Community Health and Research Initiative (CHR) Nigeria

Routine Immunization Budget Analysis Report

December 2015

Introduction

Nigeria is the most populous country in Africa with an estimated population size of 180 million and a birth cohort of 7.4 million.[1] Typical of countries with high fertility rates, Nigeria's population is relatively young and is expected to rise to 210 million by 2020 with a corresponding birth cohort of 8.4 million.[2] The pressure exerted by population growth comes with immerse implications in the need for increase of health interventions, as demands for maternal and child services continue to grow.

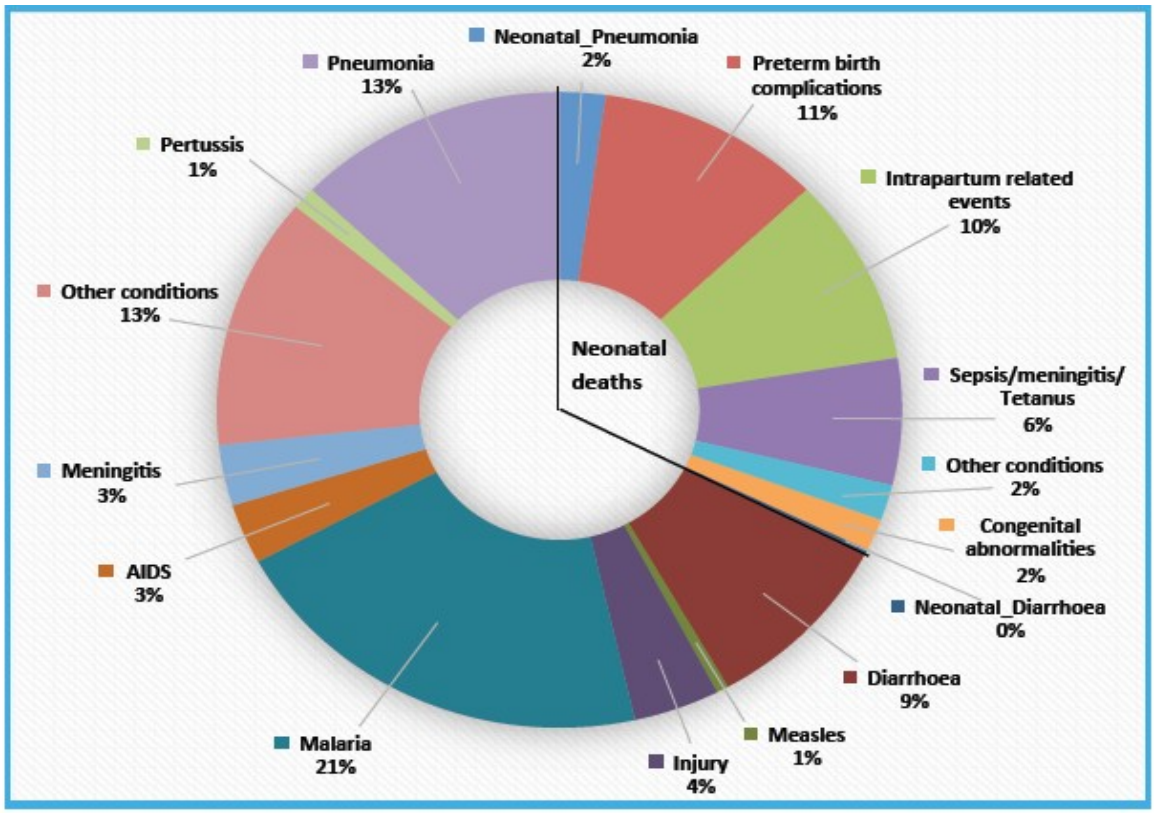
In 2013, it was estimated that more than 800,000 children under the age of five died in Nigeria.[3] Most of the leading causes of death among under-fives such as pneumonia, diarrhoea, meningitis, and measles are vaccine preventable (Figure 1). Malaria and neonatal causes were other significant causes of death among this group.

Figure 1. Causes of death in children under five years of age in Nigeria, 2013

[1] Gavi (2015) Country Hub. *Nigeria*. Available at: http://www.gavi.org/ (accessed 9/4/2015)

[2] World Population Review (2014) UN World Population Prospects. *Nigeria Population*. Available at: http://worldpopulationreview.com/countries/nigeria-population/ (accessed 9/4/2015)

[3] Liu L, Oza S, Hogan D, Perin J, Rudan I, Lawn JE, Cousens S, Mathers C, Black RE (2014) Global, regional, and national causes of child mortality in 2000–13, with projections to inform post-2015 priorities: an updated systematic analysis. Lancet. Available at: http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(14)61698-6/fulltext (accessed 6/11/2014).



Source: Liu et al 2014[7]

Immunization remain the most cost-effective public health tool used globally for the prevention of infectious diseases, disability, death, and inequity globally.[4] For instance, the massive use of oral polio vaccine (OPV) reduced the number of polio cases by 99% worldwide, from more than 350,000 cases in 1988 to 416 cases in 2013; and over 10 million people have escaped paralysis.[5] It has also been shown that measles vaccine averted over 14 million deaths globally since the year 2000.[6] Beyond averted illnesses and deaths, vaccines can contribute to the benefit of a country. It generates savings for the country's health systems and families by averting treatment cost, lost income and productivity loss. Vaccines provide herd immunity in the community when a large proportion of children are vaccinated. It is also easily accessible to hard-to-reach and vulnerable individuals, thus, reducing inequities in health outcome.

Routine Immunization Program

Reducing child mortality will require strengthening health systems to support access to and delivery of crucial PHC services, such as routine immunization (RI). The RI program offers a primary prevention strategy in the global fight and management of vaccine preventable diseases especially in reducing under-five mortality.

[4] Andre FE, Booy HL, Clemens J,Datta SK, John TJ, Lee BW, Lolekha S, Peltola H, Ruff TA, Santosham M and Schmitt HJ (2008) Vaccination greatly reduces disease, disability, death and inequity worldwide. Bulletin of the World Health Organization. 86(2), pages, 81-160. Available at: http://www.who.int/bulletin/volumes/86/2/07-040089/en/#R2 (accessed 4/3/2015)

[5] World Health Organization (WHO) (2014) Poliomyelitis. *Media centre*. Available at: http://www.who.int/mediacentre/factsheets/fs114/en/ (accessed 27/1/2015).

The Nigeria's RI system is a concurrent responsibility of the three tiers of government. The federal government pays fully for traditional vaccines, and co-pays for new vaccines with Gavi support. Through the National Primary Health Care Development Agency (NPHCDA), the federal government develops policy for PHC, provides vaccines, immunization guidelines, and technical support to the State Primary Health Care Development Agency (SPHCDA) and the local government area (LGA); while the funding and actual implementation of immunization programs is dependent at the state and LGA levels. The key strengths in Nigeria's RI systems are clearly seen at higher levels of government. Strong support for RI is evident from the NPHCDA and the FMoH, and funds for vaccine procurement have been consistently included in the federal budget. There is also a record of success with polio eradication and a demonstrated ability to disseminate pro-immunization messages and increase demand for vaccines.[6]

The RI schedule in Nigeria comprises of ten vaccine preventable diseases, namely diphtheria, pertussis, tetanus, hepatitis B, haemophilus influenza type b (Hib), poliomyelitis, tuberculosis, hepatitis B, pneumonia, measles, and yellow fever (Table 1). The vaccines are provided free of charge by the Nigerian government, and the RI schedule should be completed by all children before the age one.

Table 1. Nigeria Immunization Schedule

AGE	ANTIGEN
Birth	BCG, OPV0, HepB0
6 weeks	OPV1, Pentavalent 1, PCV1
10 weeks	OPV2, Pentavalent 2, PCV2
14 weeks	OPV3, Pentavalent 3, PCV3, IPV
9 months	Measles, Yellow fever

Methods

The data for this analysis is extracted from

- Vaccine Financing in Nigeria, 2015 to 2020 and beyond: The Investment case, graduation, funding gaps, financing options and long term vaccine security. A report of the National Immunization Financing Task Team of which CHR is member.
- Presentations by National Primary Health Care Development Agency Finance Department
- Country Multi Year Report 2016-2020
- 2016 budget proposal
- State level data from signed MoU agreement.

Tables and Graphs are utilized to represent data for better understanding.

[6] Wonodi C, Stokes-Prindle C, Aina M, Oni G, Olukowi T, Privor-Dumm L and Levine O (2012) Landscape Analysis of Routine Immunization in Nigeria. International Vaccine Access Center (IVAC). Johns Hopkins Bloomberg School of Public Health.

Limitation

At the federal level the Country Multi Year Report (cMYP) 2016-2020 is yet to be finalized as figures are still being revised, as such some figures used in this report might change. Data at the state level was difficult to obtain due to challenges in proper documentation by some government agencies.

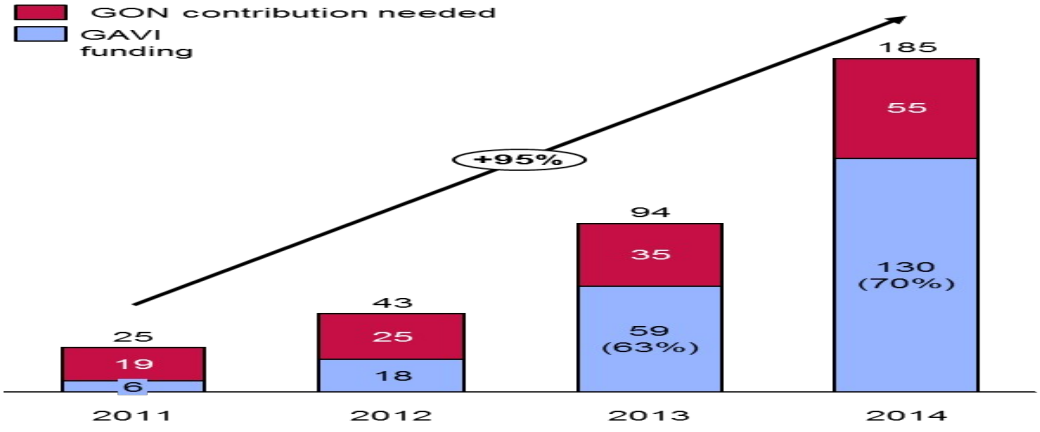
Budget Analysis

The objective of this analysis is to have a better understanding of Routine Immunization finances, funding requirements involving gaps and projections as well as exploring the interplay of different players in financing RI.

Funding requirements

The resource needs for routine immunization in Nigeria has increased exponentially over time, growing at a compound annual growth rate of 95% between 2011 and 2014. As at 2011, the total financial needs for vaccines was estimated at ~ $25M but with the growth in the Nigerian population and the introduction of both PENTA and PCV, an increase in the financial requirement for vaccine and devices reach up to ~ $185M by 2014.

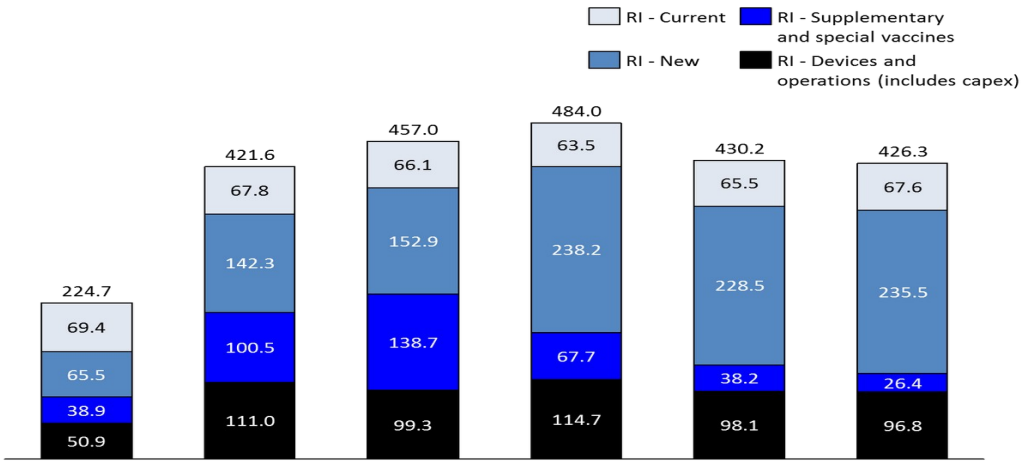
Figure 1: Cost of vaccine and device procurement, $M, 2011-2014[7]



With the introduction of IPV and planned introduction of Rota and HPV by 2018 there is set to be a further increase in the financial requirements for vaccines and device procurement. It is estimated that these increments will amount to $426M in 2020 as is depicted in Figure 2 below. This analysis assumes the introduction of IPV and PCV from 2015 and introduction of meningitis A-10 by 2016, the introduction of MR in 2017, and finally the introduction of HPV in 2018.

[7] Nigerian country Multi-year plan 2011-2015

Figure 2: Financing needs, 2015-2020, $M



As highlighted in Figure 2 above, new vaccines contribute a significant amount to the overall costs of vaccine and devices, contributing to 55% of the total cost by 2020. Donors have also contributed to the procurement of vaccines through loans and grants. These partners have mainly included JICA, who funds the polio elimination campaigns, providing loans for the procurement of OPV, and recently the World Bank. Other aspects of the program such as logistics and distribution of commodities and devices, capacity building and technical support have been provided by several other partners.

Gavi graduation

Nigeria has received support from Gavi since 2000 through various funding windows (table 4). As with all other countries, Nigeria was eligible for Gavi support because her Gross National Income (GNI) per capita was less than US$ 1,580. In 2014, following the rebasing of the economy, the country's GNI rose to US$ 2690, above the eligibility threshold. Nigeria has now entered graduation, a process whereby Gavi phases out support over a five-year period. A 2013 modification of the graduation policy now provides graduating countries an additional year to apply for Gavi new vaccine support. Consequently, 2015 is the last year for Nigeria to apply for new vaccine support. Furthermore, graduating counties are also entitled to apply for health system strengthening (HSS) support for the duration of their graduation period, if their DTP3 coverage is below 90%.

Table 2. Summary of GAVI support to Nigeria 2000-2015

NVS	Commitments	Approvals	Disbursement
Yellow Fever	$ 50,323,813	$ 40,150,313	$ 42,491,655
Penta	$ 148,901,791	$ 49,773,291	$ 33,391,955
PCV	$ 161,104,000	$ 88,810,000	$ 13,621,101
MenA	$ 56,493,448	$ 35,781,448	$ 35,504,837
Measles SIA (NVS +Operational)	$ 19,920,000	$ 19,920,000	$ 29,692,870

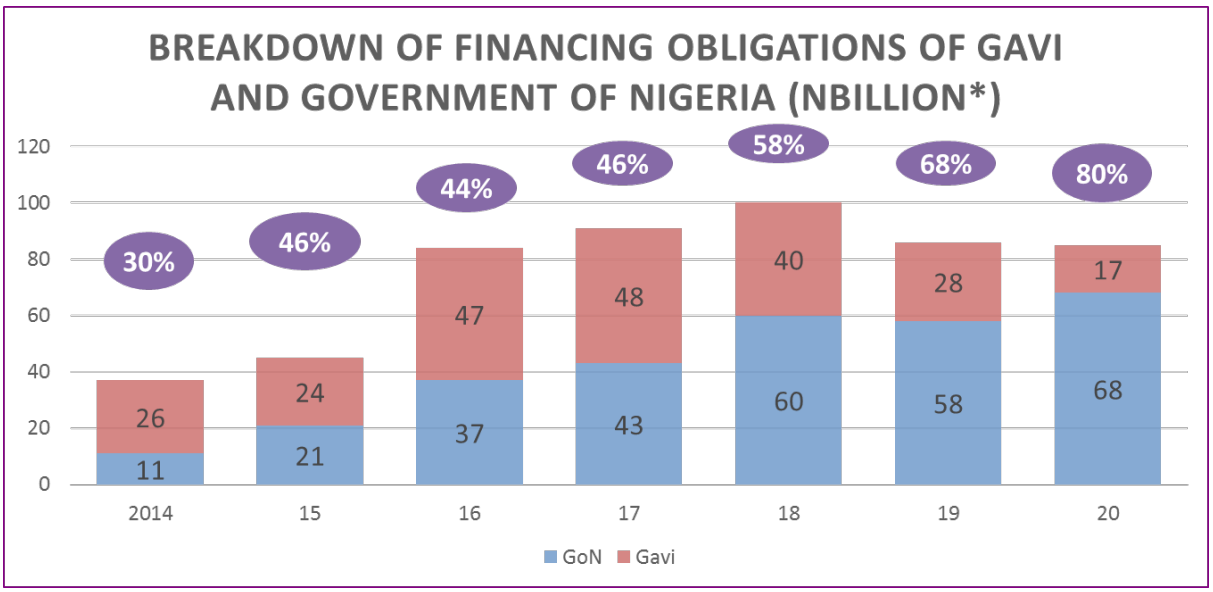
YF SIA (NVS+ Operational)	$ 63,986,000	$ 63,986,000	$ 46,843,159
Total	**$ 500,729,052**	**$ 298,421,052**	**$ $201,545,577**

Source: Gavi's Nigeria country approach strategy

Funding Gap analysis

The Nigerian economy was recently rebased which led to an increase in the GDP/ capita of the country by 73%. With the new GPD per capita of $2690, Nigeria's GNI is set to be above the GAVI threshold of $1580[8], which means that Nigeria should be set for GAVI graduation from 2016. During this period of graduation, GAVI will phase out financial support to the country for new vaccine procurement, it is estimated that GAVI funding will fall from $237.6 M in 2016 to $85.6M In 2020 as highlighted in Figure 5 below [9]

Figure 3: Funding needs and gaps, 2014-2020, NBn



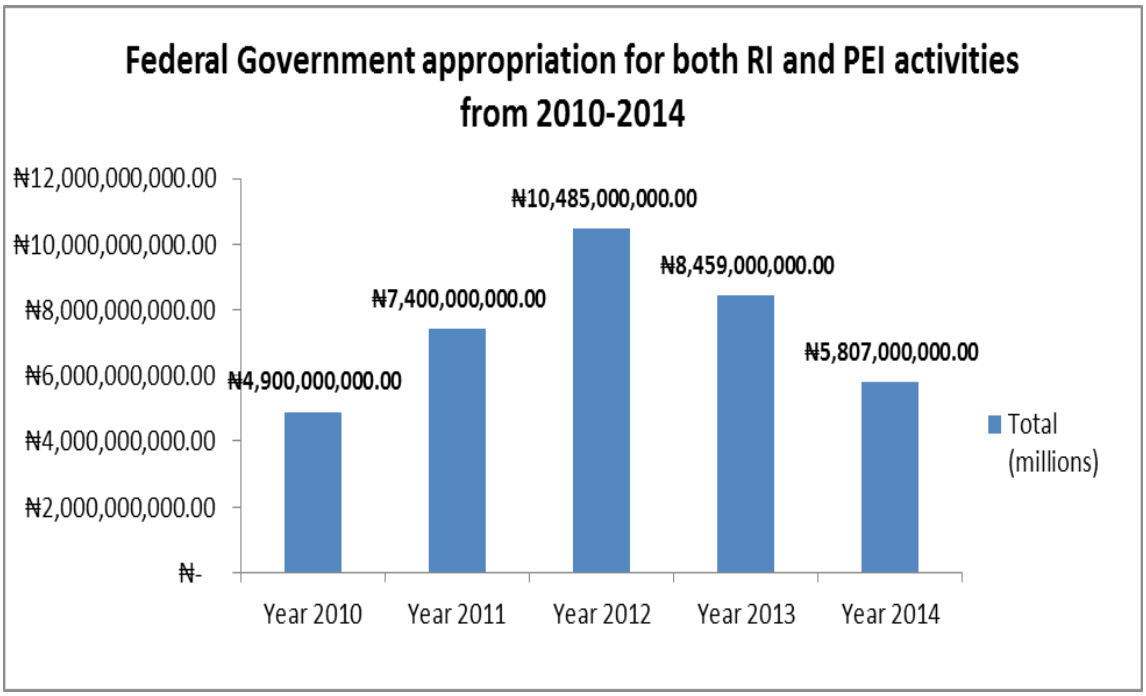
Source: Mckinsey vaccine investment case
*Naira values at exchange of N199 to $1

The total NPHCDA budget, at about N11bn[10] for 2014, is much lower than the total funding needed for vaccine and device procurement. Historically about N 4. 1 billion of these funds have

[8] NBS rebasing report
[9] Mckinsey investment case
[10] Nigerian annual budget

been used for vaccine and device procurement. Assuming an exchange rate of N199 to $1, this will mean a government contribution of ~$20.5M to vaccine and device procurement, this in addition to the funds from other sources such as the MDG's and Sure- P leads to a total government contribution of about $ 22.5 M. This contribution is not sufficient to close the GON funding requirement.

Figure 4: Historical appropriations and future GON commitments



Source: Media roundtable discussion on sustaining routine immunization financing at penniel apartments 12thMay,

Figure 5: Trends in RI finances in Nigeria

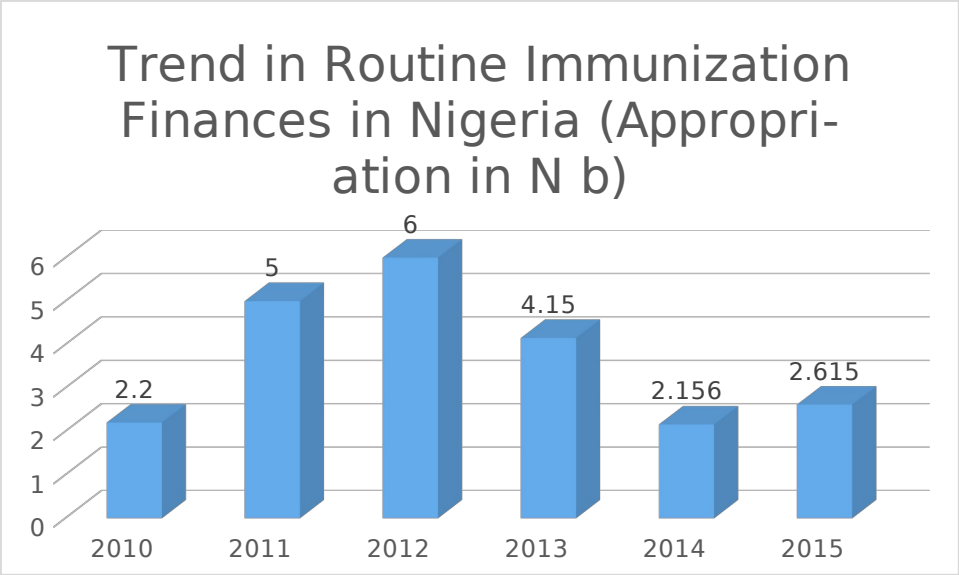
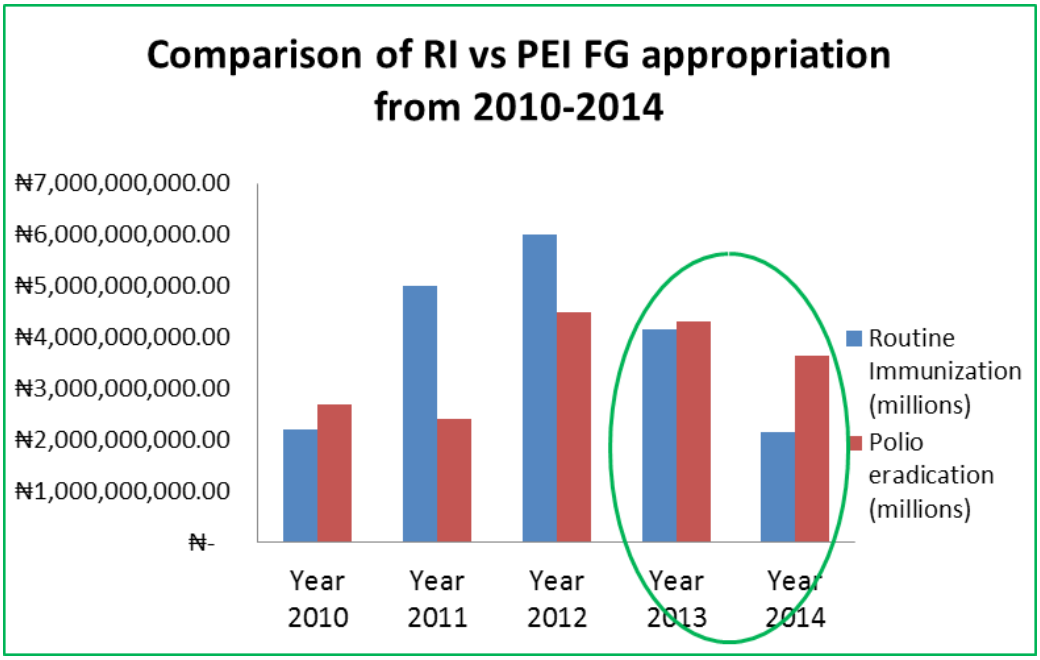


Figure 6: Comparison of RI & PEI



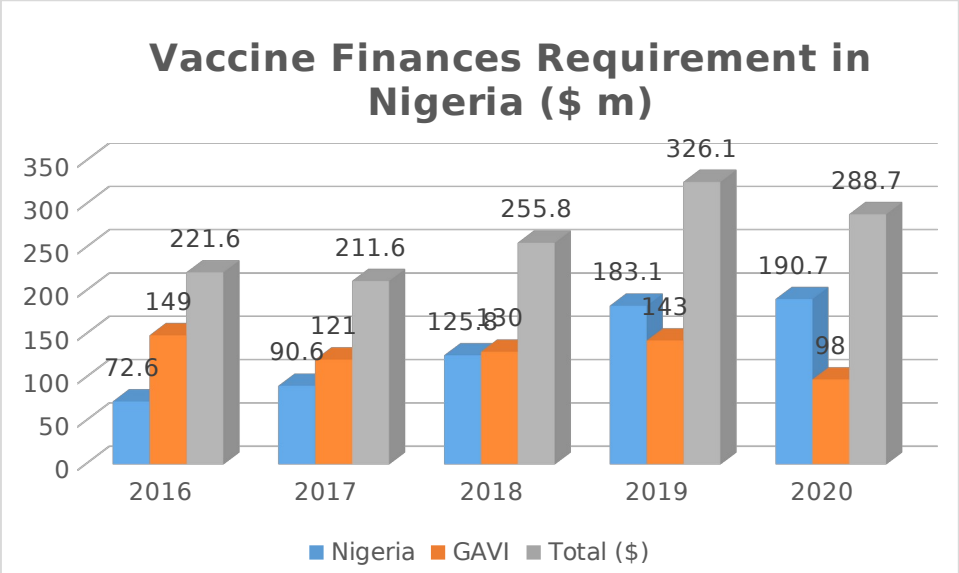
Source: Media roundtable discussion on sustaining routine immunization financing at penniel apartments 12thMay, 2015;[11]

[11] Media roundtable discussion on sustaining routine immunization financingpenniel apartments 12th May, 2015understanding immunization financing in Nigeriaby NPHCDA director finance, Billy Asogbon

Table 3: Nigeria and GAVI planned contribution 2016-2020

	Nigeria	GAVI	Total ($)
2016	72.6	149	221.6
2017	90.6	121	211.6
2018	125.8	130	255.8
2019	183.1	143	326.1
2020	190.7	98	288.7

Figure 7: Nigeria and GAVI planned contribution 2016-2020



This paints a grim picture for vaccines and device financing, and inadvertently stock availability in the coming years. However there are some possible opportunities for funding with the recent signing of the National Health Bill into law by the President of the Federal Republic of Nigeria on the 8th of December 2014. The Health Act provides a framework for the regulation, development and management of the national health system; it also sets standards for rendering health services in the federation. One such standard is the creation of the Basic Health Care Provision Fund.

The Basic Health Care Provision Fund is composed of three sources of funds: 1% of consolidated revenue funds, Donor funding and other sources of funds. Funds for Immunization could be mobilized from the basic funds. For 2016 the below table provides another summary that illustrated how finances are being shared.

Table 4; 2016 shared contribution between Nigerian Govt and GAVI

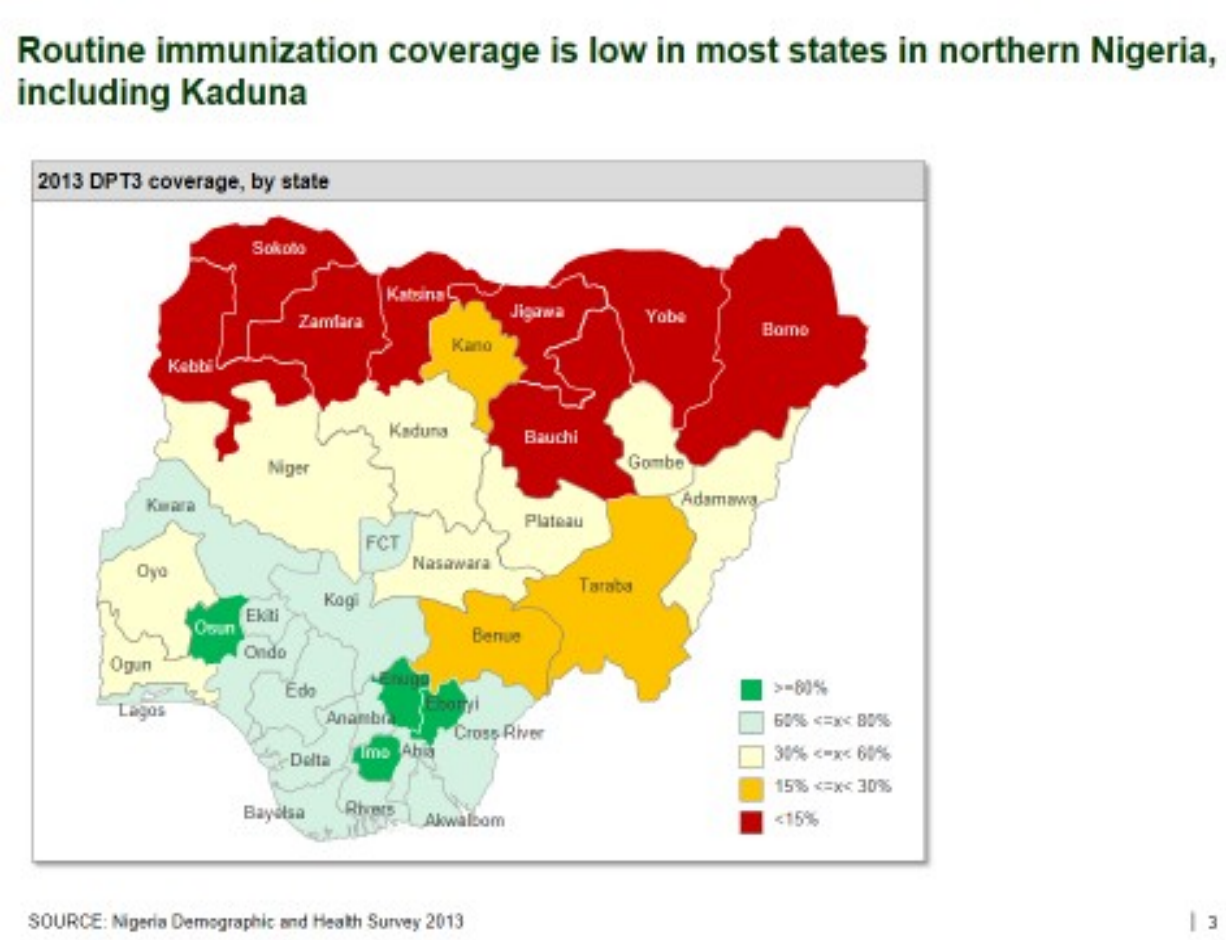
Financial Commitment	**$**	**Naira (N199 = $1)**
GAVI	149m	29.651b
Nigeria	72.6m	14.4b
Total	**221.6m**	**44.051b**

In 2015 this year with the World Bank facility of $200m , Nigerian government has purchased enough vaccines that will last up to 3rd quarter of 2016, hence NPHCDA only allocates N4.4b of its requirement that will be sufficient to cover the last and 4th quarter of 2016. However the N4.4b need to be appropriated and released on time by National Budget Office (FMoF) so that request for the vaccines covering last quarter of 2016 should be done on time by UNICEF on behalf of Nigerian government. Ideally the money should be release up-front by the budget office in February/March 2016.

State Level Analysis

The focus of this analysis is in 4 focal states for CHR comprising Kano, Kaduna, Bauchi and Niger States. The national analysis above also affects the 4 states as vaccines are procured centrally and distributed to all the 36 states of the federation. The additional information here is the analysis for the tripartite agreement for routine immunization between Dangote Foundation, Bill and Melinda Gate Foundation and 3 of the states mentioned above (Kano, Kaduna and Bauchi States). The implementation of routine immunization services in the 3 states is in line with the oU signed by the 3 partners.

Figure 8: RI Coverage in Nigeria



Brief description of the MoU

The MoU for the tripartite agreement has set the stage for coordinated RI program in the 3 said states by pooling RI funds into one pot. The objective is to reach a sustainable rate of 80% immunization coverage over the MoU 3 year period.

The roles and responsibilities of parties is summarized as follows;

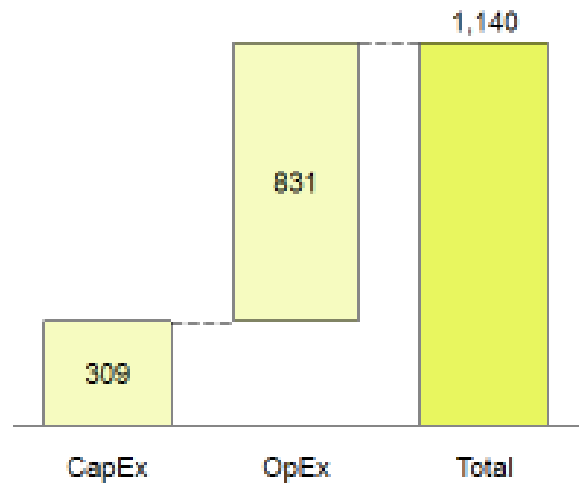
- Governance and leadership: The State Task force on immunization (SITF) headed by the Deputy Governor will provide leadership and oversight for the RI program with support from the partners
- The states have establish a budget line for RI and a Basket Fund managed by the state primary health care development agency and establish a direct reimbursement system. The states and the partners will contribute funding annually to the Basket Fund (30/70, 50/50, 75/25 and 100/0) respectively.

The below figure provides an example of how one state partnership is being carried out and the sharing formula.

Figure 8: MoU sharing formula

BMGF and Dangote foundations will commence RI implementation support to Kaduna in 2015 through an MoU arrangement

Projected 3 year RI costing
Naira, millions



Source	Funding commitment *(Naira)*			
	Oct. 2015/ Dec. 2016	Jan. 2017/ Dec. 2017	Jan. 2018/ Dec. 2018	Total
Kaduna	179.9m	127.5m	199.8m	507.3m
BMGF	209.9m	63.8m	42.8m	316.5m
Dangote	209.9m	63.8m	42.8m	316.5m
Total	599.8m	255.1m	285.5m	1,140m

Kaduna will bear 100% of the annual RI funding responsibility (~308mNaira) from 2019 onwards

1. CapEx includes funds for procuring WICR, SDDs, Generators
2. OpEx includes funds for vaccine transportation and logistics, equipment maintenance, fuel and electricity, supportive supervision and training

SOURCE: Kaduna vaccine supply chain diagnostic reports, Solina analysis

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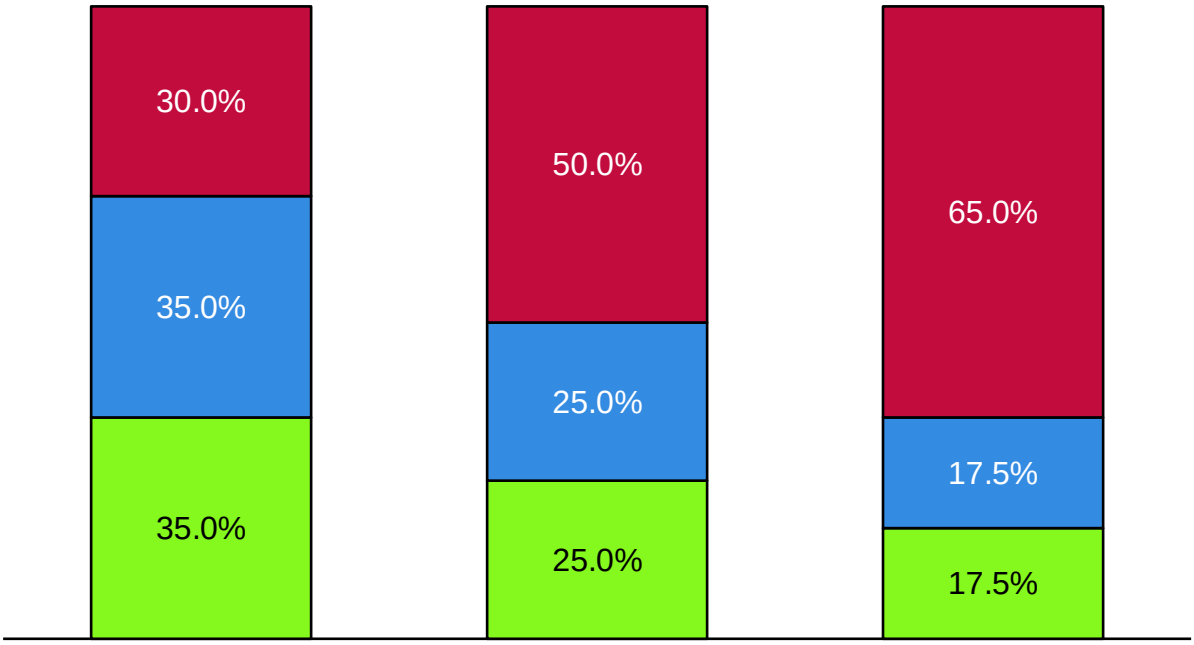
In Kano state the tripartite agreement that provides dedicated funding for RI activities through a basket fund was effective from January 1, 2013 to 31 December 2015. However the funding responsibility is extended up to the end of 2016. From January – December 2016. The sharing formula is 50% for state government while the partners share 25% each respectively. In line with the submission of the executive governor to the state assembly, the 2016 budget estimates is N228, 829,904 and the partners are to commit 25% each of that.

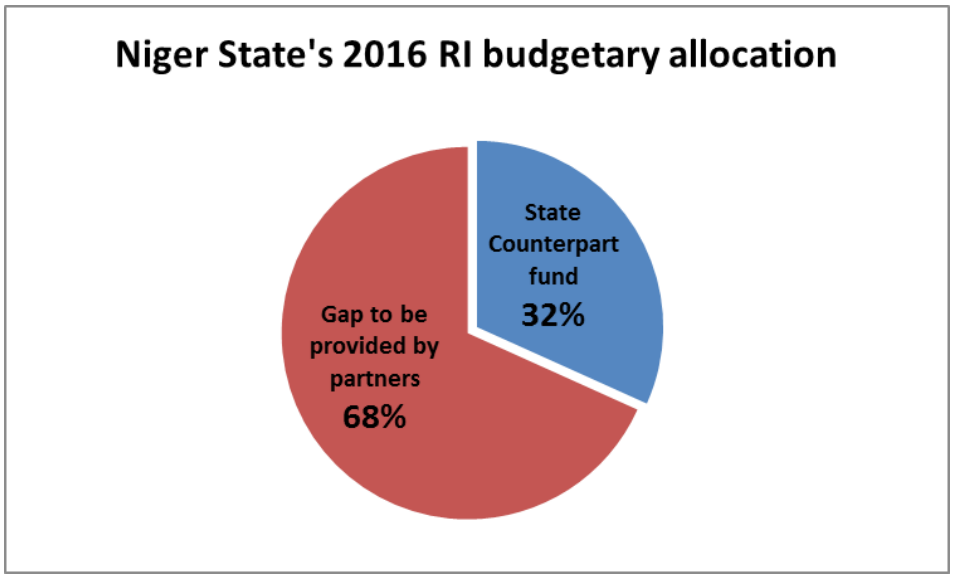
Figure 9: MoU Funding formula for the 3 years for Kano, Kaduna and Bauchi.



Key

- RED – Kano
- Blue – Dangote Foundation
- Green - BMGF

For Niger State that is not a MoU state it has however shown commitment towards financing Routine Immunization, it has proposed a 2016 RI budget of N288,000,000.00 with state counterpart of N91,400,000.00[12], which is 32% of the total RI budget leaving the remaining 68% to development partners present within and in diaspora. As well the state has been able to secure an RI budget code 126216.



Source of data: CHR activity report, Niger SPHCDA pre-meeting

[12] Community Health and Research Initiative activity Report: Niger SPHCDA pre-meeting, 7th October, 2015.

Challenges

@Federal Level

There is no doubt that raising a yearly average of $407m for RI alone over the next 5 years in itself is bound to come with some challenges as follows;

- Dwindling government revenues amidst competing priority objectives,
- Low level government appropriation for RI
- Non- release/late release of government appropriation and thus disrupting the procurement schedules/time-table
- Weak private sector to support PPP in matters of vaccine financing
- Rebasing of the nation's GDP thus excluding Nigeria from GAVI eligibility list
- Continuous and rapid increase in population growth, etc.

@State Level

Before the commencement of the MoU all the 3 states had experienced

- Routine Immunization low coverage
- Inadequate funding to fully cover Immunization activities
- Weak vaccine supply chain, with severe shortages in cold chain capacity and frequent stock-outs at LGA and health facility levels in the state.
- Poor management of data with incomplete reporting of vaccine utilization

With the MoU in place, challenges are now related to delay in releasing of counterpart funding by state governments which delays operation and services.

Recommendations

- In line with the national budget analysis, funding gap may be experienced as the federal government may not meets its commitments due to dwindling financial resources as itemised in the challenges section. Advocacy needs to be intensified to ensure adequate funding of immunisation by both federal and state level.

- At the state level, advocacy should be intensify to ensure states are releasing their counterpart funding on time