

Investigating Nigeria's Progress Towards Self-financing of Vaccines: Political Economy
Analysis of Routine Immunization Vaccines Financing
by

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Date: March 4, 2024

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Thesis submitted in partial fulfillment of
the requirements for the degree of
Master of Science in the Duke Global Health Institute
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ABSTRACT

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Abstract

Background: Globally, about five million children under the age of five years old die each year, of which Nigeria accounts for roughly eight hundred and fifty thousand. Despite the alarming number of deaths, persistent financial barriers hinder immunization efforts, with a central focus on the low budgetary allocation for routine immunization, which fosters a dependence on external funding and a lack of attention to developing sustainable domestic financing strategies. Methods: I conducted a problem-driven political economy analysis to explore the interplay between political dynamics, economic considerations, and internal and external contextual factors that impact Nigeria's ability to sustainably finance vaccines beyond its partnership with Gavi. This PEA involved 14 key informant interviews across actors from national government organizations, developmental partners, and civil society organizations. Results: I found that a significant challenge in the vaccine payment pathway arose from delayed approval and release of funds. Furthermore, participants identified other central challenges to vaccine financing including the lack of prioritization by the government, limited fiscal space, and Nigeria's adverse macroeconomic conditions such as currency devaluation and high debt financing. To tackle some of the challenges, participants reported that exhaustive stakeholder engagement, enhanced state government involvement in decision making, excise taxes, private sector involvement via local

vaccine manufacturing, and internal accountability by CSOs and private entities were some opportunities for change. Conclusions: These findings underscore the need for robust institutional processes to streamline and optimize vaccine financing mechanisms. Furthermore, comprehensive engagement and representation across all stakeholder groups are imperative to foster ownership and commitment to immunization initiatives. Addressing the identified challenges in the vaccine financing landscape would ensure the sustainability of the National Program on Immunization and drive improvements in public health outcomes.

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1. Introduction

Globally, about five million children under the age of five years old die each year, of which Nigeria accounts for roughly eight hundred and fifty thousand (UNICEF, 2023). Despite these alarming number of deaths, financial barriers persist, hindering immunization uptake. These barriers include the high direct cost (transportation) and opportunity costs (missed wages) borne by caregivers, high cost of vaccine procurement relative the population, and shortage of supplies and vaccinators due to insufficient financing and untimely release of funds. Of particular concern and the central focus of this study, is the low budgetary allocation for routine immunization which is associated with a dependence on external funding leading to dearth of attention on developing sustainable domestic financing strategies (Nwogu et al., 2008; Alaboson, 2019).

1.1 Vaccine financing in Nigeria

Nigeria has a two-part financing mechanism for routine immunization. First, financing of the routine immunization program occurs concurrently at the national, state, and local government. The federal government fully-finances traditional vaccines and co-finances Gavi, the Vaccine Alliance (Gavi) supported vaccines through the National Primary Healthcare Development Agency (NPHCDA). The vaccines are procured via the UNICEF procurement system and the NPHCDA provides

immunization guidelines and technical support to the sub-national levels.

Simultaneously, the state and local government fund and implement service delivery for the immunization programs (Uzochukwu et al., 2013; World Bank, 2018). Hence, the Nigerian government collectively finances 55.42% of routine immunization activities (UNICEF, 2022). The second part involves external donor funds through Gavi, World Bank loans, and grants from other development partners. These funds primarily finance new routine immunization vaccines procurement through UNICEF, immunization service delivery, supplementary immunization activities, and health system strengthening activities such as cold chain logistics (Ojo et al, 2011; Eboreime et al., 2015; World Bank, 2018).

Although the Nigerian government finances over half of routine immunization activities, there remains significant concern about the sustainability of its financing strategies, especially given the country's challenges in achieving high immunization coverage and positive health outcomes (World Bank, 2018). Moreover, the reliance on donor funding poses a risk to sustaining domestic financing for vaccines. WHO report on immunization expenditure reveal that, as of 2022, 56% of the total expenditure on vaccines is financed by government funds (UNICEF, 2023). This statistic highlights a substantial gap, with 44% of expenditure on vaccines is still reliant on donor funding. Closing this gap is crucial for attaining full financing of vaccines. Therefore, it is

imperative for the Nigerian government needs to increase its budgetary allocation for health and routine immunization to ensure sustained progress in its immunization program.

1.2 Gavi-Nigeria co-financing agreement

One reason it is urgent for Nigeria to mobilize domestic financing for routine immunization vaccines is heightened as Nigeria approaches the end of that its eligibility for Gavi co-financing ends in 2028. According to the Gavi eligibility and transition policy, the transition process for eligible countries is delineated into four key phases based on their gross national income per capita (GNI p.c.). The first phase is the initial self-financing phase for countries with GNI below the low-income threshold of \$1,085. The preparatory transition phase for countries above the low-income threshold. The accelerated transition phase for countries that have a three-year average GNI and most recent GNI above the threshold and co-finance at least 35% of its vaccine costs. Finally, the fully self-financing phase for countries that have transitioned out of Gavi support (Gavi, 2022). In 2018, Nigeria entered the accelerated transition phase which previously lasted for five years but has currently been adjusted to eight years. However, due to low immunization coverage rates, high cost to maintain the immunization program, and inequities in vaccine access, the Nigerian government requested for an extension accelerated transition phase timeline to ten years to which Gavi agreed (NSIPSS, 2018).

In response to this extension, the Nigerian government, in collaboration with Gavi, national and sub-national ministries, researchers, civil society organizations, and other local and international development partners developed the National Strategic Immunization and PHC Systems Strengthening (NSIPSS) policy plan. Spanning 2018 to 2028, this 10-year policy document serves as the country's multi-year plan to achieve strategic programmatic and financing mechanisms that ensure sustainability following the transition from Gavi support. For the purpose of my study, I will focus specifically on section 8 of the document, *"Towards a Domestically Funded Immunization Program."* This section highlights the Nigerian government's strategic plans to co-finance its immunization program and eventually fully finance the immunization program and PHC system strengthening activities post-Gavi support. The government strategies for sustainable vaccine financing range from short-term to long-term. The short-term approaches include budgetary allocations from the Federal Ministry of Health and the NPHCDA, service wide votes under the Ministry of Budget and National Planning, loans and support from development partners, and the Basic Healthcare Provision Fund. The long-term approach involves instituting a statutory transfer for routine immunization via a first line charge (NSIPSS, 2018).

1.3 Political economy perspective

As evidenced by the various stakeholders involved in the creation of the NSIPSS and vaccine financing at large, political relationships between the stakeholders play a role in advocating for and achieving sustainability of the immunization program. The dynamics and relationships between the health policy elites are crucial to investigate, given their influence on the progress of health reform as seen in the Saving One Million Lives and National Health Act policies. In both instances, the sustainability of programs encountered challenges due to power struggles amongst agencies, lack of prioritization at the subnational level, and donor withdrawal (Croke & Ogbuoji, 2024). Thus, examining these political relationships provides valuable insights into potential obstacles and opportunities for the routine immunization program and ensuring the longevity of vaccine financing initiatives.

A political economy perspective seeks to understand and provide an explanation for the relationships between key actors by uncovering power dynamics, incentives, interests, behaviors, and institutions (Fritz et al., 2014). For this study, this crucial analytical tool delineates the political economy of vaccine financing for routine immunization in Nigeria. This will lead to the understanding and subsequent strategizing of current financing strategies to achieve feasible and sustainable targets as the country strives for full financing of its national immunization program. The objective

of this study is to assess Nigeria's progress to successfully transition out of GAVI co-financing by 2028. To achieve this objective, I will conduct a problem-driven political economy analysis to evaluate the political incentives, economic incentives and the contextual (internal and external) factors shaping vaccine financing in the country.

2. Methods

The objective of this study is to assess Nigeria's progress towards successfully transitioning out of GAVI co-financing by 2028. The research will delve into understanding the intricate interplay between political dynamics, economic considerations, and internal and external contextual factors that impact Nigeria's ability to sustainably finance vaccines beyond its partnership with Gavi. Specifically, the study seeks to answer the following research question: What are the political and economic incentives, as well as internal and external contextual factors, shaping decision-making for financing of routine immunization vaccines?

2.1 Study design

The study used a problem-driven political economy analysis (PEA) framework. This methodology allows for the analysis of the political and economic contexts and their influence on decision-making around financing vaccines for routine immunization. Furthermore, this approach will enable the understanding of actors' incentives and interests in financing vaccines for routine immunization. For this study, I obtained relevant information using primary data via semi-structured in-depth interviews with key stakeholders. Findings from the interviews were triangulated against published policy documents and validated by participants during analysis. Finally, ethical

approval was obtained through the Duke University Campus Internal Review board (2023-0357) and Nigeria Health Research Ethics Committee (NHREC/01/01/2007-26/05/2023) at the Federal Ministry of Health in Nigeria.

2.2 Analytical framework

The political economy analysis (PEA) approach is versatile in examining a range of policy strategies and development challenges, operating at different levels such as the country level, sector level, or program level. Within the PEA approach, the problem-driven PEA approach focuses on a distinct policy or program and its implementation involves three primary steps. First, it identifies a specific problem, followed by a thorough analysis of the problem, and finally, identification of opportunities for change. In the analysis phase, the framework covers important structural factors, relevant formal and informal institutions, and stakeholder interests, stakeholder groups, and power, providing a comprehensive understanding of underlying factors that shape decision-making (Fritz et al., 2014). Figure 1 depicts the analytical pathway for the problem-driven PEA used to guide the study. The pathway begins with problem identification, outlining the issue and its associated outcomes. Next in the pathway is diagnosis. The structural diagnosis is focused on contextual and institutional factors influencing the problem, while the agency diagnosis delves into stakeholder relationships and power

dynamics. The pathway concludes with prescription, which is focused on avenues for plausible change (Siddiqi et al., 2009).

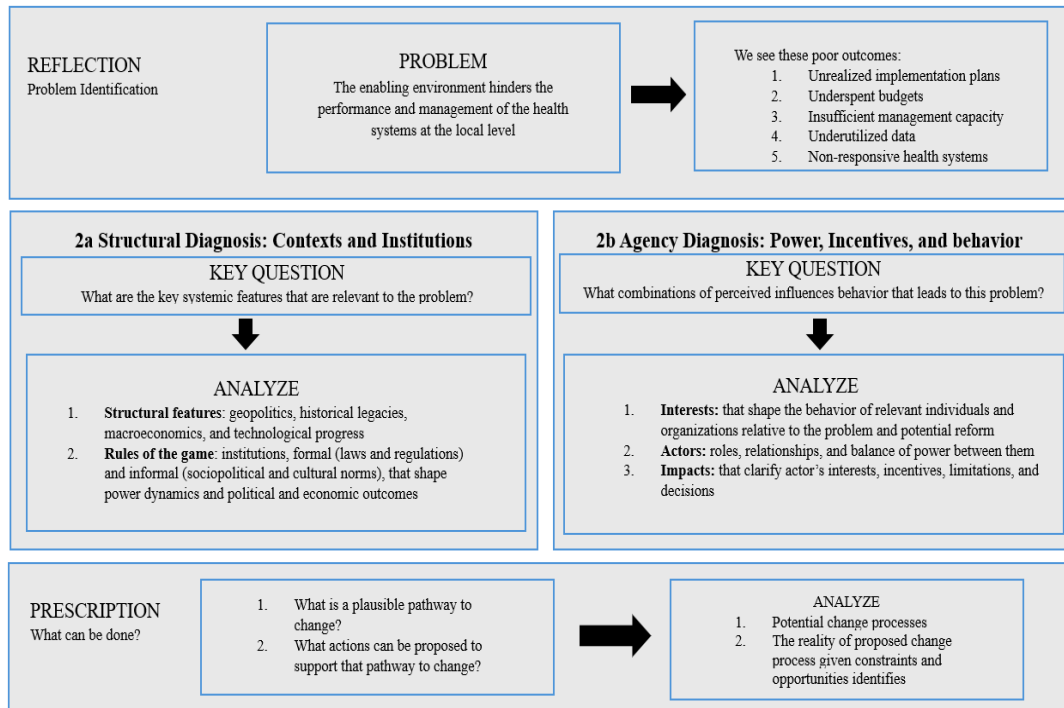


Figure 1. Problem-driven PEA framework

PEA theoretical framework, adapted from (Siddiqi et al., 2009)

2.3 Participants

I conducted 14 semi-structured key informant interviews. I used purposive sampling (n = 10) where I intentionally selected participants who met the inclusion criteria as key stakeholders with extensive knowledge and experience in the vaccine financing landscape in Nigeria. Key stakeholders were defined as any participant with

knowledge of vaccine financing working in either national or international organizations that make financing decisions on routine immunizations in Nigeria. These organizations include but are not limited to development partner organizations, national development agencies, federal and state-level ministries, and civil society organizations. I recruited participants based on the inclusion criteria of (i) being involved in advocating for increased financing for routine immunization vaccines, (ii) being involved in, or knowledgeable about decision-making for payment of vaccines, (iii) being involved in, or knowledgeable about the creation of the NSIPSS, and (iv) being involved in, or knowledgeable about decision-making for procurement of vaccines for routine immunization. I used phone calls, WhatsApp, or SMS for follow-up scheduling. Furthermore, I used snowball sampling (n = 4) which is a technique whereby participants refer additional participants to recruit others who met the inclusion criteria. These sampling approaches ensured that inputs and insights from a variety of relevant stakeholder groups were represented in the study.

Table 1. Description of study participants

Stakeholder category	Respondents (n)
National-level government officials	5
Developmental partners	7
Civil Society Organizations	2
Total	14

2.4 Data collection

To guide data collection, I iteratively developed an interview guide in English, which was used to guide each 45–60-minute interview with the stakeholders (see Appendix A for interview guide). I refined the interview questions after interviews with the first three participants. Probes were used as needed during the interviews to enable clearer understanding and allow stakeholders to share more insight. All interviews were carried out virtually via Microsoft teams. Each of the in-depth interviews with the key stakeholders were both video- and audio -recorded. Verbal consent was obtained from each participant prior to recording. All interviews were recorded. After the interviews were completed, the recorded data were encrypted and stored in a secure online folder. Notes were taken during and after the interviews. There was no compensation for participants. Data saturation was achieved after the tenth interview; however, interviews with previously contacted participants continued.

2.5 Data management and analysis

Data analysis began with transcribing interview recordings. All interviews were conducted in English and all transcriptions were carried out by Mary Winifred Ugonma Edom using the Microsoft stream software and Microsoft Word. Transcripts and notes were entered into NVivo V.14 software and coded by Mary Winifred Edom (MWE) using the aforementioned software. A codebook was created Using NVivo. The

codebook contains a priori (n =4) and emergent codes (n = 18). A priori codes were obtained from the problem-driven political economy analysis variables in the framework and emergent codes were obtained from transcript review (see Appendix B for codebook).

The first a priori code is the structural diagnosis, and its emergent codes are untimely release of funds and convening groups. The second a priori code is the agency diagnosis, and its emergent codes are roles, interests, impact, power dynamics and limitations. The third a priori code is challenges to vaccine financing, and its emergent codes are lack of prioritization, limited fiscal space, macroeconomic situation, financing strategy consensus, and under-use of funds. The final a priori code is pathways for change in vaccine financing and its emergent codes are prioritization of financing for vaccines, state government involvement, CSO involvement, innovative financing strategies, private sector involvement and local vaccine production, and Gavi exit in 2028. The codebook was examined iteratively to ensure all data will be captured. Analysis was finalized when thematic saturation was achieved and there were no new emerging themes. After analysis, a summary of the findings was shared with interview participants to obtain feedback and ensure that the information could be corroborated.

3. Results

For this section, I will present the findings of the problem-driven political economy analysis using domains from the framework. Structural diagnosis will cover the findings of the decision-making structure for paying for routine immunization vaccine procurement. Paying will encompass budgeting, approval, release of funds, and tracking of funds. I will then explain influences on the decision-making process, which would focus on actor roles, relationships, and power dynamics under agency diagnosis. Next, I will present findings on the challenges affecting vaccine financing and pathways for change, including accountability mechanisms used in the vaccine financing landscape. Finally, I will conclude by presenting findings on stakeholders' perceptions toward Gavi exit in 2028.

3.1 Structural diagnosis

3.1.1 Decision-making process for vaccine financing

The budget of the Federal Ministry of Health and the National Primary Healthcare Development Agency (NPHCDA) is one of the major sources of funding for vaccine procurement in the country; hence, investigating the decision-making process is pivotal. The process of preparing the budget involves the government (state governments, NPHCDA, Ministry of Health, Ministry of Finance, and Ministry of Budget and National Planning), local development partners, and international development partners

providing technical assistance. These actors engage in the budget preparation process via forecasting, deliberation, and clarification. After the budget is prepared, it is then submitted to the Budget office to be included in the Medium-Term Expenditure Framework (MTEF), which is sent to the National Assembly for review. Once that is completed, the finalized budget is sent to the President for assent. The process of releasing funds starts with a letter of request from the Federal Ministry of Health and the NPHCDA, which is sent to the Ministry of Finance then to the office of the Accountant General. The appropriated funds, in naira, are paid by the Central Bank, to UNICEF supply division in U.S dollars for vaccine procurement. When the funds have been released and vaccines procured, the NPHCDA and the Ministry of Health are charged with tracking utilization of the vaccines and expenditure in order to conduct regular audits and prepare financial reports. This entire process takes an average of 17 weeks.

3.1.2 Untimely release of funds

“Our budget cycle made it difficult for us to have money” (Government 2)

Within the payment pathway, untimely release of the appropriated funds is a major issue the PEA identified. Participants expressed that a major challenge to vaccine procurement was delays in the release of funds. Following approval, the key organizations involved in the release process displayed lethargy towards the urgency

and importance of purchasing the vaccines needed for routine immunization.

Participants alluded to the process prior to release as straightforward, but at the release stage, the government agencies responsible needed significant prompting by developmental partners to take action.

“So yeah, you also have to now push for funds to be released because then for every quarter there is a limited amount that is available for ministries, departments and agencies to, I would say to you use [for their operations].” (Government 3)

“When the budget is approved, that is when we go office to office. Following the letter, the moment it leaves the office. Once it leaves NPHCDA to the MOH. We ensure the letter is moving as it should move, communicating to the NPHCDA when they have received the funds and if there are bottle necks.”

(Development partner 4)

In recent years, several approaches have been adopted to counter delayed fund release for vaccine procurement. The first is that funds for vaccine procurement were moved to the Service Wide Vote, which allows for fund availability when there are budgetary constraints. The service wide vote is a contingency budget which constitutes 5% of the national budget; it is set aside for expenditures not included in the national budget. Next is UNICEF’s Vaccine Independence Initiative (the VII), a pre-purchase agreement whereby the country obtains vaccines months ahead from UNICEF before payment is made to prevent stock-out of vaccines and ensure supply. Then once the funds are released, they are then paid to UNICEF.

“I think the new sort of addition to what obtains now is that government funding for just for the GAVI support is warehoused under something called service wide votes. And the reason why that is done is that government recognizes that given the cyclical nature of financing, NPHCDA may not always receive all of its budget right, so if it’s on the service wide votes, it’s a bit more reliable and easier to pull out and ensure that we’re able to fund UNICEF to procure the vaccines on our behalf.” (Development partner 5)

“But however, there is a process with UNICEF, so I think it’s a pre-purchase agreement. So, because of this cycle of release, vaccines needs to be preordered like six months ahead...so that once the budget comes, there is now like a refund. By doing so, the vaccine availability does not stop” (Government

1)

3.1.3 Convening groups

There are two major task teams that support the decision-making process for vaccine financing in Nigeria. The first is the Vaccine Financing and Accountability Task team (VFAT) and the second is the National Immunization Financing Task team (NIFT). The VFAT is a team led by the NPHCDA that comprises government bodies and development partners who meet periodically to strategize, deliberate, and review the vaccine financing landscape. The VFAT focuses on the more technical aspects of vaccine financing. Participants expressed praise for the VFAT in contributing to the creation of current financing strategies and government accountability. They praised their persistence in prioritizing vaccine financing, ensuring that all the processes necessary for vaccine procurement run efficiently in a timely manner.

“What is working well? We have the vaccine financing and accountability task team, and so it’s more like scrutinizing the financing process and it has an early warning function, so to speak. People are

able to pick up when there's a shortfall that is imminent and look at what financing sources are available within the country to meet its immediately." (Government 2)

"They have their meetings, and they ensure that there is smooth flow for vaccine financing. They don't rest until the vaccines are there because once the stock out is there...the whole world would know that there is Stock out in Nigeria. And nobody wants to hear that nobody want that kind of negative. So, they push to make sure that doesn't really happen there." (Government 3)

The NIFT is a team led by the NPHCDA alongside local and international civil society organizations (CSOs). The NIFT was responsible for advocating for the extension of the accelerated transition timeline from 5 years to 10 years, thus extending Gavi's support to Nigeria. The task team supported the development of the NSIPSS, demonstrating commitment from the government to prioritize its routine immunization program.

"The National Immunization Financing task team was a member at that time that helped to really think through and identify sustainable immunization financing approaches. So yeah, and they also helped in developing the strategy (NSIPSS), also a sign of commitment that you're thinking towards it [vaccine financing] and you're planning towards it [vaccine financing]." (CSO 1)

Finally, the Interagency Coordinating Committee (ICC) is responsible for immunization governance in the country. This committee, led by the Ministry of Health, is made up of the highest levels of policy makers such as the ministry of Finance, Ministry of Budget and National Planning. As the name implies, the ICC is charged with coordinating stakeholder engagement in developing immunization priorities with the

government officials. The committee reviews and approves policy documents or guidelines prepared by task teams pertaining to immunization and also advocates for funding support from development partners.

“The interagency coordination committee at the ICC chaired by the Minister of Health... once [policy document or guideline] approved at that level ... I think it’s adequate at that level.” (Government

3)

“They [ICC] bring out the things that the people who are paying are supposed to understand to ensure that one (vaccines) is paid. Then at times when it is difficult, that money is not really forthcoming.

They plead with UNICEF to go ahead with procurement. That they will pay the money and most times

UNICEF will not refuse. They say okay, they’ll do that, yeah.” (Development partner 7)

3.2 Agency diagnosis

3.2.1 Roles

In the vaccine financing ecosystem, the range of roles the various actors play include advocacy, stakeholder engagement, funds provision, technical support, and accountability. Often these roles intersect with one actor performing multiple roles or multiple actors performing the same roles. International development partners often play funding roles by supporting the government directly to finance vaccine procurement. They also fund local development partners to support the government through technical assistance and funding CSOs to advocate for prioritization of vaccine financing. The other roles that development partners play include high level stakeholder

engagement and political advocacy with the national assembly, vice president, and president to prioritize vaccine financing.

“One is our funding and that is huge lever we have. You know, since we’ve been working in in Nigeria, have invested a lot in the purchase of vaccines and then cash for system strengthening. And that’s a pretty influential lever.” (Development partner 2)

“We also fund our technical partners to help provide that technical expertise to government as needed and as requested by government.” (Development partner 1)

“And we also have and fund civil society organizations to do grassroots advocacy to, their respective, you know, political leaders to ensure that vaccines are a priority in the budgeting process.” (Development partner 3)

The NPHCDA primarily takes up technical support roles whereby it leads task teams and working groups in the development of key policy documents and innovative and sustainable vaccine financing strategies. However, the agency does support advocacy for government prioritization especially when it relates to budget approval and release of funds. Additionally, the Ministry of Health is predominantly seen in stakeholder engagement with the national and subnational policy makers, which is critical to vaccine financing. Within advocacy, a key stakeholder is CSOs. They are charged with advocating for increased budgetary allocation for health, government commitment, prioritization, and ownership of vaccine financing and the immunization program. Finally, local development partners engage in advocacy by meticulously and tenaciously following up on the release of funds for vaccine procurement. Next, they are engaged in

technical support by providing data and analysis needed for forecasting, policy development, or monitoring and evaluation. Lastly, they are involved in stakeholder engagement by facilitating the various financing task teams.

“So, the NPHCDA also plays a role in trying to reach out to government at national and sub-national level to advocate for adequate funding for immunization vaccines and the entire nation program.”

(Government 1)

“Yes, my organization encouraged it [the creation of the NSIPSS] and... From the empty document to the complete document was initially drafted. You know, we led a lot of the writing and all. So, we provided technical support in developing the NSIPSS document, but my organization alone did not do everything.” (Development partners 4)

“OK, my organization is basically an advocacy and an accountability organization. So, and then we keep striving that the government we focus more on the government taking control and increasing domestic financing for immunization.” (CSO 1)

“Then there is the advocacy, it shows you the kind of roles that we play in advocacy is a big deal because of the space, we are working with the government, if you need them to move the needle, you need to advocate and that is where we come in.” (Development partners 6)

Participants described that, accountability is undertaken by a mix of actors including NPHCDA, development partners, and CSOs using the indicators outlined in the accountability framework. Accountability activities involved tracking budget, expenditure and utilization of funds, accurate reporting, and high-level mission trips.

3.2.2 Interests

Generally, all respondents reported that their interest in vaccine financing lies in their desire to protect children against vaccine-preventable diseases and save lives. This

desire is concretely expressed in their respective organization's mission. For government agencies, saving lives is their core responsibility as an entity and to the citizens. For development partners, Nigeria is very strategic to their organizations' success given the number of zero-dose and missed dose children in the country.

"So, the that therein lies the interest to see... how do we then mobilize internal resources to meet this need, bearing in mind also that they are competing priorities from other agencies and ministries, so and so, that's the interest. The interest is really to meet our mandate and that mandate is dependent on ensuring that vaccines are available, and everyone has to be available." (Government 4)

"Our mission is centered on ensuring access to life saving vaccines for everyone and equity is a huge principle in our approach and our mission. So, Nigeria is critical to that for our success as an institution. Nigeria is home to the largest number of children in the world that have never received a single dose of a routine vaccine. So, we have a huge, vested interest in ensuring that there is success in Nigeria, in financing vaccines, in setting up Nigeria both to reach those children, but also to do so in a sustainable way." (Development partner 3)

3.2.3 Impact

Respondents reported that if Nigeria were to fully finance vaccine procurement, without Gavi support, it would be a cause for celebration and huge relief as the lives of Nigerian children are being prioritized and safeguarded. Development partners expressed joy at the possibility of fully financing vaccine procurement as the funds being used in vaccine financing by their agencies will be used for other needs within the health sector.

Government officials expressed optimism as there would be stability and predictability of sources of funding for vaccine procurement, which would allow them to address

other pressing health development needs. Lastly, government officials reported that if the government were to fully finance vaccine procurement, it would mean more decision-making power for NPHCDA. This is because the influence donors have as a result of funding vaccine procurement will significantly reduce, allowing NPHCDA to effectively plan and execute operational tasks.

“The thing is, if the government is able to domestically finance vaccine right, it would mean that the NPHCDA would be more powerful in the sense that we domestic financing some influence that some donors have right because they are also paying and fully vaccines that influence will reduce. I’m not saying it’s going to be totally off, but it reduce NPHCDA still be more powerful because now NPHCDA plans fully vaccines and also things will be more predictable.” (Government 3)

3.2.4 Power dynamics

When investigating the power dynamic amongst actors, there was growing contention between the Federal Ministry of Health and the NPHCDA on health leadership, particularly around immunizations. Several respondents reported that the NPHCDA was the primary organization responsible for decision-making, coordination, and policy development for the immunization program and vaccine financing. However, government respondents feel that the increased independence of the NPHCDA might lead to fragmentation as its primary role is shifting towards running the healthcare system whereas it was initially stipulated for policy development. Furthermore, this loss of control or decision-making and enforcement power by the

Ministry of Health also extends to the subnational level, particularly when dealing with state health governments. It appears there is misunderstanding of roles and responsibilities within the health sector which may stall immunization successes.

“NPHCDA, they take the leadership, they take the lead right in developing strategies, right.”

(Development partner 1)

“The responsibility of that policy document (NSIPSS) is Federal Ministry of Health in conjunction with NPHCDA, because that’s still their role. You know, they are an agency that is still supervised by the ministry, but that core function is development, not necessarily running primary healthcare, running vaccination, but two can’t strengthen the system...NPHCDA was at some point, you know, established before that it was the federal ministry health as the policy making body. But today the only thing I can say about decision-making is the fact that the agency being NPHCDA is probably more and more independent. The oversight function of the you the ministry of health may not be as strong as it’s supposed to be. NPHCDA I would say is gaining more autonomy or has operated apparently with more autonomy than it should have uh because the parent policy organization is the Federal Ministry of Health headquarters you know but at least there’s less and less influence you know from that end, you know, on the activities of the NPHCDA. Uh, I don’t know. I can’t explain exactly why, but it shouldn’t be

so.”(Government 2)

“It’s the way, you know, governance is at the federal health sector, where there’s a bit of misunderstanding of how these agencies should, you know, work together. Uh, that’s that has been a core problem in Nigeria, even at the state level between the primary healthcare management board and the State Ministry of Health, there’s a lot of friction because the primary healthcare system is a big one.” (Government 2)

3.2.5 Limitations

“So, the other thing is practically speaking, the government is only going to do what it wants to do.” (CSO 1)

The major limitation that respondents identified was that the federal government makes the final decision on its responsibilities and priorities. Participants expressed that, although they work with other partners to advocate for vaccine financing by engaging relevant stakeholders, offering technical assistance, policy guidance, and financial support, the government will still determine what the final policies, and decisions are. These limitations are seen in how the funds for vaccine procurement are allocated within the various financing strategies. Additionally, development partners expressed that because they are external organizations, they are limited in their ability to prompt the government to prioritize vaccine financing and consequently its health sector as Nigeria is a sovereign nation.

“There are limits, all we can do from our end is advocate. For example, for the first line charge, we had a sensitization exercise on this before. Yes. That happened in 2021, there was a meeting in the national assembly where we advocated for it. But did they buy in? That hasn’t happened yet. We are not the ones that would pass these policies... that’s our limit because we cannot make the policies. It is not in our power; the government has to make those decisions.” (Development partner 5)

“And a lot of times there are challenges with the finance guys in terms of being able to make funding available. So, is there a limit to our capacity to influence that? Yes, of course there is a limit because we can’t direct the finance guys to prioritize release of funds for vaccines, but you can engage with them. You can understand their concerns and see which areas you can address, and all of that. So, I think that’s the part that you can see. It’s a limit. You can only advocate to them, but you cannot decide for them.” (Development partner 3)

“My organization doesn’t have that much influence on the financing method that is used by the Budget Office to know where they categorize the payments, or where they put in the payment. So, when you submit the budget to the Budget Office of the Federation, they decide if they want to put it in service wide votes and all of that by level of influence.” (Development partner 1)

3.3 Challenges to vaccine financing

“But there’s also a different ball game for government to use lean resources that they have for vaccines, in spite of the fact that we all across the table agree that that is the sensible thing to do because that’s a fact, a function of several other people, fiscal space challenge, government priorities, politicians’ way of thinking and prioritization for the health sector.” (CSO 1)

3.3.1 Lack of prioritization

A recurring theme amongst all respondents was the lack of prioritization for vaccine financing and the immunization program. This lack of prioritization shows up in a number of ways. One is the low budgetary allocation to health , which has ranged from about 4 % to 5% of the budget over the past 5 years despite the commitments made in the Abuja declaration to allocate 15% of the annual budget to the health sector. The second way a lack of prioritization shows up is through delayed release of funds used in vaccine procurement. As noted above, it appears that there was more effort via advocacy to ensure prompt release of funds from CSOs, local, and international development partners than government agencies. Finally, respondents attribute the lack of prioritization to the existence of donor funds that are within reach. This lack of prioritization is seen in the increase in borrowing from development partners in recent

years, whereby the cushion they provide minimizes the immediate threats and fears of vaccine stock-out.

“...so, the engagement that is being done is poor, not having the rights representation. So, it’s a problem that needs to be addressed...” (Government 3)

“But more importantly is the issue of sustainability. Even though I feel the government is still relaxed because there’s probably no threats. The health sector is heavily supported, especially most of what works in the health sector. You know there’s a lot that happens, but the aspect of things that tend to work, they are the things that get support from, you know, donors and development partners and so and so. Uh, yeah, we’re happy with that for now. But like I said, we are not worried because there’s no threats.”

(Government 4)

Furthermore, respondents attributed the lack of prioritization to a number of factors.

First is inadequate engagement of stakeholders at the national and subnational level.

Respondents assert that there is a need for comprehensive stakeholder dialogue with

appropriate representation of core leadership bodies as opposed to only technical

discussions. Next is the recurrent changes in leadership either due to the election cycle

or agency restructuring and reforms that leads to changing priorities. Respondents

advised that incoming national and subnational leadership should understand their role

in policy development and championing progress of the immunization

program. Another factor is the number of competing priorities within the country. The

government offices are tasked with the challenge of balancing multiple pressing needs

that require prompt attention and significant budgetary allocation. Finally, respondents

noted that the lack of coordination in the health sector for the immunization program contributes to the lack of prioritization. This lack of coordination shows up in weakened enforcement power between national and subnational health sectors and obscure roles between the NPHCDA and Ministry of Health.

“Changes in leadership. It’s also a key. So, you might have a government that shows a lot of political will today, but the concern is tomorrow in the medium to long term. Would you have a government who really understands the importance of vaccination and willing to put down the funds required?” (Government 4)

“Is there a possibility that when you’re preparing your budget someone comes to say why am I spending this much money to buy vaccines when I can put it to buy some other palliative and share to every other widow in the country? Because that could happen.” (Development partner 7)

“It’s not all about technicalities. When it comes to the stakeholder engagement and dialogue, the leadership should be there to engage in the process and discuss the issues and discuss the challenges and talk about, you know, agree on the strategic decisions. But if you even have that talk, and you’re able to present a policy document at one meeting, you’re presenting a policy document that took six months to develop. They are overwhelmed. They don’t understand what is there, so they just rubber stamp it without knowing what it is really about, they don’t have the time to engage all the issues there.” (Government 3)

3.3.2 Limited fiscal space

From the interviews, respondents reported that the federal government is struggling to pay bills due to tight fiscal space. The low budgetary allocation for health in the country is a major contributor to this challenge. The tightening fiscal space will continue to be a problem as the population and birth cohort increases, demanding higher immunization coverage, and thus, increased vaccine demands which the government may not be able

to afford. Furthermore, with new vaccine introductions, notably the human papillomavirus (HPV) and malaria vaccines, those fears are beginning to materialize as the cost of vaccines will increase. In recent years, the federal government has increasingly requested external aid from the World Bank via loans, UNICEF via the VII, and Gavi via co-financing to support vaccine procurement.

“The fiscal space ability of government to, umm, spend money on vaccine is a factor of whether government is receiving revenue over the years. Revenue was shrinking, space for government to spend was shrinking; meanwhile, the need for vaccine and is expanded. Umm, so that’s, you know, that’s part of the issues.” (CSO 1)

“...the budget for health has not increased. So, it’s doubtful to see that magical increase in budget that will be able to ensure that the budget for immunization and vaccines is covered.” (Government 1)

“As we go on, the country’s requirement is increasing, is our fiscal space increasing, I don’t know? The fiscal space is not increasing but our obligations are increasing.” (Government 2)

“The financial burden is getting increasingly large. Initially, when the forecasting was done with the NSIPSS, the expectation was that the government by the time GAVI exists in 2028, that the government will be, uhm, need about \$129 million there, about if I’m not mistaken to finance vaccines independently. But we’re not even halfway or we’re just about getting to halfway, seeing that the amount required either already crossing the amounts that we estimated would be at by 2028.” (Development partner 6)

3.3.3 Macroeconomic situation

Current adverse changes in the macroeconomic context of the country is another challenge to vaccine financing. Respondents reported that the devaluation of the Naira has created more strain on the government’s fiscal space. With increasing demand for vaccines comes increasing costs of vaccines. This is because vaccines are procured in U.S

dollars; thus, the country would have to use more naira to procure vaccines. Therefore, more naira would have to be included in the preparation of the budget and other financing strategies to obtain vaccines. Also, respondents highlighted concern over the country's increasing debt profile. The increased borrowing of funds from development partners to pay for vaccines becomes worrisome particularly as the share of co-financing for the country increases by 10% annually.

"And of course, and of course the economic situation is not helping the naira, devaluation has also worsened them. So, at the time we're taking out naira to the dollar, so now we're going to need a lot more naira umm to get the same dollar and the budget that we're talking about earlier was done in Dollar."

(Development 8)

"And if we are going to rely heavily on loans and it's also worrisome because the debt profile is rising and unless we then begin to service our loan and increase the internally generated revenue and then mobilize adequate resources to be able to meet to our loan commitment, you might get to a point where we are not able to and get adequate known to meet some of these design and all the this needs."

(Government 2)

"You see that in the budget, your expenditure is more than your income or your revenue, meaning that the budget is going to be financed by maybe 50% of debt, right? So, you already know that the country is at a very, very constrained, and tight fiscal space." (CSO 1)

3.3.4 Financing strategy consensus

Amidst agreements by respondents on the country's tightening fiscal environment and low budgetary allocation for health, there is disagreement amongst development partners on the feasibility and sustainability of financing vaccine procurement through

the first line charge. The first line charge includes statutory transfers from the country's consolidated revenue which are enabled by law and do not need to be reviewed by the executive government or the president to be released.

"So, there's no consensus amongst partners whether the first line charge is the best way to go in the securing government financing for vaccines. Some people think that it is important and then we ought to pursue that option and my organization would rather that we increase overall funding for health and then for primary healthcare rather than commodity inputs." (Development partner 4)

"Of course, the best option is the first line charge, which is it's taking over the top before any kind of allocation is made to states and all of that that becomes truly federal. And that's the gold standard that we are expecting sometime in the future to finance Vaccines." (Development partner 1)

3.3.5 Under-use of funds

Respondents highlighted that given the tight fiscal space for health, adequate budget preparation and tracking mechanisms should be instituted because the under-use of funds could become a barrier to advocating for and accessing more funds, especially as the costs and quantities for vaccines continue to increase.

"...we should be asking for better utilization of the money that's already been earmarked for health, for example... you cannot be saying you're asking for more money when the money they give you, you return some out of it. So, some organizations feel that we should first of all find out all the different areas where money can come in. That is already earmarked instead of asking for new ones and see how you can properly utilize them before you start to talk about asking for more money. So, there's some organizations that believe that as well, but in my own organization, we believe that we need to support the federal Minister of Health to find out all those areas of utilization that that the other areas where money

can come from. There is already available that the utilizing, but at the same time it doesn't stop us from also requesting for more money." (Government 4)

3.4 Pathways for change in vaccine financing

3.4.1 Prioritization of financing for vaccines

All respondents reported that government prioritization of vaccine financing at the national and sub-national was of prime importance. Some approaches that were identified by respondents to ensure prioritization include extensively engaging with stakeholders at the highest-level health policy convenings, particularly the National Council of Health, to advocate for increased funding for vaccine procurement and increased budgetary allocation for the health sector. Another approach to support prioritization was ensuring effective coordination of activities and structures for the immunization system. Coordination encompasses three realms. The first is to foster transparency and delegation between the Ministry of Health and the NPHCDA. The second is to ensure clear communication between the federal health and finance agencies and corresponding state health and finance agencies. The third is to promote a unified funding mechanism for donors supporting the government so as not to substitute for the government's financing responsibility, thus, deterring donor dependency.

"...the National Council on health and you know is also another place. It's a kind of technical group or should be a technical group. It has all the Commissioners for health from all the states. So, the

National Council on health are opportunities that exist that can be used to improve, you know, financing for vaccines.” (Government 5)

3.4.2 State government involvement

Respondents reported that decision-making for vaccine procurement is overly driven by the federal government, which does not create enough opportunity for engagement and collaboration with state governments. Therefore, to ensure prioritization of vaccine financing, it is pivotal to promote ownership of the process and immunization program itself which demands that states contribute to financing vaccines. Furthermore, the active participation of state governments in the decision-making process allows for an added layer of accountability for the federal government in ensuring sustainability for financing vaccine procurement.

“I think the level of state level ownership and participation, in both the financing of the vaccines and in fact in immunization program in general is very limited ... if there’s a way to get states more engaged, that’s the missing piece of the pie.” (Development partner 1)

3.4.3 CSO involvement

Respondents agreed that involving CSOs was important to encouraging vaccine financing. Respondents mentioned that the major support CSOs can provide is via accountability. CSOs have the power to push for prioritization of vaccine financing and health sector to all tiers of government. More importantly, following the eventual exit of Gavi, scheduled for 2028, CSOs in collaboration with other local actors can serve as a

means of internal accountability for the government to finance vaccination procurement and the immunization program more broadly.

“So, a kind of coalition (CSOs) would really help to become the third force. I mean to encourage the government to prioritize health, reform their health sector, and finance the health sector. Since we are talking about vaccination, also prioritize vaccination, reform how vaccine delivery is done, but also fund the vaccine program.” (Development partner 2)

3.4.4 Innovative financing strategies

Respondents expressed the need for more innovative financing strategies. One of these strategies includes creating a designated pool of funds for vaccine procurement. The argument is that a designated pool of funds is resilient to macroeconomic shocks in the system and would ensure continuous availability of funding. A second strategy involves a tactical shift from input-based budgeting to output/performance-based budgeting. This means that new budget requests from agencies should be included based on financial or operational reports from the previous year. Respondents assert that by making this shift, the government would be able to tackle under-use of appropriated funds. Another strategy involves allocating funding for vaccine procurement in the federation accounts instead of the consolidated revenue fund. By pursuing this strategy, all tiers of government would be engaged in the vaccine financing process. The final strategy involves imposing excise taxes on telecom services,

luxury goods, sugar, tobacco, and alcohol. A portion of the revenue generated from these taxes would be earmarked for health and vaccine procurement to ensure sustainability of funds.

“We are advocating that’s instead of focusing on the consolidated revenue, they should focus on the Federation accounts so that you will not be talking to LG will not be talking to states, you just pull out the money from both national States and LG but from source.” (CSO 1)

“...and financing, you know it should be integrated and there are recommended ways of financing healthcare in countries and well we should work towards insurance and taxation.” (Government 1)

“They should start to shift the financing approach from this input-based budget that were doing to output based budget.” (Government 8)

3.4.5 Private sector involvement and local vaccine production

Key informants argued that involving the private sector in an organized manner would support vaccine financing. This approach requires coordination of social corporate responsibilities amongst private sector entities to support specific and strategic parts of the immunization system. Another way to engage the private sector entails drawing support from private donors for vaccine procurement, which would then lend to engagement and accountability. Additionally, over the past year, a local biotechnology company, Bio Vaccines Nigeria Limited, was involved in local vaccine procurement alongside UNICEF, which shows the possibility of a successful and sustainable public-private partnership.

“So, when we’re talking about a social corporate responsibility, we’re not saying that the private sector should actually purchase the vaccine. It may be that they might help to strengthen the health centers, it may be to help fund human resource at the primary healthcare level, you know.” (CSO 1)

“I think this year there’s a group called BVNL Bio Vaccines Nigeria limited, there is some kind of a public-private partnership with the Government of Nigeria and some private sector entity... there is government opportunity to promote local procurement of vaccines and then local manufacturing of vaccines.” (Development 6)

Respondents highlighted that encouraging local vaccine production is an eventual option to explore. Manufacturing vaccines in Nigeria would reduce the financial burden attached to imports, especially as the dollar requests for procurement increase. Furthermore, local manufacturing would reduce costs for vaccines. Finally, local vaccine manufacturing would lead to an increase in the country’s overall revenue and consequently its budgetary allocation for health.

“Other things we can do is local vaccine production. Because when you produce locally, it might be cheaper because then issues around transportation you might no longer worry about international air flights and some other logistics that you require at that level. So those are some of the, umm, additional ways we can help ensure stabilization financing” (Government 3)

3.4.6 Gavi exit in 2028

There were mixed feelings amongst respondents about the eventual exit of Gavi following the accelerated transition phase in 2028. Some respondents are optimistic that Nigeria would be able to meet the co-financing obligations in the Gavi-Nigeria co-financing agreements. They explained that Nigeria has shown this commitment by

meeting the annual 10% increase in financing requirements without fail. Additionally, respondents are hopeful as the recent changes in health leadership, particularly the appointments of the new Minister of Health and Executive Director of the NPHCDA, seem promising in prioritizing vaccine financing.

“One of the commitments also was that every year there should be a 10% increase in budgetary allocation for vaccines, and I’ll tell you, year on year, the country has met that targets and even surpass for some years.” (Development partner 6)

Despite the commitments, key informants still expressed fears about the ability of the country to sustainably finance vaccine procurement and the larger immunization program after Gavi exit in 2028. Despite the willingness of the government in the present moment to co-finance vaccines, respondents fear that once external pressures and accountability mechanisms for vaccine procurement is removed, the prioritization of vaccine financing may shift. Hence, significant changes in health governance and sufficient internal accountability mechanisms are of paramount importance to address those fears.

“My worry is after 2028 ...it becomes a problem once GAVI is hands-off from Nigeria’s immunizations system.” (CSO 1)

“I’m really worried. But one thing I know is that if we get the leadership right, uh, in the next five years, we should be able to make some progress, be able to fund our vaccines, but we need to get it right in terms of local mobilization of resources.” (Government 5)

Table 2. Summary of PEA findings

Themes	Sub-themes	Summary
Structural diagnosis	Untimely release of funds	The PEA identified untimely release of appropriated funds as a major issue in the payment pathway, particularly affecting vaccine procurement. Participants highlighted delays in fund release post-approval, with government bodies showing a lackadaisical attitude towards the urgency of purchasing necessary vaccines, requiring significant push to take action.
	Convening groups	In Nigeria, two task teams play key roles in vaccine financing: the Vaccine Financing and Accountability Task team (VFAT), focusing on technical aspects, and the National Immunization Financing Task team (NIFT), advocating for extended support timelines. Participants praised VFAT for its role in strategy creation and government accountability, while NIFT contributed to extending support timelines and prioritizing routine immunization through the NSIPSS, with the Interagency Coordinating Committee (ICC) overseeing stakeholder engagement and policy approval.
Actor diagnosis	Roles	In the vaccine financing ecosystem, various actors undertake roles such as advocacy, stakeholder engagement, funds provision, technical support, and accountability, with international development partners primarily supporting funding and high-level stakeholder engagement. The NPHCDA focuses on technical support and advocacy for government prioritization, while CSOs advocate for increased budget allocation and ownership of vaccine financing. Accountability efforts involve tracking budget, expenditure, and fund utilization, with

		involvement from NPHCDA, developmental partners, and CSOs using established accountability frameworks.
	Interests	All respondents share a common interest in vaccine financing driven by their mission to protect children from vaccine-preventable diseases and save lives, aligning with their organization's core values. Government agencies view saving lives as a fundamental responsibility to citizens, while development partners emphasize Nigeria's strategic importance in reaching zero-dose and missed dose children to achieve organizational success.
	Impact	Respondents expressed that fully financing vaccine procurement in Nigeria would be a cause for celebration and relief, prioritizing the safeguarding of children's lives while freeing up funds for other health sector needs, bringing stability and predictability to funding sources. Additionally, government officials anticipate increased decision-making power for NPHCDA, as reduced donor influence would enhance their ability to plan and execute operational tasks effectively.
	Power dynamics	In investigating power dynamics among actors, contention arose between the Federal Ministry of Health and the NPHCDA over leadership in healthcare, particularly regarding immunizations. While several respondents assert that the NPHCDA holds primary responsibility for decision-making and coordination in immunization programs and financing, government respondents express concern that NPHCDA's increasing independence could lead to fragmentation and misunderstandings of roles, potentially hindering immunization successes.

	Limitations	Respondents identified a major limitation in their inability to dictate the federal government's responsibilities and priorities, despite their efforts to advocate for vaccine financing and provide support. Developmental partners highlighted the challenge of persuading sovereign governments to prioritize vaccine financing, as decisions lie within the government's authority, affecting how funds are allocated within various financing strategies.
Challenges	Lack of prioritization	Respondents unanimously cited a lack of prioritization for vaccine financing and the immunization program, evident in low health budget allocations and delayed release of funds for vaccine procurement. They attribute this to the availability of donor funds, inadequate stakeholder engagement, leadership changes, competing priorities, and coordination challenges within the health sector, emphasizing the need for comprehensive stakeholder dialogues, clear roles between the NPHCDA and Ministry of Health, and better understanding of policy development roles by incoming leadership.
	Fiscal space	Respondents highlighted the federal government's struggle to pay bills due to tight fiscal space, exacerbated by low budgetary allocations for health, which may hinder meeting increasing demands for immunization coverage as the population and birth cohort expand. With new vaccine introductions such as HPV and Malaria vaccines, fears of financial strain are becoming reality, leading to increased reliance on external aid from entities like the World Bank, UNICEF, and Gavi for vaccine procurement support.

	Financing strategy consensus	Amidst acknowledgment of the country's constrained fiscal environment and low health budget allocation, development partners disagree on the feasibility and sustainability of financing vaccine procurement through the first line charge.
	Under-utilization of funds	Respondents emphasized the necessity of implementing robust budget preparation and tracking mechanisms in the context of constrained health fiscal space to prevent under-utilization of funds, which could hinder advocacy efforts and access to additional funds, particularly as vaccine costs and quantities rise.
	Macroeconomic situation	Respondents noted that adverse changes in the country's macroeconomic context, including Naira devaluation and increasing debt, pose significant challenges to vaccine financing. With vaccine costs procured in US dollars, the devaluation of the Naira requires more funds to be allocated for vaccine procurement, exacerbating strains on the government's fiscal space, and raising concerns over the country's growing debt profile, especially as co-financing requirements increase annually.
Pathways for change	Prioritization of vaccine financing	All respondents emphasized the critical need for government prioritization of vaccine financing at both national and sub-national levels. Strategies to achieve this included extensive stakeholder engagement at high-level health policy meetings like the National Council of Health to advocate for increased funding and effective coordination of immunization activities, focusing on fostering transparency and delegation, clear communication between federal and state health agencies, and promoting a unified funding mechanism to

		deter donor dependency and ensure the government's financing responsibility.
	State government involvement	Respondents highlighted the need for more inclusive decision-making in vaccine procurement, as currently driven by the federal government, lacking engagement with state governments. To prioritize vaccine financing effectively, promoting ownership of the immunization program among states is essential, fostering their contribution to vaccine financing and ensuring an additional layer of accountability for sustainability.
	CSO involvement	Respondents unanimously agreed on the importance of involving Civil Society Organizations (CSOs) to encourage vaccine financing, particularly in providing accountability support. CSOs are seen as key advocates for prioritizing vaccine financing and can play a crucial role in ensuring government accountability for financing vaccination procurement and sustaining immunization programs, especially following the eventual exit of Gavi in 2028.
	Innovative financing strategies	Respondents advocated for innovative financing strategies, including creating a designated pool of funds for vaccine procurement to ensure continuous availability despite macroeconomic shocks, and shifting from input-based to output/performance-based budgeting to address under-utilization of funds. They also proposed allocating vaccine procurement funding in the federation accounts and imposing excise taxes on various goods to generate revenue earmarked for health and vaccine procurement, engaging all tiers of government, and ensuring sustainability of funds.

	Private sector involvement	Key informants emphasized the importance of involving the private sector in organized efforts to support vaccine financing, including coordinating corporate social responsibility initiatives, and drawing support from private donors for procurement. The involvement of a local biotechnology company, Bio Vaccines Nigeria Limited, alongside UNICEF in local vaccine procurement over the past year highlights the potential for successful and sustainable public-private partnerships in this domain.
	Gavi exit	Respondents expressed mixed feelings about Nigeria's eventual exit from Gavi in 2028, with some optimistic about meeting co-financing obligations, citing the country's commitment to annual financing increases. However, there are concerns about sustaining vaccine procurement and the immunization program post-Gavi exit, highlighting the need for significant changes in health governance and internal accountability mechanisms to maintain prioritization of vaccine financing without external pressures.

4. Discussion

The PEA of vaccine financing illuminates the interplay of politics, power, and incentives in shaping behavior and decisions impacting the landscape of funding for vaccines and other immunization activities. To the best of my knowledge, this study marks the first investigation into the PEA of vaccine financing in Nigeria, filling a significant gap in existing research. This study builds upon the existing body of knowledge around immunization financing in Nigeria and donor transition in LMICs, offering key insights into the complexities of sustaining immunization programs.

Participants in this study identified several challenges to vaccine financing. The results indicate that a central challenge to vaccine financing that was present across all themes (structural and agency diagnoses) was the lack of prioritization for vaccine financing. This lack of prioritization manifests in various facets of the payment process, notably through delayed budget approvals and the release of funds. Moreover, inadequate stakeholder engagement, lacking proper representation from concerned organizations, exacerbates this challenge. Comprehensive engagement is crucial for fostering effective collaboration, communication, and consensus-building, particularly in overcoming obstacles faced by development partners and government health agencies in establishing vaccine procurement funds as a first-line charge in the national budget, as noted by Ogundeji et al. (2023). Additionally, the absence of prioritization is evident in

the reduced government healthcare expenditure. According to WHO reports on global health expenditure, the percentage of domestic general government health expenditure (GGHE-D) relative to the general government expenditure (GGE) stood at 4.1% in 2021, significantly below the 15% benchmark set forth in the Abuja declaration of 2001 (WHO, 2023). This finding underscores the pervasive issue of political prioritization in health, as corroborated by various studies on health policy formation. Previous governments have made campaign promises to improve health financing but often fail to deliver upon assuming office, as documented by Madu & Osborne (2023).

Another significant challenge identified in vaccine financing relates to Nigeria's poor macroeconomic conditions. Notably, recent economic shocks, including the COVID-19 pandemic, have contributed to a substantial increase in Nigeria's debt, soaring by 123% since 2012 to reach an absolute amount of \$108.3 billion in 2023 (Nigeria Debt Management Office, 2023). Consequently, these global shocks have weakened the naira leading to increased interest rates and increased costs of servicing those accumulated debts (Ekeruche et al., 2023). Similarly, the recent removal of the fuel subsidy in 2023 has further weakened the naira, resulting in high inflation rates and an increased exchange rate, requiring more naira per dollar (Ozili & Obiora, 2023). Consequently, as the country's counterpart funding for vaccine procurement rises, the requisite amount of naira needed to match the dollar value for vaccine procurement has

also escalated. This challenge is compounded by the introduction of new vaccines, such as the rotavirus and malaria vaccines, alongside an expanding under-five population. Furthermore, heavy reliance on borrowing or loans from development partners diminishes efforts to bolster prioritization of vaccine financing, owing to the availability and ease of accessibility of these funds. As revealed in the study results, it is imperative to recognize that these challenges are interconnected and should be addressed concurrently, given their intertwined nature (Ogundeji et al., 2023).

Among the participants, the most frequently cited opportunity for reform was the implementation of efficient financing strategies, particularly through the expansion of government revenue and the enlargement of fiscal space via excise taxes on products such as alcohol, tobacco, sugary goods, and luxury items. Ichoku & Okoli argue that African countries require a tax revenue contribution to GDP ratio of 15% to enhance fiscal space as the economy progresses (2015). As of 2023, Nigeria's GDP stands at \$394.94 billion (International Monetary Fund, 2023), with a tax-to-GDP ratio of 6.7% in 2021 (OECD, 2023). Thus, an increase in tax revenue to around 15% (an additional 8.3% points) could yield around \$32.8 billion. Allocating 15% of this sum to the health sector, as per the Abuja declaration, would translate to \$5 billion for healthcare, a significant amount. In comparison, the 2023 budgetary allocation for health was ₦ 1.1 trillion (\$1.47 billion) using the exchange rate of 745.89 to \$1 USD as of July 1, 2023 (Central

Bank of Nigeria, 2023). Therefore, \$5 billion is about twice the entire budget for healthcare, demonstrating the immense potential to be gained from tax revenue. However, realizing the full potential of tax revenues for sustainability requires effective tax management. Other innovative financing strategies mentioned by key informants include redirecting funds for vaccine procurement from consolidated revenue to federation accounts, establishing vaccine fund pools through insurance mechanisms, and coordinating the corporate social responsibility efforts of private organizations. While diversifying funding sources is crucial, strategic budgetary allocation of these funds is equally vital to ensure the sustainability of vaccine financing. Currently, over 70% of health expenditure is used on health commodities (such as vaccines and medicines) while health services are being financed via out-of-pocket payments. Furthermore, loans and grants from donor organizations and international development are spent on preventative services and health commodities as seen in the case of vaccine financing, which used Gavi co-financing, grants from the Bill and Melinda Gates Foundation, and loans from the World Bank and UNICEF. Meanwhile, most government funds are allocated to recurrent expenditures such as health worker salaries and administrative costs (Onwujekwe et al., 2019). To ensure sustainability, there is a pressing need to restructure the allocation of government funds towards health services and commodities. Relatedly, respondents advocated for a shift in the budget planning

process from input-based to performance-based, results driven approaches, using evidence from audits and reports.

In terms of accountability, respondents emphasized the crucial role of involving state governments in contributing to vaccine procurement financing. The study's findings underscored the need for a coordinated approach between federal ministries, development agencies, and their state counterparts. A similar need for coordination was reported in the investigation of healthcare reform politics in Nigeria, as fragmentation between national and state ministries constrained the implementation of the Saving One Million Lives (SOML) and National Health Act (NHA) policies (Cooke & Ogbuoji, 2024); two prominent national primary healthcare programs. Facilitating coordination and involving states in decision-making, policy development, and implementation would foster simultaneous accountability across both tiers of government. This aligns with efforts to strengthen government accountability by empowering civil society and private organizations to participate in the decision-making process, as they represent the interests of citizens. Furthermore, there is a need to enhance health information and management systems to ensure the availability of regular and reliable data. Such improvements would address challenges related to inaccurate forecasting and costing and would optimize the budgeting process. Additionally, improved information and

management systems would facilitate fund tracking, ensuring transparency and efficiency in policy creation and implementation.

Finally, there were conflicting opinions among the key informants on the sustainability of the national program on immunization post-2028 following the withdrawal of Gavi support. Various factors such as the lack of prioritization, high debt financing, naira devaluation, and insufficient government expenditure on health, compounded by a constricted fiscal space, cast doubt on the sustainability of the immunization program. While some respondents expressed optimism about Nigeria's ability to transition successfully from Gavi support, they raised certain caveats. One concern is about internal accountability within the federal government to fund vaccine procurement. While external organizations, memoranda of agreements, and commitments provide external accountability mechanisms, driven by pressures to uphold agreements and maintain relationships, there is apprehension amongst respondents that the government may falter in maintaining its commitments without external oversight. This could jeopardize the progress achieved in the absence of such accountability. Therefore, empowering civil society groups becomes crucial to filling this potential accountability gap. Additionally, the presence of robust health leadership capable of coordinating stakeholders, advocating, and managing competing priorities is

essential to ensuring that vaccine financing and the immunization program remain top priorities amidst other pressing concerns.

4.1 Study strengths and limitations

This study has several limitations concerning study design, data collection, and implementation. Firstly, there is a notable gap in the representation of stakeholders from the subnational level, particularly state governments and parastatals such as NPHCDA which limits generalizability at the subnational level. Enhancing participation from these entities would provide a more comprehensive understanding of the perspectives and insights of country health leadership, thereby enriching the political economy analysis. Secondly, the study did not explore the impact of the COVID-19 pandemic on the landscape of vaccine financing. Given the ongoing challenges posed by the pandemic and the intensified efforts to ensure equitable access to COVID-19 vaccines, it is crucial to examine how financing for these vaccines intersects with financing for routine immunization. This is important considering that COVID-19 vaccines are now approved for infants and children.

4.2 Implications for policy and practice

The findings of this study have several policy implications that can enhance the effectiveness and sustainability of the national immunization program. Firstly, there is a

pressing need for comprehensive stakeholder engagement, ensuring proper representation of health policy leaders at both federal and state levels of government. This engagement needs to include involvement from relevant government ministries, commissions, national and state assemblies, and governmental development agencies. Such engagement would bolster prioritization of vaccine financing and streamline the vaccine payment process, particularly the approval and release of funds, thereby optimizing the operation of immunization programs. Additionally, the involvement of state governments in vaccine financing could enhance program ownership, thus fostering stronger health governance by decentralizing decision-making processes and promoting internal accountability within the national government.

Furthermore, internal accountability mechanisms for both national and subnational governments could be fortified by institutionalizing and empowering CSOs, private organizations, and other local actors in the decision-making process. CSOs play a crucial role in serving as institutional checks and balances by representing citizens' interests in policy development and decision-making processes. Strengthening internal accountability is paramount for fiscal transparency and ensuring that the federal government remains committed to the NSIPSS and the long-term sustainability of the national immunization program. Lastly, establishing reliable and systematic data sources to monitor progress in budgeting, payment processes, and the operation of the

national immunization program is essential for ensuring efficiency. These data sources should be made publicly available to promote transparency of government activities, thereby enhancing internal accountability mechanisms.

4.3 Implications for further research

This study focused on investigating the political economy of vaccine finance. This study identified various financing strategies that could potentially be capitalized upon. However, there is a need to explore the feasibility of those financing strategies. Furthermore, while vaccine financing is a critical aspect of the immunization program, it is essential to investigate other vital components such as the cold chain, supply chain, and health workforce training. Exploring these elements will shed light on the intergovernmental power dynamics that influence the functioning of these other components and ultimately impact the effectiveness of immunization programs. Understanding the intricate ecosystem of the immunization program and how its multiple parts interact is essential for optimizing its performance. Therefore, future research should focus on thoroughly examining the political economy of these various components to enhance the overall success and sustainability of immunization efforts.

5. Conclusion

This research highlights the multifaceted challenges hindering sustainable vaccine financing, including insufficient prioritization of vaccines, constrained fiscal space exacerbated by macroeconomic factors such as the naira devaluation and high debt levels, and inadequate coordination among national agencies and government tiers. These findings underscore the critical necessity for robust institutional processes to streamline and optimize vaccine financing mechanisms. Moreover, comprehensive engagement and representation across all stakeholder groups are imperative to foster ownership and commitment to immunization initiatives. By addressing these underlying issues, this study has the potential to catalyze positive transformation, ensuring fair and universal access to vaccines and driving improvements in public health outcomes not only within Nigeria but also on a broader global scale.

Appendix A (Interview Guide)

Welcome

Thank you for taking the time to meet with me today. I appreciate your willingness to participate.

Introduction

My name is..., I am currently conducting a project on sustainable vaccine financing for routine immunizations in Nigeria for my master's thesis at Duke University. I am conducting this interview to better understand your experience with the vaccine financing in Nigeria particularly around Gavi's extension of Nigeria's eligibility for vaccination financing to 2028. The results from this project would lend in aiding Nigeria to better understand and improve current financing strategies as we strive to achieve domestic financing for routine immunizations.

Verbal Consent

Please note that your responses and identity will be kept confidential and notes from this discussion will not be shared with anyone outside of me and my supervisor. Participation in this interview is voluntary. This interview would be recorded so I don't make mistakes or misinterpret your responses. I will try to keep the interview to about 60 minutes. Do you agree to this?

Understanding Nigeria's vaccine financing landscape for Routine Immunizations (RI) – procurement, warehousing, supply and cold chain, service delivery, operational costs,

- How are RI vaccines paid for currently in Nigeria?
 - From which sources are RI vaccines currently paid for (government budget allocation, private sector support, donor support, local clients, etc.)?

Key Actors currently involved in decision making for Vaccine financing for RI

- Who makes decisions regarding paying for RI vaccines currently in Nigeria?
 - Can you please elaborate on budgeting, the release of funds, and accounting for the finds?
- Have the key actors (major institutions) involved in decisions regarding paying for RI vaccines in Nigeria changed over time? Why do you think this is?

Actors understanding of strategies for vaccine financing through the NSIPSS for RI

The government strategy is to finance RI vaccines from the Federal Ministry of Health (FMOH) and subsequently the National Primary Health Care Development Agency (NPHCDA) budget, Service Wide Votes, loans and support from partners, Basic Health Care Provision Fund, (BHCPF), and first line charge.

- Is/Was your organization involved in the decision to encourage governments to finance RI vaccines from the afore mentioned sources?
 - Can you describe how your organization is/was able to influence this decision (source)?
- Can you describe how your organization contributes ideas and new options to the formulation of the government strategy?

Actors interest and concern involved in decision making for vaccine financing for RI

- Why is your organization interested in financing RI vaccines?
 - What is your organization's level of interest and resource commitment (high/medium/low)?
- Is/Was your organization involved in the decision to encourage the Nigerian government to create the NSIPSS?
 - Have you formed a committee or coalition on this?
- How concerned is your organization that the Nigerian government is able to finance RI based on means outlined in the NSIPSS?
 - Why is there concern?
 - What is your organization level of concern about this decision (high/medium/low)?

Actors influence over decision-making for government to finance Vaccine financing

- What role does your organization play in contributing to or influencing the decision to pay (this includes budgeting, release of funds, tracking funds) for RI vaccines?
 - In what way were your contributions made (ideas, resources, other support?)
- Is your organization providing some form of incentives to encourage the Nigerian government or ensure that the financing decisions in the NSIPSS is adhered to/will be adhered to?
- Can you describe how your organization is willing to ensure that the financing strategies outlined in the NSIPSS is achieved?
 - Can you describe the level, source, or type of influence of your organization on this issue?
- How Is/ Was your organization able to influence the other stakeholders' position with respect to encourage domestic financing?

- How were other stakeholders able to influence your organization's position with respect to the decision to encourage domestic financing?
- Are there any limits to your organization's ability to influence the decision of the Nigerian government to finance RI vaccines domestically? Can you elaborate?
- What is the overall impact that the decision for domestic financing of RI vaccines is likely to have on your organization?

Contextual (Internal and External) factors likely to facilitate or limit government co-financing decision

- How do you think the government has shown willingness or the capacity to finance vaccines domestically?
- Does your organization anticipate any challenges regarding government's ability to finance RI vaccines in the short or medium term? If so, what are they?
- Are there any facilitators or policy entrepreneurs you can identify that will support the government to fully finance RI vaccines in-terms of sustainability? Can you describe?

Actor understanding of accountability in decision making for vaccine financing for RI

- Are you aware of the Accountability Framework for Routine Immunization in Nigeria (AFRIN)? Describe briefly.
 - What could the use of this framework mean to your organization?
- How will your organization address any challenges regarding accountability for the government to adhere to the financing decisions in the NSIPSS?
- Are there any facilitators or other mechanisms you can identify that will support government accountability to domestically finance vaccines?
- Do you think that the Nigerian government will be able achieve domestic financing of RI vaccines by 2028?

Appendix B (Codebook)

Table 3. Definition of Sub-themes

Themes	Sub-themes	Definition
Structural diagnosis	Untimely release of funds	The delays in the approval of funding requests and the release of appropriated funds.
	Convening groups	These are various groups and task teams involved in the decision-making process for vaccine financing.
Actor diagnosis	Roles	The ways that key actors contribute to the vaccine financing landscape. Examples include advocacy, stakeholder engagement, technical assistance, and financial assistance.
	Interests	The reasons why key actors are interested and invested in vaccine financing.
	Impact	What it would mean for key actors if Nigeria were able to fully finance routine immunization vaccines.
	Power dynamics	The balance of power that exist between agencies and organizations and how it shapes their interactions.
	Limitations	The ways in which key actors are limited in their ability to influence decision-making for vaccine financing.
Challenges	Lack of prioritization	The many ways by which the national government attribute limited attention, urgency, and importance in vaccine financing and ensuring the sustainability of the immunization program.
	Limited Fiscal space	The various factors contributing to a tightening fiscal space/low budgetary allocation and how those affect vaccine financing.
	Financing strategy consensus	Disagreements between key actors regarding proposed funding sources and strategies for vaccine financing.
	Under-utilization of funds	The ways in which appropriated funds for vaccine financing are inefficiently used.
	Macroeconomic situation	The range of factors influencing the economic performance of the country and how those affect vaccine financing.

Pathways for change	Prioritization of vaccine financing	The opportunity for the national government to increase attention, resources, and urgency in financing vaccines and sustaining the immunization program.
	State government involvement	The opportunity for state governments and state agencies to engage in the decision-making process for vaccine financing.
	CSO involvement	The opportunity for civil society organizations to engage in the decision-making process for vaccine financing.
	Innovative financing strategies	The various avenues to optimize current funding sources and generate new funding sources for financing vaccines.
	Private sector involvement	The ways in which private individuals and organizations can contribute to vaccine financing and the sustainability of the immunization program.
	Gavi exit	The feelings and opinions of key stakeholders towards Gavi exit in 2028.

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