative discussions and consultations, stakeholders in vaccine data in Nigeria have reached a consensus regarding their vision for the future of vaccine data.

## Key lessons at a glance



### Going from 'accessible' to 'accessed' to 'used'

When expanding interventions that improve data collection and data access at a local level, localities need a mix of equipment, consumables, comprehensive training and sustainable maintenance programs.

- A major barrier to data use is tech and data literacy
- Communities need more than just data to achieve desired vaccination outcomes, participatory decision making helps



### Align ideals with local and national realities

Policies don't always align with the lived reality of data governance and immunization practices, nor the available digital infrastructure.

- Data systems strengthening goes hand in hand with ICT infrastructure strengthening.
- Data quality at a national level also depends on what local health workers value.



### Learning together

both internally and with international partners will support scaling. International partners need to focus on scalability rather than novelty.

- The onus is on government to 'join the dots': shared learning goals may help reduce the burden
- Interdisciplinary fragmentation affects scalability of interventions
- Ambiguity in standards and priorities means less data sharing

**You can read the full global and national learning & recommendations here:**

[www.makingbetterfutures.org/learningjourney](http://www.makingbetterfutures.org/learningjourney)

# *Nigeria's Vision for a Better Future for Vaccine Data:*

In 2030, the vaccine data health system in Nigeria is a one-stop shop for data and insights that can be relied upon to be used for effective planning and decision-making.



Strategy to Action Workshop in Nigeria, 2023 | [Read more](#).

Today, we reflect on the progress achieved toward realising this vision and eagerly anticipate further collaboration with NPHCDA and other partners.

## Summary of Activities

The following activities were conducted as part of the Vaccine Data CoLab initiative in Nigeria between September 2022 and October 2023. These activities are results spanning from one activity to the next, as we look to drive processes using informed decisions.

### **Dec 2022: Conducted a rapid assessment of the vaccine data systems in Nigeria**

The Vaccine Data CoLab conducted a rapid assessment to evaluate geolocated microplanning data in Nigeria. This assessment aimed to provide insights into the current resources and challenges within the country and to identify key actors, activities, and priorities for enhancing vaccine programming.

During this phase, experts from various sectors, including government, non-government organisations, and the international/donor community, participated in interviews. These findings marked the beginning of the process and laid the foundation for subsequent steps.

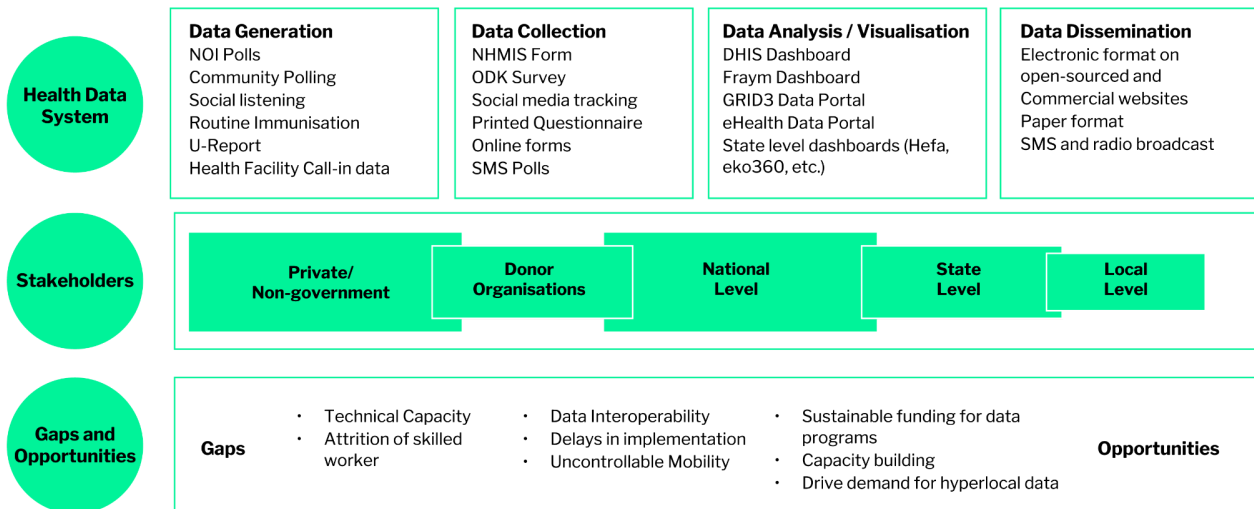


Figure 1: Pictorial Illustration of Findings

### Jan 2023: Organised a Strategy to Action Workshop for the Country-Led Approach

The Vaccine Data CoLab team organised a workshop with 39 participants representing over 12 organisations. These participants included representatives from national and state government bodies, NGOs, data experts, applied research, and behavioural change experts. During the workshop, stakeholders validated the findings from the landscape assessment and collaborated to explore how to apply data for behavioural change. They also identified priority areas for investment and experimentation.



Vaccine Data CoLab workshop

## Feb 2023: Provided Grant Funding for Interventions Addressing Systemic Barriers

The Vaccine Data CoLab launched a grant application in Nigeria, with funding of up to £43,000 per grant. The objective of this initiative was to leverage data for better decision-making and improved vaccine uptake. To prioritise their efforts, the Vaccine Data CoLab utilised the WHO's Seven Pathway Framework, identifying three opportunity areas:

### Investment Priorities in Nigeria

**Making Data Accessible and Coordinated:** How might we strengthen coordinating structures to support data ecosystems?

**Making Data Actionable:** How might we support people to be better equipped to take action based on existing data?

**Making Data Interoperable:** How might we bring data together so it's easier to access and understand?

This two-stage expression of interest led to the funding of a portfolio of four interventions. The following innovative concepts were selected for funding:

- Brooks Insights' "Strengthening Capacity for Immunisation Data Use (SCID)"
- Corona Management System's "Geospatial Dashboard for Zero Dose Children & Missed Communities (ZeroVax Geomap)"
- Sydani Group's "Data Governance for Health (DG4Health)"
- Sydani Group's "Vaclnsights Project"

### Documented Learnings on the Interdependencies of the Vaccine Data Systems

These grantees operated in five states: Kano, Jigawa, Lagos, Cross River, and FCT Abuja. Their interventions aimed to enhance capacity and tools for decision-making. Extensive collaboration with NPHCDA, state primary healthcare or development boards, the Federal Ministry of Health, and other partners ensured an impact on the ground. The Vaccine Data CoLab actively fostered collaboration and knowledge-sharing activities among the grantees through various events and initiatives.

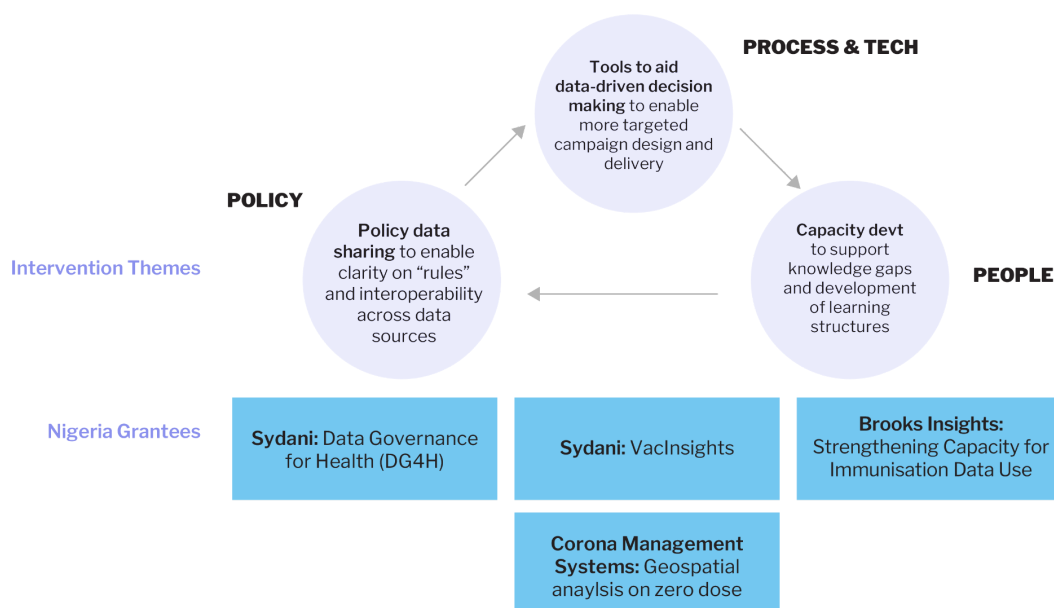


Figure 2: Nigeria Vaccine Data CoLab Portfolio of Grants

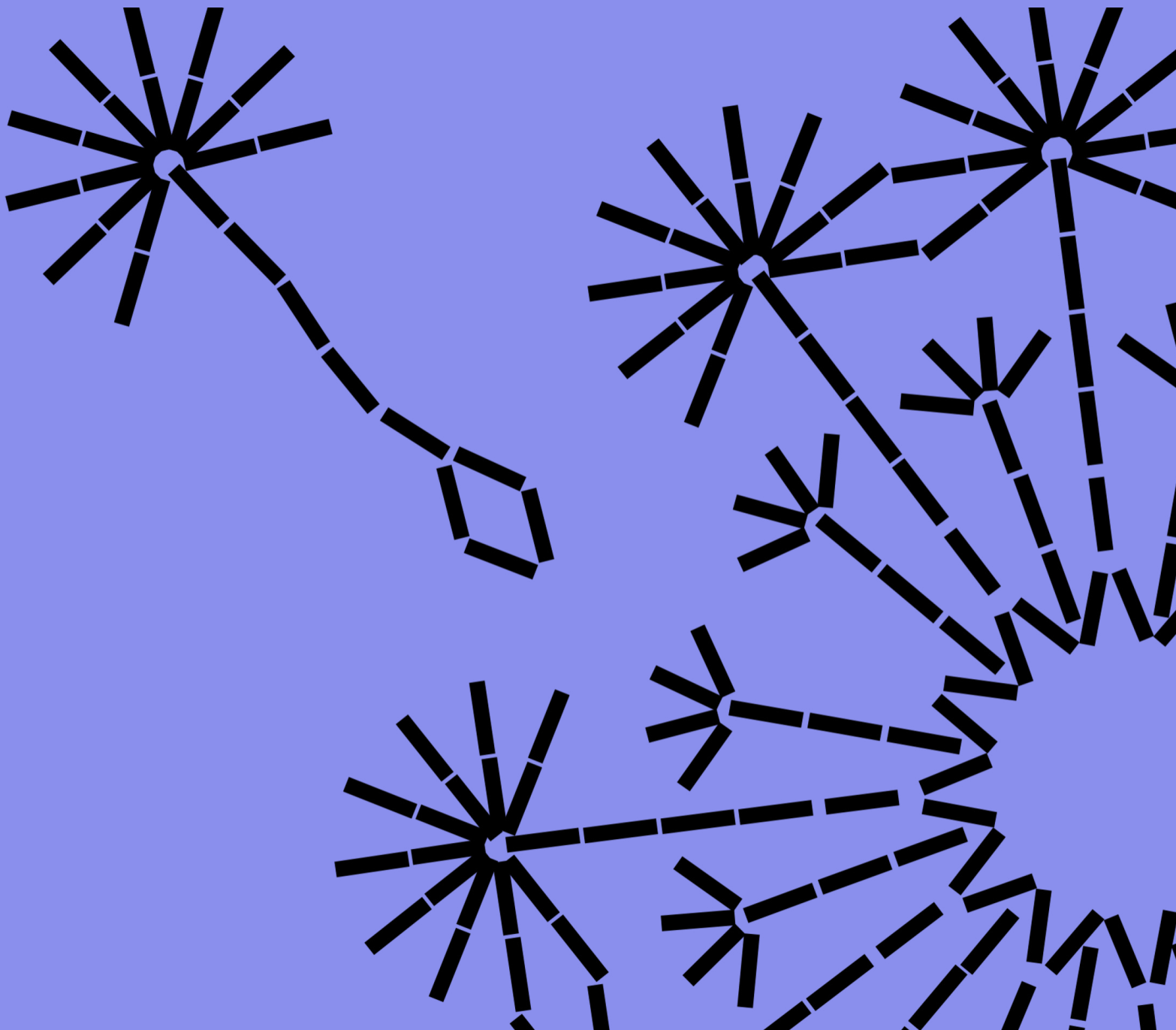


## Galvanised Support of a Growing Network of Stakeholders and Partners to Improve on the Work Done

In partnership with the local organisation Dev-Afrique Development Advisors, the Vaccine Data CoLab facilitated the sharing of lessons learned from grantee engagements. These insights were shared with national and sub-national-level stakeholders at a dissemination workshop in October 2023. The workshop's goals were to replicate the achieved impact, promote broader collaboration, secure buy-in from relevant stakeholders, and sustain the momentum of the Vaccine Data CoLab interventions in Nigeria.



# Context: Our Country-Led Approach

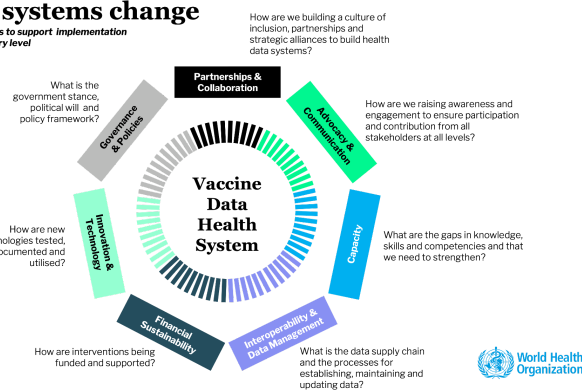


Using the WHO’s Seven Strategic Pathways, the Vaccine Data CoLab looked at data through a System lens, ensuring that collaborators move beyond seeing data as a “shiny tool” and instead interpret data as interconnected pathways that reinforce each other to support evidence-based decision-making.

The Vaccine Data CoLab identified and defined four critical strategic pathways, out of seven total pathways (see Figure 3), aimed at supporting countries towards a functional state for its vaccine data system. These pathways support thematic guidelines and actions that must be taken to support implementation and sustainability.

### Enabling systems change

WHO 7 Strategic Pathways to support implementation and sustainability at country level



Systemic Pathway	Opportunity Areas
Governance and Policies	Making Data Accessible and Coordinated
Partnerships and Collaborations	
Capacity	Making Data Actionable
Interoperability and Data Management	Making Data Interoperable

Figure 3: Strategic Pathways for Vaccine Data and Health Systems

A portfolio approach (where a mix of intervention types addresses opportunity areas, and their related systemic barriers) was utilised. This approach is built on the Vaccine CoLab learnings on the interdependencies of the vaccine data system in Nigeria and the combination of solutions that unblock systemic problems. These selected interventions are presented in Figure 2 below and show the interconnectedness of the interventions.

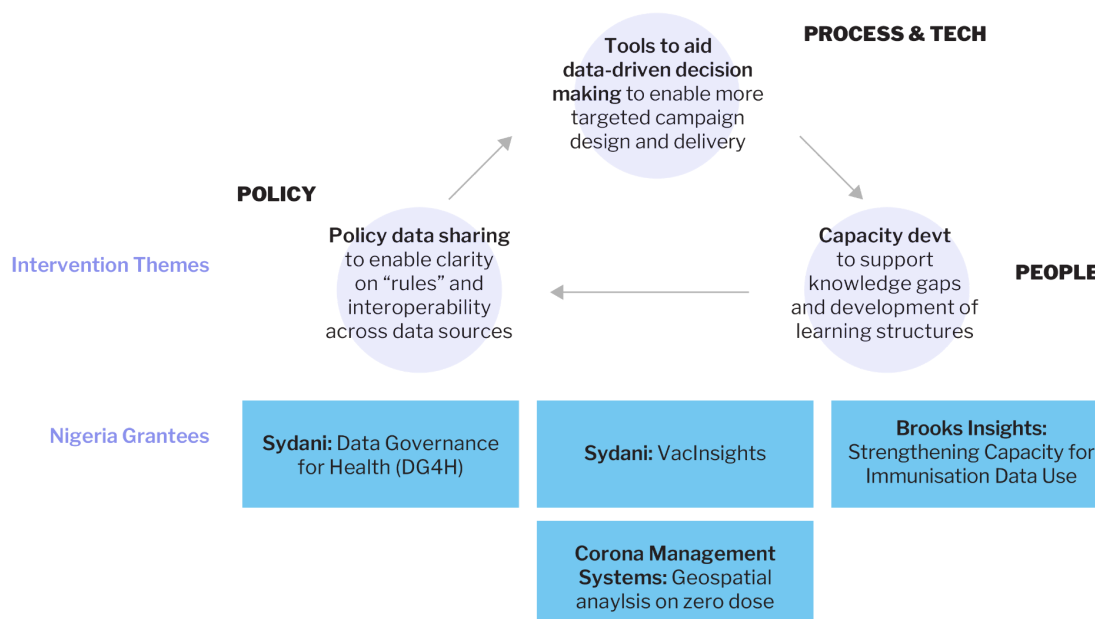
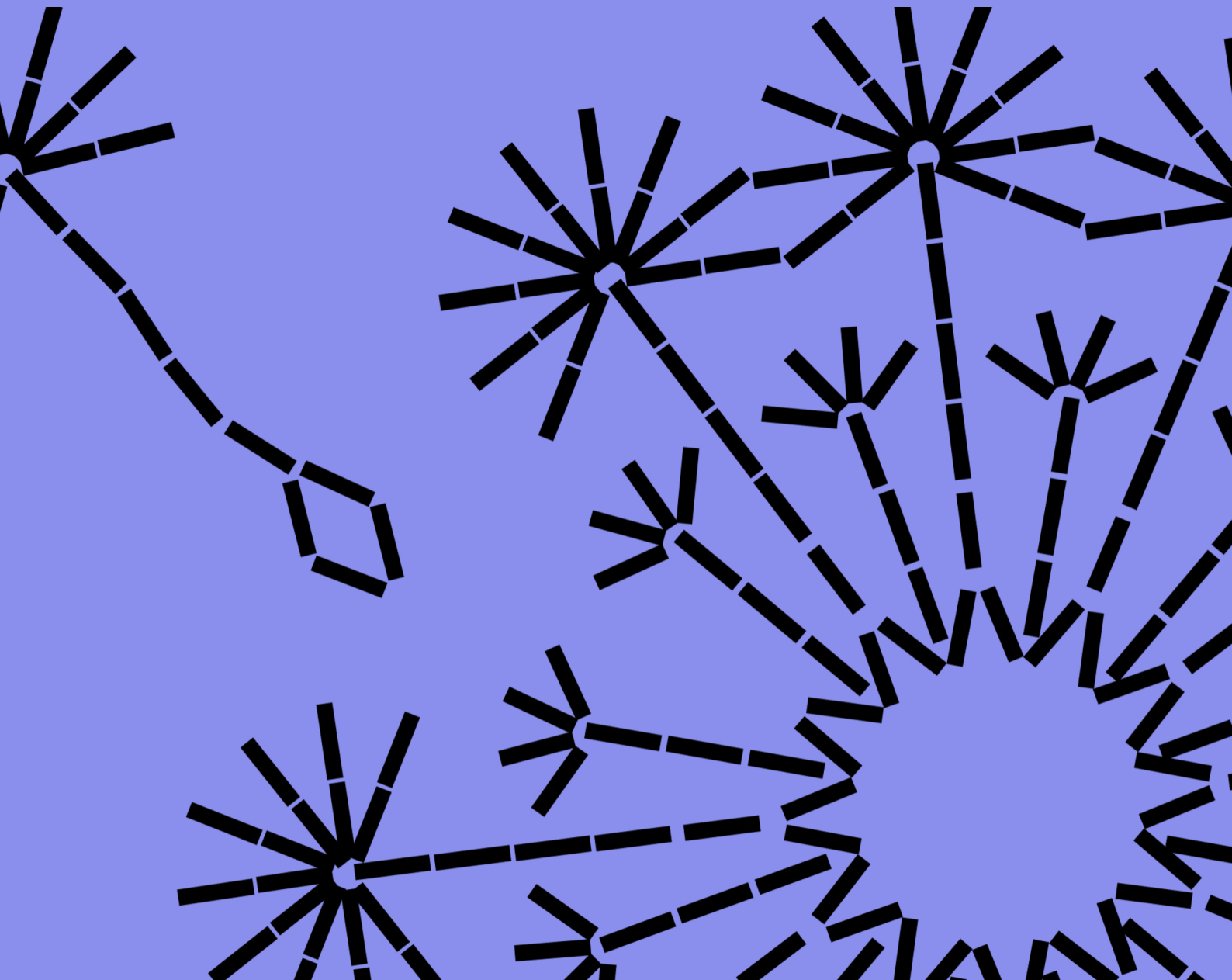


Figure 2: Nigeria Vaccine Data CoLab Portfolio of Grants

The Vaccine Data CoLab interventions are an indication of its commitment to achieving this target, as it sets off with four grants aimed at upskilling capacity, providing useful tools, and promoting data-driven decision-making. The Vaccine Data CoLab recognises that this commitment can only yield results if the ideas and goals align with the priorities of key stakeholders. As such, it identified four main drivers for achieving this set of targets, which include:

- **National Primary Healthcare Development Agency Commitment:** Alignment with the Vaccine Data CoLab's method of utilising data for decision-making and a desire to apply the Vaccine Data CoLab's approach to other vaccination and health priorities in Nigeria.
- **Stakeholder Alignment:** There is a shared priority amongst different stakeholders in the vaccine value chain. Stakeholders can experience a new type of coordination and collaboration on data, which leads to synergies being identified.
- **Plan for Sustainability:** Grantees have plans for sustainability and know where they can obtain future funding.
- **Learning and Advocacy:** Packaged up learning from the pilots for Nigerian stakeholders to take forward, which feeds into the global dialogue.

# Spotlighting Grantee Work







# Intervention 1: Strengthening Capacity for Immunisation Data Use in Nigeria (SCID) by Brooks Insights

*Brooks Insights* is an independent consulting firm based in Nigeria with the vision of fostering a culture of evidence-based policies and programme strategies for improved health and development through research, capacity building, programme evaluation, knowledge product development, and technical support.

## Background

This intervention is in line with the National Strategy for Immunisation and PHC (Primary Healthcare) System Strengthening (NSPISS) 2.0 and aims to implement a community-focused approach, known as HCD-TIP, to enhance Routine Immunisation (RI) and PHC services in areas with high numbers of unvaccinated children. HCD-TIP provides Programme Managers (PMs) and Health Workers (HWs) with tools and participatory methods for improved utilisation of immunisation data in tailored programmes. It consists of three key components:

1. A step-by-step process for **understanding and addressing barriers** in collaboration with communities and health facilities, involving data review and gap identification.
2. **Adaptable templates that facilitate the structured use of data** for Diagnosis, Design, Implementation, and Evaluation.
3. **"Good enough" principles and guidance for use in low-resource settings**, focusing on simple, community-oriented, feasible, culturally appropriate, and cost-effective solutions.

## Objective

Enhancing data utilisation for action by strengthening the capacity of PMs and Health Workers (HWs) at the state and local government area (LGA) levels in the context of tailored immunisation programmes (HCD-TIP) by:

- **Identifying capacity gaps and needs** among PMs and HWs in terms of understanding, utilising, and taking actions based on existing immunisation data.
- **Adapting the WHO HCD for tailoring immunisation programme curriculum** and integrating adult learning principles for training PMs and HWs on applying HCD to vaccine programmes.
- **Assessing the effectiveness of adult learning approaches in strengthening the capacity** of PMs and HWs to use immunisation data for developing tailored strategies to improve vaccine uptake.

## Geographical Focus: Federal Capital Territory (FCT), North-Central Nigeria



### Key Activities:

The SCID intervention was implemented in collaboration with the Federal Capital Territory Primary Health Care Development Board (FCTPHCB). The approach to the intervention was participatory and tailored to the needs of stakeholders at all levels.

Key activities conducted between May 2023 and September 2023 included:

**Stakeholder Engagement:** Involving key stakeholders at the State and LGA levels to inform them about the SCID intervention, gather their input, and gain their support. This led to the revival of the FCT Training Working Group (FCT-TWG) in May 2023, the endorsement of the FCT-TWG's Standard Operating Procedure with defined roles and responsibilities in June 2023, and the purposeful selection of study sites based on RI coverage indicators and zero-dose proportions.

**Desk Review and Training Needs Assessment (TNA):** Reviewing existing literature on HCD training and conducting a TNA among State and LGA level PMs, Ward Focal Persons (WFPs), and HWs in May 2023. Findings from these activities informed the training approach and curriculum design.

**Curriculum Development and HCD-TIP Template Adaptation:** Collaboratively creating the curriculum and training guide for PMs and HWs with the FCT-TWG in June 2023. The curriculum integrated technical and operational content based on the desk review and TNA findings, along with adult learning principles.

**Training of PMs and HWs Using Adult Learning Principles:** Delivering training sessions for State and LGA PMs and HWs in June and July 2023, guided by adult learning principles. The Teachback method was employed to ensure effective information delivery and reception.

**HCD Sessions with Community Members for Prototype Solutions:** Trained HWs conducted HCD sessions with community members in July and August 2023, resulting in the development of prototype solutions for field testing.

## Methodology

Mixed methods approach guided by the Kirkpatrick training evaluation model.

## Findings

Although Health Workers engage with community members, their capacity needs to be built on developing and documenting practical and targeted solutions.

Community involvement is vital to gaining valuable insights into the barriers preventing people from accessing or accepting vaccines. This knowledge allows HWs to design interventions and strategies that address these barriers.

Co-developing the training content with users ensures that it addresses their needs and is relevant to the programme.

Integrating training into existing structures will drive the coordination and design of capacity-building interventions owned and driven by the government.

Behavioural and social Drivers (BeSD) data can help PMs and HWs understand the barrier and co-design targeted immunisation programmes.



## Intervention 2: Geospatial Dashboard for Zero Dose Children & Missed Communities by Corona Management Systems

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### Background

This project aimed to enhance the accessibility and use of healthcare data for key stakeholders, including EPI (Expanded Programme on Immunisation) managers, partners, and individuals in the Nigerian immunisation system. Its primary goal was to empower these stakeholders to comprehend and effectively act on the wealth of available data, enabling informed decisions. To achieve this, the project employed geospatial analysis, a potent tool for mapping and analysing geographic data.

### Objective

Improve the accessibility and utilisation of healthcare data for EPI managers, partners, and individuals within the Nigerian immunisation ecosystem, focusing on identifying and addressing under-immunisation by:

- **Enhancing the accessibility of actionable data** for mid-level managers and decision-makers at the local government and state levels.
- **Expanding local knowledge regarding the distribution of zero-dose** and under-immunised children within different administrative units and settings.
- **Empowering local stakeholders to identify, measure, and advocate for the implementation of strategies** aimed at reaching zero-dose children and underserved communities.

## Geographical Focus: Lagos and Kano states



### Key Activities:

A dashboard was developed for Lagos and Kano, two Nigerian states with the highest number of zero-dose children. The project consisted of two primary phases:

1. The first phase involved collecting and analysing existing secondary data from various sources.
  2. In the second phase, stakeholders actively collaborated to design solutions based on data analysis. This approach enabled a more holistic and targeted strategy, capitalising on insights from the aggregated secondary data.
- **Data Collection:** Existing data related to immunisation, demographics, health, and other relevant domains were collected and analysed to identify areas with low vaccine uptake and potential gaps.
  - **Stakeholder Collaboration:** Engagement with stakeholders within the immunisation programme and the health system to generate solutions based on the initial data analysis.
  - **Data Analysis Plan:** Development of a data analysis plan incorporating geospatial and triangulation analyses, utilising technologies like Tableau to visualise and analyse data for supporting decision-making.
  - **Qualitative Data Collection:** Collection of primary qualitative data to validate findings, generate potential solutions, and gather user feedback, aiming for a deeper understanding of the reasons behind zero-dose children and underserved communities.



- **Dissemination workshops in both states:** The project culminated with dissemination workshops in both states, where findings were presented, and knowledge on the use of the GIS Dashboard was shared. Ultimately, the project aimed to increase data exposure, position data for decision-making, and provide actionable data to mid-level managers and decision-makers in the intervention states.

## Methodology

Design thinking approach, geospatial analysis, and triangulation of data sources.

## Findings

The findings from this project highlighted key factors affecting under-immunisation and the significance of tailored, data-driven approaches for fair coverage. Factors like urban-rural disparities, updated microplans, the number of served settlements, healthcare workers, cold chain equipment, and proximity to catchment areas, all impact vaccination rates. The project identified the prevalence of poor data quality in most databases. Insufficient granular data is evident across multiple parameters, indicating a dearth of detailed information in various aspects or dimensions.

Interoperability and integration are notably lacking among diverse data sources, highlighting a significant gap in the seamless exchange and coordination of information. Notably, these insights varied between Lagos and Kano States due to differences in healthcare infrastructure, service accessibility, and population density.



## Intervention 3: The Data Governance for Health Project (DG4Health) - Data Governance Framework for Immunisation by Sydani

[Website](#) | [LinkedIn](#) | [Instagram](#) | [X \(Twitter\)](#)

### Background

The Data Governance for Health project (DG4Health) emerged as a response to the findings from a landscape assessment of Nigeria's vaccine data ecosystem. This assessment revealed a significant absence of accessible, actionable, and interoperable data in the country. It also highlighted the lack of standardisation in the vaccine data collection process and the absence of standardised terminologies in the immunisation sector. To address these issues, the Data Governance for Health Project proposed developing a data governance framework for the immunisation field, aiming to rectify the standardisation concerns.

### Objective

To develop a data governance framework for the immunisation space in Nigeria to address issues of standardisation and interoperability.

### Geographical Focus: Nationwide



## Key Activities:

This project largely harnesses the power of stakeholder participation and input in its execution. The DG4Health project was implemented in 3 phases, with key activities conducted across each of the phases.

The three phases and the activities were:

### Project initiation:

- **Stakeholder engagement:** A stakeholder analysis was conducted to map out stakeholders in the immunisation and health data ecosystem in Nigeria. This engagement resulted in stakeholders' buy-in and support for project implementation.
- **Ethical approval:** A protocol was developed, highlighting the goals, objectives, scope, and project methods, and submitted to the National Health Research Ethics Committee (NHREC) for approval.
- **Rapid assessment:** A rapid assessment was conducted by reviewing relevant policy documents on immunisation in Nigeria to identify existing gaps. This was further buttressed by reviewing the literature to identify a suitable framework for project implementation. Interviews were also conducted with relevant key stakeholders in this regard.
- **Synthesis of findings:** The findings from the rapid assessment were synthesised to obtain insights that are relevant for the development of the data governance framework for immunisation
- **Develop draft data governance framework:** An outline based on standard practice was developed and reviewed with relevant stakeholders.

### Project implementation:

- **Stakeholder workshop:** A stakeholder workshop was conducted to critically review the draft data governance framework. In attendance were representatives from the Federal Ministry of Health (FMOH), NPHCDA, NDPC, NBS, Data.FI, UNICEF, AFENET and Sydani. Each component of the data governance framework was reviewed and fine-tuned with inputs from all stakeholders present at the event.
- **Validation workshop:** A validation workshop was conducted with the NERICC data team, being the key government actors in the immunisation space in Nigeria, to validate the data governance framework.

### Project closure:

**Dissemination of data governance for immunisation framework:** A dissemination meeting was held with stakeholders to present the data governance framework for immunisation. At the meeting, the approval of the relevant stakeholders was sought for the following:

- Establishment of a steering committee to facilitate the adoption of the data governance framework.
- Adoption of the data governance framework for immunisation throughout the project implementation. A stakeholder participatory approach was adopted to leverage expertise, promote ownership and accountability, and ensure sustainability. This led to project approval by NPHCDA with support from other key stakeholders and valuable insights for the development of the data governance framework.

## Methodology

Stakeholder participatory approach.

## Findings

Transitioning into electronic reporting will help to address the challenges of paper-based reporting tools in the immunisation ecosystem.

A leadership and coordinating structure for data governance will:

- Ensure effective and efficient data for action for evidence-based data use for immunisation
- Monitor progress and ensure that the data governance framework attains level 5 maturity model
- Source for funding to implement data governance activities
- Review and approve the data governance framework for immunisation annually.

Priority on data protection during service delivery ensures privacy compliance, builds trust with clients and mitigates risks.

Standardised trainings on data ethics and quality assurance for healthcare workers in immunisation will ensure consistent, safe and accurate vaccine administration, thereby fostering public trust, minimising errors and ultimately enhancing the overall effectiveness and success of immunisation programmes.



## Intervention 4: VacInsight Platform (A Decision-Aid Tool for Immunisation - Testing the Incorporation of a Machine Learning Algorithm) by Sydani

[Website](#) | [LinkedIn](#) | [Instagram](#) | [X \(Twitter\)](#)

### Background

In Nigeria, significant efforts have been made to enhance the country's immunisation coverage and eliminate vaccine-preventable diseases. However, despite the presence of various vaccine data sources, such as DHIS2, EMID-DHIS2, and Open LMIS, challenges persist in making informed decisions regarding vaccine supply chains, resource allocation, and demand generation. To address these challenges, there is a crucial need for a platform capable of consolidating data from these diverse sources, generating insights, and offering recommendations for decision-making at the local government area and state levels.

VacInsight has been developed to empower decision-makers in implementing vaccination programmes. This platform aligns with the Vaccine Data CoLab's second and third opportunity areas, focusing on making data actionable and interoperable, to establish a platform that provides recommendations for vaccine data decision-making at the state and local government area levels in Nigeria.

### Objective

To create a platform that consolidates vaccine data from diverse sources, generates insights, and offers recommendations for decision-making at the local government area and state levels in Nigeria.

The project's primary goal was to optimise the decision-making process concerning vaccinations in **two target states within three months**. To achieve this goal, the objectives were:

1. Gain insights into the current state of informed decision-making concerning identified data sources.
2. Develop a platform to harness vaccination data from the identified sources for decision-making.
3. Build the capacity of data managers to utilise the platform for informed decision-making.
4. Monitor and evaluate the effectiveness and impact of the informed decision-making platform.
5. Develop a project sustainability strategy for the platform beyond the project duration.



## Geographical Focus: Jigawa and Cross River states.



The selection of Jigawa and Cross River States for this intervention was based on several criteria, including:

1. Balancing representation between the North and South.
2. Ensuring locations free from security concerns.
3. Frequency of meetings.
4. High RI (Routine Immunisation) reporting rates, specifically above 90%.
5. Highest RI reporting rates in both the North and South regions.

Within both states, two local government areas (LGAs) each, totaling four, were selected and reviewed based on the following criteria:

1. LGAs free from security issues.
2. One rural and one urban LGA.
3. LGAs with high reporting rates.
4. LGAs reporting pentavalent vaccination coverage, vaccine utilisation (opening and closing balance, and stockout reporting).

### Key Activities:

The project was implemented through the following activities conducted in sequence:

## Data analysis of identified sources

- **Stakeholder Mapping and Engagement:** Comprehensive mapping of all stakeholders ensured proper alignment. Government stakeholders, such as the Federal Ministry of Health, NPHCDA, including NERICC, National ACSM working group, and NEMCHIC, along with partner agencies like HISP, were engaged to secure buy-in and access to their data.
- **Rapid Assessment:** The ICT and process requirements, data needs, and specific indicators from other data sources that would feed into Vaclnsights were identified and validated with stakeholders. In-depth interviews and focus group discussions were conducted at national and sub-national levels to gather the necessary data for system design and operationalisation.

## Platform development

- **System Architecture/User Interface Design:** The working model of the platform was designed with specific features and functionality for different components, interdependencies, and overall data flow.
- **Platform Integration with Data Sources:** Relevant data sources were identified, and an integration plan was developed. A secure application programming interface (API) was designed to handle various data formats.
- **Algorithm Development for Generating Recommendations:** Algorithms based on the collated data were developed to compare data across different locations, identify trends, analyse and visualise the data, prioritise areas needing attention, and make recommendations to guide decision-makers.
- **Platform Testing and Deployment:** Rigorous testing was conducted to ensure functionality, usability, and reliability. User acceptance testing was carried out to ensure the platform met stakeholder requirements.

## Capacity building for data managers

- Training modules were developed to educate users on Vaclnsights. Training sessions were held at both state and LGA levels, and job aids with use case examples were created to support focal persons in using the platform.

## Monitoring and evaluation

- A monitoring and evaluation plan was implemented to assess the platform's performance throughout its use, and evaluate accuracy and impact. Regular supervision was conducted, and an evaluation was carried out at the project's conclusion.

## Sustainability strategy development

- The project followed an adapted Knowledge to Action Framework, which was chosen because its action cycle encompasses learning, design, evaluation, and sustainability. This framework is tailored for product development and introduction.

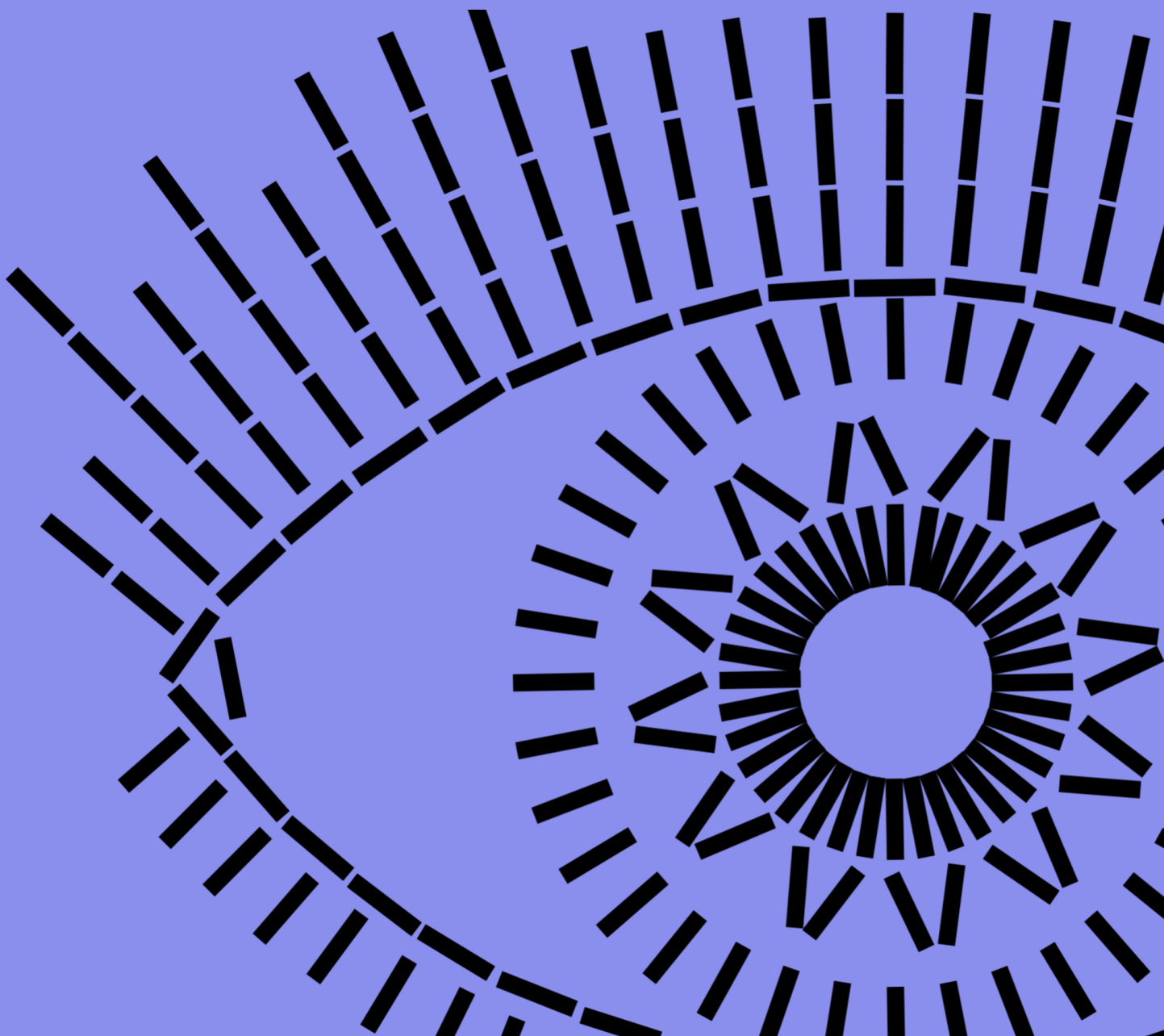
## Methodology

Data consolidation, platform development, and capacity building.

## Findings

- EPI Managers at lower levels are overburdened with responsibilities across programmes, poorly motivated and equipped with the capacity to make informed decisions. Hence IT support solutions must be highly easy to use and simplified
- There is a need to address data validation delays to ensure the timely availability of data for effective decision-making
- Measures should be implemented to reduce outliers and improve data accuracy
- The state stakeholders have been in search of a data harmonisation solution and are excited about the piloting of this platform
- There is a need for tailored capacity building at the lower level on the use of these existing tools.

# **Impact of the VDCL Interventions on the Vaccine Data Ecosystem in Nigeria**



The VDCL interventions in Nigeria were designed with a deliberate strategy to solve vaccine data issues with locally led solutions and local actors. The cumulative outcomes of the VDCL interventions in the northern States of Kano, Jigawa, and the FCT, as well as the southern States of Cross River and Lagos, demonstrate the impact of this collaborative approach.

A key part of what we are doing today is not looking at any one solution as a silver bullet but seeing data as a part of a bigger health system where we need several solutions working together to make an impact.

- Dr. Sam Agbo (Former Senior Health Officer, FCDO Nigeria)

Considering that 40% of health workers in the targeted states directly benefited from Vaccine Data CoLab interventions in their respective states, up to approximately 4.2 million people could be positively impacted by interventions that strengthen the immunisation programmes, increase vaccine coverage, and ultimately save lives in Nigeria.

Collectively, these interventions translate to potentially impactful changes in the vaccine data ecosystem in Nigeria by enhancing data standardisation, utilisation, and accessibility, as well as fostering stakeholder engagement and localised, data-driven decision-making.

## Intervention 1: Strengthening Capacity in Data Use for Action (SCID)

1. **Improved Data Utilisation:** SCID focuses on building the capacity of Programme Managers and Health Workers to utilise immunisation data effectively. The project equips these stakeholders with skills to comprehend and act upon available data, resulting in more informed, data-driven decisions.
2. **Stakeholder Participation:** The participatory approach involving key stakeholders ensures that the data utilisation strategies align with local needs and challenges.
3. **Tailored Strategies:** The project enables the development of tailored strategies for vaccine programmes based on the analysis of immunisation data. This localisation ensures that interventions address specific issues in different areas.
4. **Enhanced Community Engagement:** SCID's approach of involving communities and health facilities in the data-driven decision-making process contributes to improved community engagement and vaccine programme outcomes.



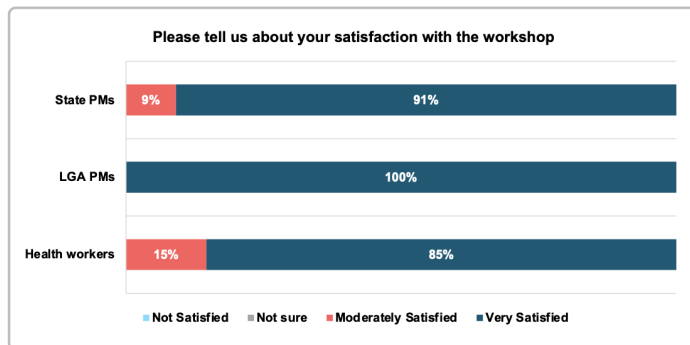
“Actually, after the training, I was able to know how to enter the community to know their problem [diagnose], after knowing their problems, give them listening ears ... and to put into design and implementation. In our primary healthcare facilities, there is an improvement because of the knowledge we acquired in July in the human-centred design programme.”

- Health worker





**Overall, there was a high level of satisfaction with the training workshop among LGA PMs (100%), state PMs (91%), and HWs (85%)**



- The absence of any "Not Satisfied" or "Not Sure" responses across all three groups indicates a strong consensus regarding the effectiveness and positive impact of the workshop.
- This suggests that the training has met or exceeded the expectations of HWs, LGA PMs, and state PMs, highlighting its value and potential for contributing positively to their roles.

## Intervention 2: Geospatial Triangulation Analysis for Zero Dose

1. **Localisation of Data-Driven Strategies:** Geospatial analysis identifies the geographic locations of zero-dose children and underserved communities. This information allows for the design of localised strategies to reach vulnerable populations.
2. **Enhanced Accessibility:** The project enhances the accessibility of actionable data, especially for mid-level managers and decision-makers at local government and state levels. These stakeholders can now access and utilise geospatial data to make informed, data-driven decisions.
3. **Empowerment of Local Stakeholders:** Through stakeholder collaboration and the human-centred design approach, local stakeholders are empowered to actively participate in designing and advocating for solutions.
4. **Data-Driven Decision-Making:** The geospatial analysis and data triangulation approach equips decision-makers with data-driven insights. This knowledge leads to informed decision-making in planning immunisation programmes and allocating resources.
5. **Addressing Local Disparities:** The project identifies and addresses local disparities taking into consideration factors like urban-rural differences, healthcare infrastructure, and population density. This localised approach ensures that interventions are better aligned to address the particular challenges in different areas.

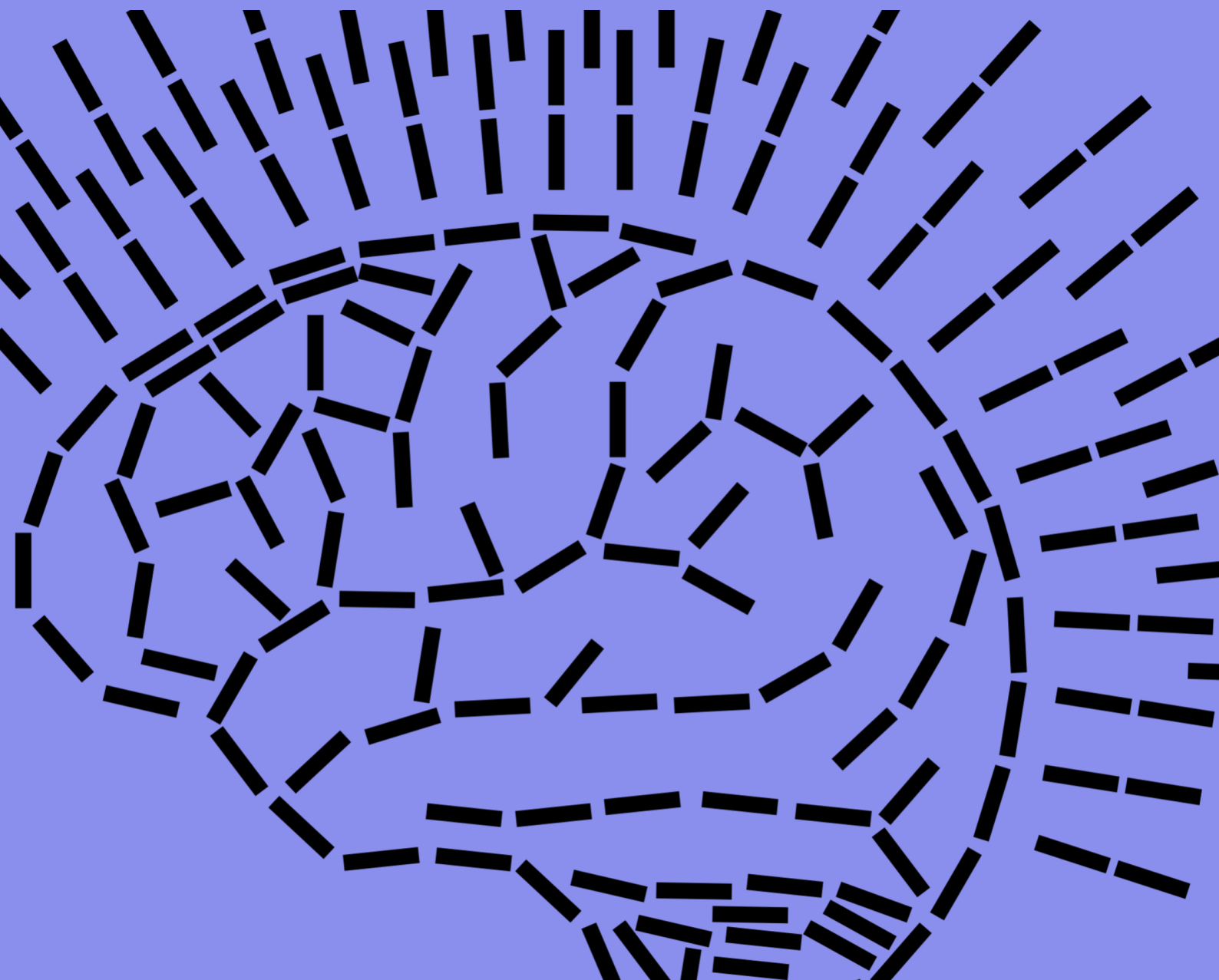
## Intervention 3: Data Governance for Health Project (DG4Health)

1. **Standardisation of Data:** DG4Health focuses on developing a data governance framework for immunisation, with the goal of addressing the lack of standardisation in data collection processes and terminology definitions. This standardisation improves data quality and consistency, which is pivotal for data interoperability and usability.
2. **Stakeholder Engagement:** The project actively engages stakeholders, resulting in their buy-in and support. This involvement helps create a collaborative and unified approach to data governance in immunisation.
3. **Ethical Approval:** The project's protocols undergo ethical approval, ensuring that data collection and management adhere to ethical standards.
4. **Data Governance Framework Adoption:** The framework review and adoption by the NERICC team, and the establishment of a steering committee to facilitate the implementation of standardised data governance practices, which, in turn, leads to improved data quality and usability.

## Intervention 4: VacInsight

1. **Actionable Data:** VacInsight has revolutionised decision-making by transforming raw data into actionable insights. This empowers decision-makers to make well-informed choices, enabling more effective vaccine supply chain management, resource allocation, and demand generation strategies.
2. **Interoperability:** The VacInsight platform excels at data integration, bridging the gap between different data sources. This interoperability ensures a unified and comprehensive dataset that is critical for monitoring and improving vaccination programmes. It simplifies the complex process of data collection and analysis by consolidating information from various systems, making it more accessible and usable.
3. **State-Level Impact:** The impact in States like Jigawa and Cross River has had a profound impact. They have significantly improved the decision-making processes at both the local government and state levels, directly contributing to better vaccination programmes. This localised impact showcases the potential for replicating similar success in other regions.
4. **Transformative Impact:** The VacInsight Platform has been transformative for the vaccine data ecosystem in Nigeria. It serves as a powerful model for others to replicate. By turning data into actionable insights, promoting interoperability, and achieving impactful results in selected states, this intervention showcases the potential to drive change and innovation in healthcare data management and utilisation, both within Nigeria and globally.

# Lessons Learned



The success of VDCL interventions hinges on a complex interplay of challenges and opportunities. Collaboration, streamlined data integration, extensive training, resource management, and data quality all play pivotal roles in the dynamic realm of the vaccine data ecosystem. Addressing emerging health threats and societal needs in Nigerian vaccination programmes necessitates multifaceted expertise and harmonious stakeholder collaboration to ensure the seamless flow of data, informed decision-making, and evidence-based actions.

## Data Management and Stakeholder Engagement for Sustainability

To ensure sustainability, data management and stakeholder strategies require improvement. This includes ensuring data availability, addressing data secrecy concerns, providing capacity-building for data managers, promoting data standardisation, and maintaining continuous stakeholder engagement to foster commitment to the project.

## Behavioural Science and Social Drivers in Immunisation

Incorporating Behavioural Science and Social Drivers (BeSD) empowers Programme Managers (PMs) and Health Workers (HWs) to understand barriers, co-design targeted immunisation programmes, and improve vaccine uptake by changing people's behaviour.

## Training Programmes Optimisation

Enhancing training programmes in Nigeria requires a needs assessment to understand specific knowledge gaps and challenges among participants. Tailoring the training content and delivery accordingly. A fully participatory approach to co-developing the training content with users ensures relevance and sustainability.

## Sustainability and Continuous Evaluation

Planning for sustainability involves integrating training interventions into existing structures owned and driven by the government. Continuous evaluation of interventions helps identify areas for improvement and refinement.

## Health Worker Capacity Building

Health Workers (HWs) require continuous capacity building to co-design and document practical and targeted solutions. Community involvement is vital for understanding barriers to vaccine access and acceptance. On-ground staff needs consistent training to manage evolving data tools, understand behavioural factors affecting hesitancy, and use participatory decision making approaches. These could use shared methods and frameworks. We have started to pilot approaches such as this [1-day data simulation exercises in Cross River State](#).

## Data Review and Quality Improvement

Regular data review meetings are crucial for identifying and addressing data reporting and quality gaps and encouraging peer learning. Quality immunisation data is essential for informed decision-making.

The use of a Human-Centered Design (HCD) or participatory approach is necessary to develop and deliver practical solutions.

## Data Governance

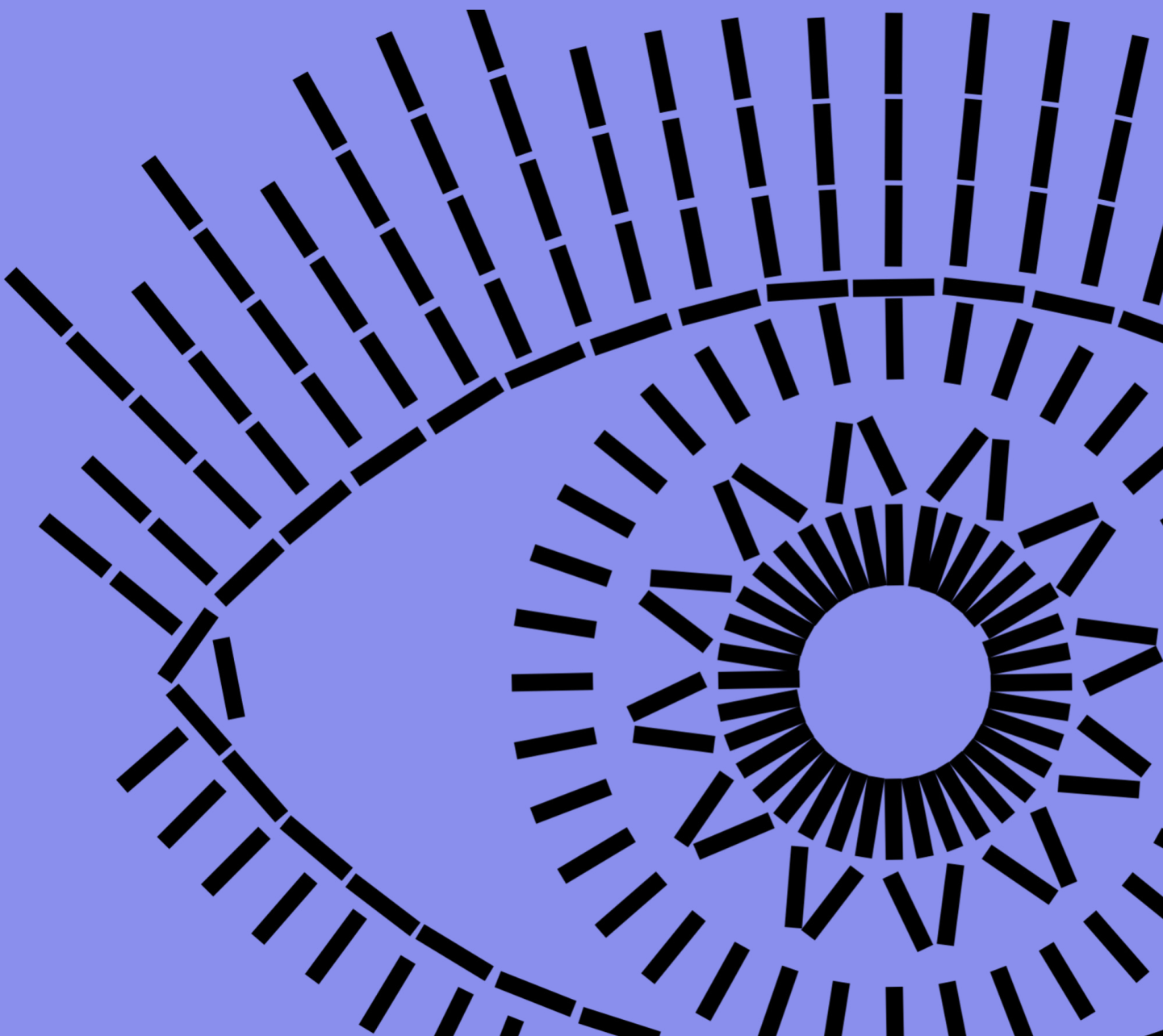
The concept of data governance varies among stakeholders and necessitates an exploratory discourse on knowledge management. Ongoing discussions revolve around digitising data collection within the data governance framework, requiring regular framework reviews to capture updates.

## Funding and Skills Enhancement for Data Governance

Funding is critical for activities within the data governance framework. Enhancing skills and capabilities among record officers and healthcare professionals at different tiers of the healthcare system improves data analysis, validation, and the availability of high-quality data for decision-making. Robust ICT infrastructure is required to ensure safe and efficient data collection, storage, and sharing to facilitate collaboration among various stakeholders as these investments are particularly promising in states with established reporting frameworks.

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**You can read the full global and national learning & recommendations here:**  
[www.makingbetterfutures.org/learningjourney](http://www.makingbetterfutures.org/learningjourney)

# How to Replicate Impact in Other Areas





The Nigeria Vaccine Data CoLab has made a significant impact in immunisation data management and utilisation. Through our work in Nigeria, we've effectively addressed critical issues and gained valuable insights that can be applied to similar healthcare data challenges in other regions. Our primary goal in these projects was not only to resolve immediate problems but also to create a blueprint and a model for achieving similar success in healthcare ecosystems worldwide. A central focus of the CoLab's projects in Nigeria is to provide a roadmap that transcends geographical boundaries and healthcare systems.

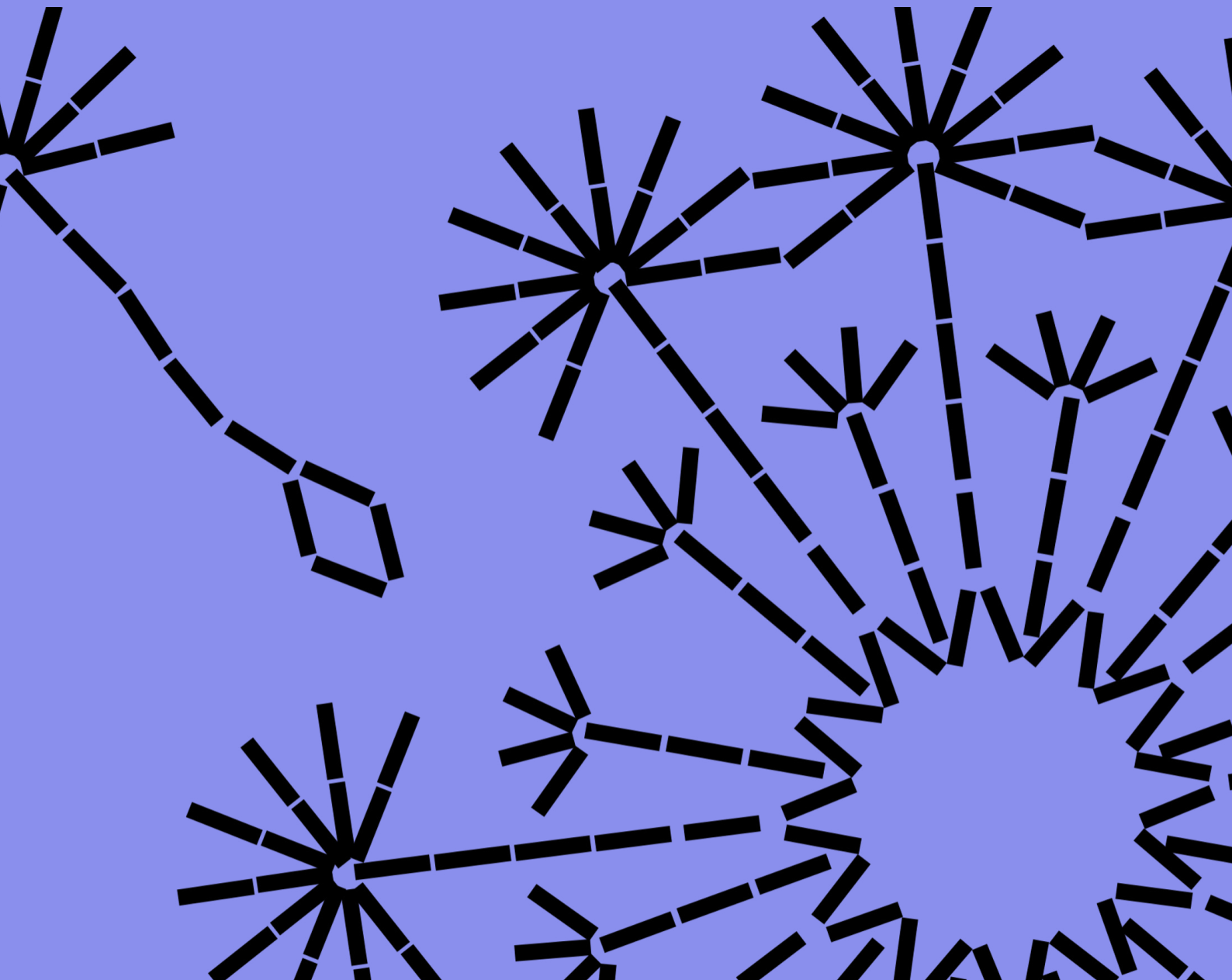
Inclusive stakeholder engagement is a fundamental pillar of the CoLab's success. This approach ensures that diverse perspectives are considered, which is essential when tackling complex healthcare challenges. Replicating this approach in other regions, each with its unique contexts and stakeholders, can lead to more comprehensive solutions tailored to local needs. The emphasis on localised, data-driven solutions is another valuable lesson. Every region faces distinct healthcare challenges, and one-size-fits-all solutions may not suffice. The CoLab's approach of analysing data within specific contexts and tailoring solutions accordingly can be applied globally to achieve targeted, effective results.

Rigorous evaluations should become a standard practice in healthcare projects worldwide. The CoLab's projects have demonstrated the value of ongoing assessment and adaptation, ensuring that interventions remain aligned with their objectives and the evolving healthcare landscape.

Lastly, forging supportive partnerships is a universal approach that transcends geographical boundaries. Collaborating with a wide range of stakeholders, including government bodies, international organisations, and local entities, can enhance the impact of healthcare initiatives.

The CoLab's success is, in part, attributed to these collaborations, and this model is transferable globally. Our achievements offer a compelling model that can be replicated worldwide. By applying these lessons across the world, we can navigate the complexities of their unique contexts and ensure that data becomes a powerful tool in healthcare decision-making, ultimately saving lives and improving health outcomes as outlined in our Vision 2030 for Nigeria. The Nigeria Vaccine Data CoLab is not just a local success story but a source of inspiration for the broader pursuit of healthcare innovation and equity globally.

# Next Steps



## How Can Organisations and Partners Sustain Conversations?

Sustaining conversations and collaboration among the organisations and partners involved in the Vaccine Data CoLab project is essential for maintaining the momentum and impact of the initiatives in the long term.

While this first phase of the Vaccine Data CoLab has concluded, we hope to grow this work in Nigeria and globally and are interested in working with partners to provide multiple channels for engagement in order to encourage active participation and foster a sense of community, so the CoLab can continue to thrive and drive positive change in the vaccination/immunisation ecosystem. Some of our strategies for a collaborative approach to sustaining our conversations include:

### Establishing/joining a collaborative platform

We are open to joining or working with partners to create a digital platform or online community where all stakeholders can communicate, share updates, and engage in ongoing discussions. This platform could be a dedicated website, blogspot, email group etc. where partners can easily exchange information, ask questions, and provide updates. This could also function as a mechanism for partners to convey concerns, make suggestions, and provide constructive criticism. It could also function as a newsletter or bulletin to keep you connected, informed, and actively engaged in our collective efforts to drive positive change in Nigeria's healthcare data management and immunisation practices.

We encourage partners to share their knowledge (whether they are technical tools, research findings, or best practice guidelines) and experiences, done through case studies, reports, and knowledge-sharing sessions to highlight success stories that can inspire and motivate partners to stay engaged and benefit from each other's resources. We encourage readers to keep us informed on working groups or committees focusing on specific themes around our area of interest as a CoLab. We can contribute to these groups and delve deeper into topics, share expertise, and propose recommendations.

### Participatory Decision-Making

We are open to working with partners to convene regular participatory decision-making processes (much like our Strategy to Action Workshop) to create more avenues for cross-sector parties to come together to set the direction and strategies around the vaccine landscape.

### Cross-Visit Exchanges

We are open to exploratory cross-visit exchanges between partner organisations to facilitate firsthand knowledge sharing and promote a deeper understanding of each other's work. We understand that this will require more in-depth analysis and considerations and we are open to getting your insights for utmost mutual benefit.

## How to Get Involved

In our collective pursuit to strengthen and sustain the impact of the Nigeria Vaccine Data CoLab, we invite you to engage with us as we work to achieve the goal for the year 2030. By working together, we can better utilise data to spur innovation and enhance health outcomes for communities throughout the country for a healthier and more equitable future.

### **Please stay in touch**

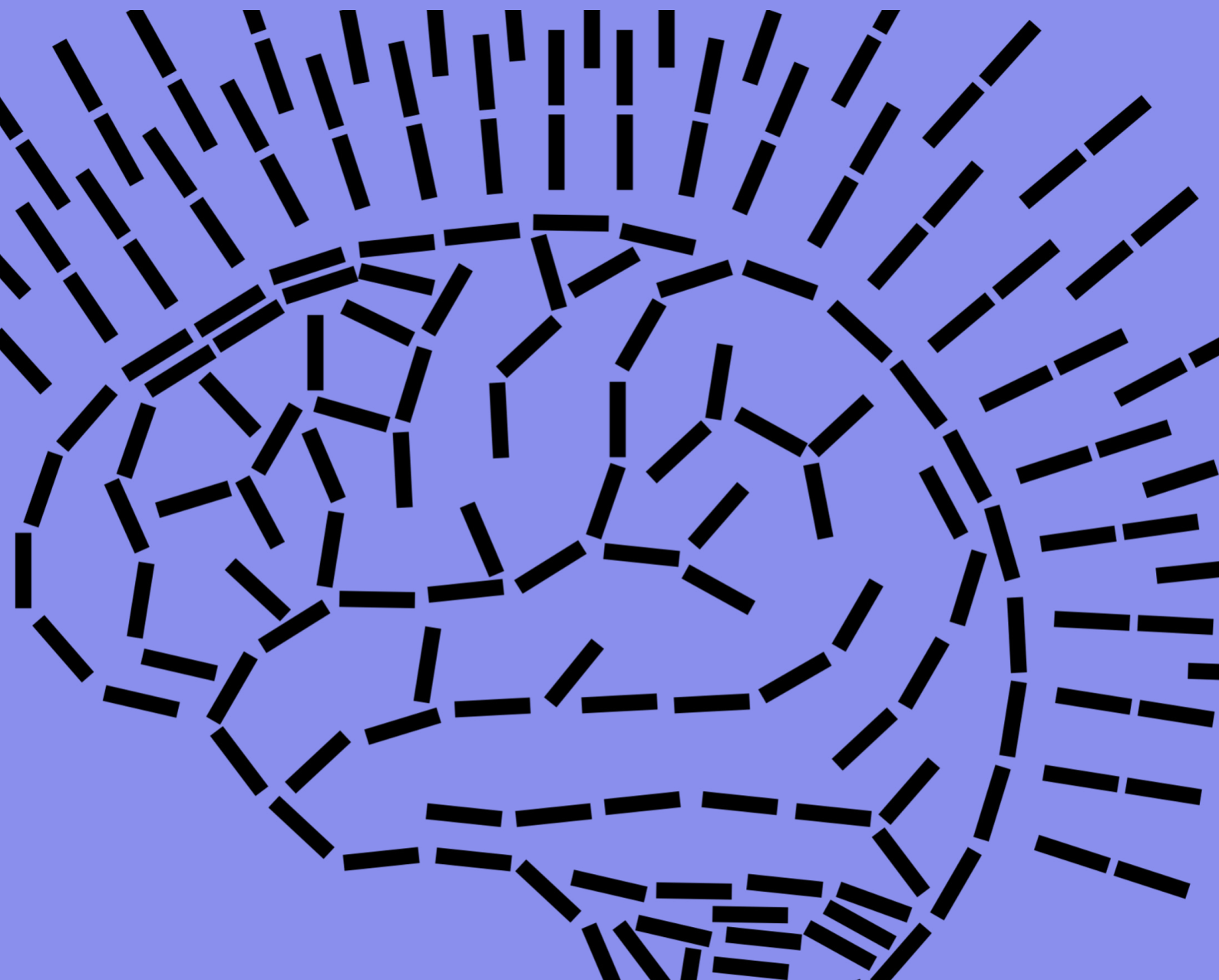
[www.makingbetterfutures.org](http://www.makingbetterfutures.org)

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# Impact Report on Vaccine Data CoLab in Nigeria

October 2023

Part of the commitment of the UK Government to support health systems strengthening and national & local data ecosystems to improve decision-making.

