



## Lessons Learned from the 2019-2020 Implementation of Measles and Meningitis A in an Integrated Campaign in the Context of COVID-19: *A Retrospective Case Study of Kogi, Niger, and Kwara States in Nigeria*

The Clinton Health Access Initiative (CHAI) and the Health Campaign Effectiveness Program at The Task Force for Global Health

### Key Messages

The Clinton Health Access Initiative (CHAI) conducted a retrospective study of an integrated campaign for measles and meningitis A vaccination in Nigeria's Kogi, Niger, and Kwara states. The aim of the study was to document the collaborative planning process, identify enabling factors and barriers, and develop transferable guidance for integrated campaigns. The following lessons learned resulted from this study:

- Early engagement and inclusion of all stakeholders in the pre-planning and planning phases facilitates buy-in, integration of resources, and effective mobilization.
- Support from the national government is important for oversight, resource mobilization, delegation of responsibilities, microplanning, and assessing readiness during the pre-planning and planning phases.
- Supply and cold chain infrastructure must accommodate the volume of vaccines needed for integrated campaigns, and gaps must be identified during planning.
- Technical capacity and any gaps in technical skills (e.g., data management, tool development, and program design) should be understood and addressed.
- Early forecasting of operational costs and advocacy for fund release with defined dates are needed to ensure timely budgeting and successful integration.
- Collaborative planning benefits from defined roles, transparency, equal and active involvement, and performance appraisal.
- Integrated campaigns in the context of COVID-19 must infuse infection prevention and control measures in all phases (e.g., virtual meetings, commodity planning, socially distanced field activities).

## Abstract

Nigeria has a high burden of both measles and meningitis A in the northern region, which lies in the ‘meningitis belt’ of Africa. Nigeria’s Expanded Program on Immunization (EPI) addresses these vaccine-preventable diseases through an effective routine immunization program and supplemental immunization activities (SIAs). SIAs aim to reach remote populations, reduce morbidity and mortality among susceptible populations, and increase vaccine coverage. Partially integrated vaccination campaigns have been conducted since 2014.

The World Health Organization (WHO) and the United Nations Children’s Emergency Fund (UNICEF) highlighted integration as one of four key strategic areas of the 2006-2015 Global Immunization and Vision Strategy (GIVS) framework. As a result of this guidance, Nigeria implemented its first simultaneous, fully integrated vaccination campaign for more than one injectable vaccine in 2019. The integrated campaign included co-delivery of two antigens of either measles, yellow fever, or meningitis A across 20 states.

The Clinton Health Access Initiative (CHAI) conducted a retrospective study of the integrated campaign for measles and meningitis A vaccination in Nigeria’s Kogi, Niger, and Kwara states. The aim of the study was to document the collaborative planning process, identify enabling factors and barriers, and develop transferable guidance for integrated campaigns.

This was a cross-sectional, mixed-methods study conducted at the state and national levels. Past integrated campaign planning documents were reviewed, and focus group discussions and key informant interviews were conducted. Focus group and interview participants included national- and state-level managers of the EPI, health workers, and technical partners such as WHO, UNICEF, and the African Field Epidemiology Network (AFENET).

Stakeholders at the national, state, and local levels were involved in collaborative planning and implementation of the campaign. The process benefited from defined roles, transparency, equal and active involvement, and performance appraisal. A strong coordination platform facilitated collaborative planning and decision-making by providing a forum for the government to provide necessary leadership and align stakeholder interests to eliminate conflicting agendas. There was early commitment to transparently addressing funding gaps. Integrated campaign plans, tools, guidance documents, and systems were harmonized. Communities were involved in the process, resulting in improved social mobilization. Furthermore, the national government provided continuous monitoring and oversight, and invested human and financial resources. Barriers to the collaborative process were identified and mitigated through the aforementioned processes. These barriers included incomplete involvement of stakeholders, conflicting priorities, delayed release of funding, delayed microplanning, and the effects of COVID-19 protocols.

The following promising practices were identified:

1. Establish a coordination platform or workgroup to promote collaborative planning and shared decision-making; ensure clear roles and responsibilities.
2. Harmonize campaign tools, templates and guidance from stand-alone campaigns to support campaign integration.

3. Include local government stakeholders in state-level planning for campaign integration, and clarify roles and responsibilities across local, state, and national levels.
4. Involve community leaders and influencers to promote community acceptance of the integrated campaign.
5. Assess readiness of each locality for campaign integration in the months, weeks, and days prior to implementation.
6. Use a variety of targeted social mobilization methods, e.g., social media, information, education, and communication, house-to-house visits.
7. Adapt logistics for vaccine storage and waste disposal, such as using alternative power sources for vaccine cold chain and creating partnerships with private waste disposal.
8. Stagger timing of campaigns, as needed, to mitigate gaps in human and material resources.

## Background

In Nigeria, all states in the Northern part of the country are in the ‘meningitis belt’ (1). Approximately 50,000 cases and 2,000 deaths from meningitis were recorded in Nigeria in 2009. According to surveillance data, serotype A is the most common strain of meningitis, responsible for 90% of epidemics (2).

Measles is also a significant public health problem in the country. Measles has an incidence rate of 33.6 cases per million, 70% of which are in children <5 years of age. The Institute of Disease Modeling identified 11 local government areas (LGAs) in the country’s North Central Zone (NCZ) as being high-risk for measles. These included Kogi, Kwara, and Niger states.

### *History of partial integration*

In 1979, the Federal Government of Nigeria adopted the establishment of the EPI, which currently delivers vaccines against diphtheria, tetanus, yellow fever, pertussis, poliomyelitis, measles, tuberculosis, and pneumococcal disease. Immunization services are delivered in Nigeria through the primary care system and, less frequently, through mobile services and occasional SIAs (e.g., campaigns).

The WHO and UNICEF included integration as one of the four key strategic areas of the 2006-2015 GIVS to reduce the burden of illness (1). Nigeria has experience conducting partially integrated vaccination campaigns. The integration of most vaccination campaigns in the country involved maternal health and child survival interventions with immunization services. Integration of injectable and non-injectable vaccinations (i.e., measles and polio) was conducted prior to 2019 and, beginning in 2014, two injectable vaccine campaigns (tetanus and meningitis A) were combined in three states.

### *Rationale for integration*

In 2019-2020, the National Primary Health Care Development Agency (NPHCDA) implemented the first simultaneously integrated campaign for more than one injectable vaccine in 20 states. This consisted of two vaccinations of either measles, yellow fever, or meningitis A vaccine (MenA).

The need for integration of the 2019-2020 campaigns was identified by the government in collaboration with partner organizations including the WHO, UNICEF, and AFENET. The decision was motivated by the need to bridge funding gaps and to provide more time for other primary health care (PHC) activities to be implemented. Other factors included overlapping disease burden and outbreaks in implementing states, as well as competing timelines for multiple antigen campaigns and other primary health care interventions. As a result, the decision was made to undertake collaborative planning and integration to ease the burden of implementation at the service delivery level. The 2019-2020 campaigns were fully integrated, a progression from the partial integration model of previous years.

The NPHCDA and other stakeholders carried out pre-campaign research to review countries that had successfully implemented integrated campaigns. This review informed decisions about which antigens were best suited for integration and which areas of campaign planning could be integrated.

**Table 1. Rationale for integration of vaccination campaigns in Nigeria.**

<p><b>Mass vaccination campaigns considered for integration</b></p> <ul style="list-style-type: none"> <li>● Measles + MenA</li> <li>● MenA + yellow fever</li> </ul>
<p><b>Rationale</b></p> <ul style="list-style-type: none"> <li>● Similar incidence and prevalence of infectious disease in the implementing states</li> <li>● Common target populations and increased efficiency of social mobilization</li> <li>● Identical routes of antigen delivery and matching cold chain logistics</li> <li>● Existing country plan and approval for campaigns</li> </ul>

## Objectives and Methods

The main objective of this study was to identify and document lessons and methods of collaborative campaign planning from integrated vaccination campaigns across three states in Nigeria. The findings are expected to foster communication and guide collaboration across different health campaign domains, country leaders, donors, and implementing groups in the global community.

*Specific objectives of this assessment were to:*

1. Document the integrated campaign pre-planning and planning processes in Kwara, Kogi, and Niger states.
2. Identify enabling factors and barriers to the effectiveness of integrated campaign planning.
3. Develop blueprints, models, and transferable guidance from the integration process to improve service delivery across the routine immunization program and PHC system.

*Primary research question*

1. What collaborative planning approach was adopted for the integrated measles and MenA campaign in Kwara, Kogi, Niger states, and what are the lessons to be learned?

*Secondary questions*

1. What factors enable the successful planning of integrated campaigns?

2. What are the barriers to the successful planning of integrated campaigns?
3. During planning, what specific approaches or tools were designed and used to develop shared data systems, integrated microplans, budgets, logistics, and other infrastructure?
4. What communication structure was adopted for the integrated campaigns?

*Study design*

This was a cross-sectional, mixed-methods study conducted at the state and national level to examine the collaborative planning process and implementation of an integrated measles and MenA integrated campaign. Activities included a desk review of past campaign planning documents, focus group discussions, and key informant interviews. Data collection methods are summarized in Table 2.

Ethical and administrative approvals were obtained from the National Health Research Ethics Committee of Nigeria (NHREC), NPHCDA, state ethics committees, or the State Ministry of Health or Primary Healthcare Agency.

The study participants included:

- National level EPI managers responsible for high-level campaign integration planning.
- State level EPI managers responsible for providing direct state-specific leadership.
- Healthcare workers (HCW) in service delivery areas responsible for administering immunization services at PHC centers.

Sampling was purposive to collect information at several levels. The sample size was determined primarily by budget and timeframe of implementation in the states.

**Table 2. Summary of data collection methods**

Method	Study participants or data source	Location of data collection	Sample size
<b>Desk review</b>	Pre-planning and pre-implementation documents	National level and study states	4 (Kogi, Kwara, Niger and national level)
<b>Focus group discussion</b>	HCWs, EPI managers, non-polio SIA team	State Primary Health Care Development Agency (SPHCHA)/NPHCDA	7 (4 persons per focus group)
<b>Key informant interview</b>	HCWs, EPI managers, partner organization, non-polio SIA TWG team member	SPHCHA/NPHCDA National level and study states	10

Pre-campaign planning data and guidance documents were reviewed and collected by the study team using an Excel-based data collection tool for documentation. These included existing pre-planning and pre-implementation data, microplans, state readiness assessment dashboards, implementation checklists, and the

Post-Campaign Coverage Survey Report from the National Bureau of Statistics. Access to nationally designed tools was granted by the non-polio SIA country lead.

Paper-based tools were used for qualitative data collection, and focus group discussions and key informant interviews were audio-recorded with the consent of participants. Data were collected in English. A semi-structured in-depth interview approach was adopted. Interviews took place in a private space chosen by the participants at their various offices. The recordings were transcribed and coded using thematic content analysis.

## Results

To facilitate integration of campaigns, the country established the National Technical Coordinating Working Group (NTCWG), which included key stakeholders from national, state, and LGA levels. The working group facilitated dialogue across technical and non-technical stakeholders that supported campaign processes. Due to the COVID-19 pandemic, meetings were conducted virtually or physically with a smaller working group.

The following collaborative process was used to ensure seamless decision-making:

1. **Initial dialogue.** The NTCWG was established with key stakeholders from the government, partners, and civil societies. Non-technical key stakeholders (e.g., community leaders, local organizations) were also identified and included.
2. **Advocacy.** Stakeholders conducted evidence-based advocacy to key technical stakeholders, high-level non-technical government decision-makers and funders, and to private sectors to promote collaboration, acceptance, and resource mobilization.
3. **Multi-stakeholder engagement and sensitization.** A collective forum was used to engage and sensitize all stakeholders noted above.

This study identified the following enabling factors for successful collaborative planning.

1. **Harmonization of stakeholders' and partners' interest.** The goal for the integrated campaign must be aligned across various stakeholders, eliminating conflicting agendas.
2. **Early commitment to address funding gaps.** The ability to address funding gaps with transparency from the inception of an integrated campaign is an important factor for successful and synchronized collaboration.
3. **Harmonization of integrated campaign plans, tools, guidance documents, and systems.** This facilitates seamless implementation and integration of processes across other PHC programs.
4. **Shared accountability between national, state and district Levels.** The NPHCDA promoted shared accountability; institutions at all levels were jointly responsible for planning and implementation. This created a sense of program ownership across all stakeholders.
5. **Collaboration with the community and social mobilization.** Engaging community leaders and district heads promoted community sensitization and acceptance. Social mobilization and advocacy played a key role in the success of planning an integrated campaign in the context of a pandemic and increased community acceptability.

6. **Continuous monitoring and oversight by the national government.** This motivated states to implement the integrated campaign, and investment in human and financial resources demonstrated government commitment.
7. **Strong coordination platform.** The NTCWG enabled efficient collaboration, defined roles clearly, and facilitated the planning process across numerous stakeholders involved in the integrated campaign. The NTCWG also provided a forum for the government to provide necessary leadership.

This study identified the following challenges and mitigating actions:

1. **Incomplete identification and involvement of relevant stakeholders** can impede the planning of integrated campaigns. If all stakeholders are not identified and involved through working groups or any other coordination forum, the planning and implementation process of certain components of the campaign may lag. Furthermore, **poor management of conflicting priorities** amongst stakeholders can hinder progress. For example, a stakeholder's priority may be to provide support for implementation of one antigen in an integrated campaign, but not the other.

Actions to mitigate:

- Establishing a **coordination platform or forum** with clear terms of reference, aims and responsibilities. Frequency of meetings should also be established to ensure all stakeholders are brought along throughout the process in an integrated manner.
  - Targeted **social mobilization and timely advocacy** is necessary to ensure integrated decision making across all stakeholders.
2. **Delay in receipt of funds for social mobilization and logistics** impedes timely planning and demand creation activities. Furthermore, **delays in the microplanning process** can hinder the extrapolation of target populations and allocations of human and material resources. In areas where funding was delayed or insufficient during the integrated campaign, healthcare workers were still able to leverage integration synergies to achieve successful implementation. Some HCW utilized personal resources to support logistics and incentivizing others; however, where possible these situations should be averted with sufficient budgeting and timely funds release to reduce the burden on HCW.

Actions to mitigate:

- **Implementation plans** (operations, time frames, materials, and personnel) should be communicated to the state and regional level only after all plans have been approved by the national government to avoid miscommunication to the state and service delivery level.
- **Security and transportation challenges** should be adequately captured in the implementation plan, to cover health workers' needs i.e., transportation for vaccination teams and vaccines.
- In the context of COVID-19, **planning and budgeting for infection prevention and control** and crowd management during implementation should be ensured.

*Stakeholder perceptions*

Participants in the focus group discussions and key informant interviews had keen perceptions of the benefits and challenges of collaborative planning. They felt that national and state support for the local government immunization team and stakeholders' collaboration enhanced advocacy and support for the integrated campaign. Stakeholders and partners felt that their involvement in the planning process, advocacy, communication, and social mobilization activities was a critical success factor.

It was also felt that collaborative planning can result in enhanced skills of HCWs and lower levels of worker fatigue by minimizing the planning and implementation of standalone campaigns, and ensuring capacity for other primary health activities. Ultimately, integration was viewed as a way to improve cost and time effectiveness, and increase health benefits for communities.

The following quotes illustrate stakeholders' experience in the collaborative planning process.

*“Through the collaborative planning forum, we worked seamlessly with the ward development committee members and some influential people in the community like the pastors and the mams.” - Health facility focus group.*

*“Integrating this campaign saved us a lot of money, it saved us time, and it built the capacity of our [health workers] in multitasking.” - State key informant.*

#### *Campaign readiness and coverage*

A key indicator of success was state readiness. Three days prior to the campaigns, each state's readiness for implementation was assessed according to themes including financing, planning, coordination, waste management, cold chain and logistics, social mobilization, adverse event surveillance, and monitoring.

The study states achieved the following readiness scores and post-campaign coverages for the 2019-2020 integrated campaign. The 2017-2018 standalone measles campaign data are also provided for comparison.

*Table 3. Readiness scores and coverage from 2019-2020\* integrated measles and MenA campaign and 2017-2018 measles standalone campaign.*

<b>State</b>	<b>Readiness score 2019-2020 (2017-2018)</b>	<b>Coverage - Measles 2019-2020 (2017-2018)</b>	<b>Coverage - MenA 2019-2020</b>
<b>Kogi</b>	77% (71%)	93% (87.4%)	91%
<b>Kwara</b>	82% (100%)	96% (94.3%)	95%
<b>Niger</b>	75% (100%)	89% (90.1%)	87%

\* The dates of the integrated campaigns were: Kogi state, October 12-21, 2020; Kwara state, November 16-23, 2019; Niger state, October 17-26, 2020.



Lower readiness scores in 2019-2020 as compared to the 2017-2018 campaign may be attributed to delays in submissions of readiness dashboard data and interruptions caused by the COVID-19 pandemic. Overall, states achieved equal or greater coverage compared to the 2017-2018, with the exception of Niger state, which had coverage of 90.1% in 2017-2018 (3).

## Promising Practices

The study team identified the following promising practices that should be consistently applied to collaborative approaches to campaign integration:

1. **Establish a coordination platform or workgroup to promote collaborative planning and shared decision-making.** This case study describes the use of a National Technical Coordinating Working Group (NTCWG), which included key stakeholders from national, state, and local levels. The working group facilitated dialogue across technical and non-technical stakeholders that supported campaign processes. There was shared decision making amongst all stakeholders, and the government made all final implementation decisions for the campaign integration.
2. **Harmonize campaign tools, templates and guidance from stand-alone campaigns to support campaign integration.** Pre-implementation data tools and readiness templates of the standalone campaigns were redesigned to capture information for the integrated campaign. This resulted in a more robust tool to aid adequate planning for simultaneous antigens, and promoting ease of use and reducing the burden of reporting and documentation for health workers
3. **Include local government stakeholders in state-level planning for campaign integration.** Incorporating officials from the local government during state-level planning supported the successful implementation of campaigns. This included the local government immunization officer, health educator, cold chain officer, disease surveillance and notification officers, and state technical officers.
4. **Involve community leaders and influencers in planning for campaign integration.** The involvement of community leaders and influencers during planning allowed for early commitment. Community leaders and influencers also created awareness among caregivers for the integrated intervention (i.e. dual vaccine).
5. **Assess the readiness of each state (region/province) within the country to implement the integrated campaign.** In the months and weeks and even days leading up to the campaigns, each state's readiness for implementation should be assessed on readiness related to integrated delivery of interventions on key topics such as: financing, planning, coordination, waste management, cold chain and logistics, social mobilization, adverse event surveillance, and monitoring.
6. **Use a variety of targeted social mobilization methods,** including dissemination of information through social media, translation of information, education, and communication (IEC) materials, house-to-house mobilization, tracking eligible beneficiaries, and production of jingles in local languages. Social mobilization messages that resonate with communities may include the benefit of both antigens, reduction of wait times, and eliminating the need for multiple health facility visits. Decentralization and producing IEC materials at the regional level can be a more effective way of reaching caregivers at the community level.

7. **Adapt logistics for vaccine storage and waste disposal.** Locations may require alternative power sources for vaccine storage to manage the higher volume of vaccines for integrated campaigns and maintain the cold chain; some states utilized solar freezers. States with inadequate or nonfunctional incinerators developed a memorandum of understanding with a private company to dispose of immunization waste in a timely manner.
8. **Stagger the timing of campaigns to mitigate any perceived gaps in human and material resources.** Early identification of gaps in human and material resources during pre-implementation can guide decisions on timing and the type of campaigns to be implemented.

## Lessons Learned

The following lessons learned were developed as a result of unexpected findings and/or challenges encountered during this study.

1. **Early engagement and inclusion of all stakeholders in the pre-planning and planning phases** facilitates buy-in, integration of resources, and effective mobilization.
2. **Support from the national government is important during the pre-planning and planning phases of an integrated campaign.** The national government provided continuous monitoring and oversight, and invested human and financial resources. During pre-implementation, the national team delegated teams to verify microplans and status for preparedness. National supervisors were trained on the thematic areas used to evaluate readiness and review of microplans, which aided in refining the quality and capacity of the state supervisors.
3. **Supply and cold chain infrastructure must accommodate the volume of vaccines needed for integrated campaigns.** Planning should identify and address any supply or infrastructure gaps prior to integration.
4. **Technical capacity and any gaps in technical skills should be understood and addressed.** This includes capacity and skills related to data management and analysis, tool modifications, and implementation design.
5. **Early forecasting of operational costs and advocacy for fund release** with defined dates are needed to ensure timely incorporation of operational costs into relevant budgets and successful integration.
6. **Collaborative planning benefits from defined roles, transparency, equal and active involvement, and performance appraisal.** Collaborative pre-planning and negotiations are central to achieving successful implementation of the integrated campaigns.
7. **Integrated campaign planning in the context of COVID-19 with a focus on infection prevention is complex.** Principles of infection prevention and control (IPC) and other safety measures must be infused into the pre-implementation, implementation, and post-implementation campaign phases. Solutions include virtual meetings, inclusion of IPC commodities in microplanning, and reworking field guides to include measures such as social distancing.

## Conclusion and Recommendations

Integration of the 2019-2020 measles and MenA campaigns in the case study states of Kwara, Kogi, Niger, and in Nigeria at large was driven by a crowded timeline of activities and the effects of the COVID-19 pandemic. The findings imply that to achieve optimal coverage in SIA campaigns, planning and implementing an integrated

campaign is more effective than stand-alone campaigns. The success of an integrated campaign is, however, dependent on an effective and efficient planning process founded on shared goals and objectives across stakeholders, the use of a coordinated platform for communication and decision-making, and proper sensitization of service providers and communities. Integration of campaigns and the broader health systems offer an opportunity for cost and time savings, and more effective use of human resources.

The following recommendations for campaign integration planning and implementation can be applied in addition to the promising practices described in this case study:

- **Engage, sensitize, and advocate to non-technical stakeholders.** Identify and develop mechanisms to involve stakeholders in district government, the service delivery level, media, and private sector to mobilize resources, create demand, promote campaign messaging, and address challenges.
- **Utilize virtual meetings and trainings.** In the context of COVID, most coordination meetings and pre-planning trainings were conducted virtually, which is both efficient and cost effective.
- **Initiate planning with a sufficient number of months ahead of the campaign date.** Pre-planning and planning commenced 3-6 months ahead of the campaign implementation, which helped to ensure readiness was achieved.
- **Early budgeting and funds release.** Ensuring operational costs for implementation is essential to campaign success, and aids 'go/no-go' decisions.

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- The local government immunization officers of Kwara, Kogi and Niger states
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