Immunization in Nigeria:
Accountability, Attitude, Economics & Politics

Proceedings of the Vaccine Stakeholders' Meeting hosted by the NAS Vaccines and Immunization Advisory Committee

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The Nigerian Academy of Science

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Preface

This report contains the proceedings of the vaccines and immunization stakeholders' conference organised by the Nigerian Academy of Science Vaccines and Immunization Advisory Committee (NAS-VIAC) on 4th and 5th of December 2013 in Abuja. It brought together stakeholders in immunization in Nigeria from nearly all sectors and disciplines, enabling the conference to address issues concerning this most important activity through paper presentations by experts from the different interest groups and agencies. A novel feature of this conference is that members of the audience were encouraged and allowed to question speakers or comment on the topics after each presentation, enabling it to achieve consensus on the challenges and proposed solutions to immunization problems in Nigeria. The conference kicked off with an overview of immunization in Nigeria by the President of NAS and Chair of the NAS-VIAC Professor Oyewale Tomori.

Vaccines administration and management is crucial to the development of Nigeria's health sector generally and is, in particular, critical to disease prevention and control. Despite its importance however, immunization in Nigeria is faced with multiple challenges, which limit the effective delivery of health care in the country, and stands as an obstacle to ensuring control of communicable diseases across the country. Despite efforts by the National Primary Health Care Development Agency (NPHCDA) to improve maternal health and ensure the immunization of every Nigerian child, health statistics in Nigeria show that the levels of routine coverage and success in polio eradication remain poor. For instance, Nigeria is one of only three countries in the world with the transmission of the wild polio virus. Under-five mortality rate still remains high despite a reduction from 214/1,000 live births in 1990 to 124/1,000 live births in 2011.

The vaccines and immunization stakeholder meeting presented an opportunity for stakeholders in the sector to express their candid views and concerns on the administration and management of vaccines in Nigeria. The NAS-VIAC meeting focused on key issues such as attitude, accountability, economics, and politics as they affect immunization in Nigeria. The meeting also addressed the inability of Nigeria to interrupt polio transmission and proffered key solutions in this regard, while evaluating the progress made from the last vaccine summit held in 2012. This meeting featured a number of speakers from diverse backgrounds in the health sector, and was a major platform for the diffusion of knowledge among

key stakeholders in the sector, in charting the way forward for immunization in the country.

The frank presentations and discussions highlighted in particular the poor routine immunization coverage particularly in the northern states and the role of the NPHCDA. A speaker with wide personal experience in immunization and primary health care averred that the Agency had deviated from its original mandate as a development agency to one that has instead taken on the direct administration of vaccines, and suggested that this should change to a system that strengthens primary health care and immunization at both the state and local government levels, thus decentralising the actual vaccine administration to the local level. Issues such as accountability, funding, performance, traditional and religious inclinations, as well as vaccine manufacture in Nigeria generated lively but serious debates that added considerable value to the outcome of the conference.

I.MOHAMMED, FAS

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National Primary Healthcare Development Agency, Benin

The review of this report was overseen by the NAS leadership, who was responsible for making certain that an independent examination of this report was carried out in accordance with institutional procedures and that all reviewers' comments were carefully considered. Although the reviewers provided many useful comments, they were not asked to endorse the final draft of the report.

The NAS gratefully acknowledges UNICEF for supporting the workshop, and the TY Danjuma Foundation for providing the funding for this report.

Executive Summary

On the 4th and 5th of December, 2013, national and international stakeholders converged in Abuja for an immunization stakeholders meeting, organized by the Vaccines and Immunization Advisory Committee of the Nigerian Academy of Science. The theme of the meeting was 'Immunization in Nigeria: Accountability, Attitude, Economics & Politics". The goals of the meeting were to bring together key stakeholders to discuss, without bias, the issues of accountability, attitude, economics and politics, as it affects immunization in the country; to discuss the persistence of polio, despite many interventions, as well as to evaluate the progress made following the 1st national vaccine summit held in 2012. The stakeholders' meeting was held at a time when immunization in the Nigeria was facing a number of challenges, and featured presentations from various experts in the health sector; probing deep into these issues, and discussing strategies for improved immunization coverage and activities in the country.

To set the stage for the meeting, an overall score sheet of immunization in Nigeria was presented by the Executive Director of the National Primary Healthcare Development Agency, and this highlighted some of the immunization successes the agency had achieved in the last two years such as reducing the number of unimmunized children in the country by 69%, and reducing the transmission of the polio virus by 60%. A weak primary health care system and poor accountability were some of the main challenges identified, and which need urgent interventions. The agency, in a bid to tackle these challenges has developed a National Routine Immunization Strategic Plan (NRISP 2013-2015), and is determined to ensure its full implementation for improved immunization in Nigeria.

On the economics of immunization, presentations were made on the actual cost of immunizing the Nigerian child, financing immunization for results, financing bottlenecks and accountability challenges. A recent study done on immunization costing in Nigeria revealed that though it appears that routine immunization (RI) is receiving more attention with regards to budgetary allocation, no clear evidence exists of a transparent system of record keeping on costs and expenditure for running RI activities, thereby creating an avenue for misappropriation and misallocation of limited resources. They concluded that there is therefore a need to establish and institutionalize effective public expenditure management. On immunization funding, it was reported that the part of the health sector with the highest burden of disease (primary health care) is the least funded in the country, and for immunization to improve in Nigeria, this has to change.

The presentations and discussions on vaccine security in the country highlighted that the key to overcoming the main challenges of vaccine security, issues of

cold-chain maintenance, and reducing vaccine wastage is increased political will among the key decision makers in the country, and for them to have a full understanding of the dynamics of the vaccine supply chain. The use of the District Health Information System (DHIS) as a tool to address the challenges associated with data management, particularly immunization data was also discussed. It was explained that the tool can help improve accountability by creating easy access to RI data through an automated system that alerts defined users when certain thresholds are crossed, as well as through triangulation with other health systems data.

Despite numerous interventions and human and economic resources available, complete eradication of polio eludes Nigeria. Though indicators of immunization campaign show an improvement in coverage in 2012, continuing WPV transmission poses an ongoing risk for WPV reintroduction to other neighboring polio-free countries, and a major obstacle to global eradication of polio. Immunization in Nigeria has become a culturally sensitive issue, and as such polio eradication programs should be made less of public events and more targeted communication that is sensitive to the concerned communities. Advocacy is also an important tool that cannot be neglected in polio eradication.

On politics and immunization, it was emphasized that politics cannot be entirely separated from immunization in Nigeria, as politics largely influences the policies that govern the health sector. Most appointments into key roles in national and local immunization have been politicized. Also, frequent changes in these appointments as governments change, prevent continuity and stability. Therefore it is important for political leaders to be engaged early on in the immunization process and activities, and for them to be health friendly in action.

The final session of the meeting discussed the 1st national vaccine summit which took place in 2012, and the progress made so far since the summit. The NRISP for 2013-2015, was developed following the meeting, and its implementation hopes to tackle the major challenges currently faced such as vaccine security, sustainable funding for immunization, and accountability.

At the end of the two day meeting, participants came up with recommendations which were conveyed in a communiqué. There was consensus that the Nigerian Academy of Science through its Vaccines and Immunization Advisory Committee has a key role to play in immunization advocacy in the country, to ensure that the policy makers and relevant stakeholders do what is needed to move immunization forward in Nigeria.

Abbreviations & Acronyms

AD	Auto-Disable
AEFI	Adverse Events Following Immunization
CCA	Cold Chain Assessment
CCE	Cold Chain Equipment
CDC	Centre for Disease Control
cMYP	Comprehensive Multiple Year Plan
CSO	Civil Society Organization
DFID	Department for International Development
DHIS	District Health Information System
DPT	Diphtheria Pertussis Tetanus
DPT3	3rd dose Diphtheria Pertussis & Tetanus
EPI	Expanded Programme on Immunization
EVM	Effective Vaccine Management
EWARN	Early Warning and Alert Response Network
FIC	Fully Immunized Child
FCT	Federal Capital Territory
FGN	Federal Government of Nigeria
FMoH	Federal Ministry of Health
GAVI	Global Vaccine for Vaccines & Immunization
HERFON	Health Reform Foundation of Nigeria
HEP B	Hepatitis B
Hib	Haemophillus Influenza Type B
HF	Health Facilities
HMIS	Health Management Information System
HPV	Human Papilloma Virus
IVAC	International Vaccines Access Centre
IPDs	Immunization Plus Days
KPI	Key Performance Indicators
LGA	Local Government Area
LIDS	Local Immunization Days
MDGs	Millennium Development Goals
MNCH	Maternal, Neonatal & Child Health
NCH	National Council on Health
NHDP	National Health Development Plan
NRISP	National Routine Immunization Strategic Plan

OIE	World Organization for Animal Health
PHN	Private Sector Health Alliance of Nigeria
PRRINN	Partnership for Reviving Routine Immunization in Nigeria
RI	Routine Immunization
SIA	Supplemental Immunization Activities
SIO	State Immunization Officers
SMS	Short Message Service
SMT	Stock Management Tool
SOP	Standard Operating Procedure
SOML	Saving One Million Lives
Td	Tetanus & Fractional Diphtheria
TT	Tetanus Toxoid
UCI	Universal Childhood Immunization
UNICEF	United Nations Children's Fund
WHO	World health Organization
WPV	Wild Polio Virus
VDWPV	Vaccine Derived Wild Polio Virus

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Opening remarks

Professor Oyewale Tomori FAS
President, the Nigerian Academy of Science (NAS)

The meeting began with Professor Tomori welcoming participants and thanking them for honouring the invitation to attend the event. He made reference to the first vaccine summit in Nigeria, held in April 2012, during which delegates from Ghana shared their experience in eradicating polio and measles from the country. During this campaign, Ghana conducted about 5 supplemental immunization activities (SIAs). Despite Nigeria having executed over 150 SIAs at federal, state, and local government levels, there are still cases of polio in Nigeria. According to Professor Tomori, despite the global drive for countries to be free from polio, Nigeria remains one of only three countries in the world still reporting polio cases and recently, recorded about 50 cases of polio.

Professor Tomori stated that Nigeria is yet to interrupt the transmission of the disease but that this was almost achieved in 2010 when only 21 cases of polio were reported, although little effort was made to sustain this progress. He pointed out that it is essential for Nigeria to examine previous actions towards eradicating polio and determine the right measures to adopt in order to tackle polio and other diseases.

Professor Tomori revealed further some challenges facing vaccine administration in Nigeria. Referring to his recent visit to Nasarawa State where there was a mass campaign on yellow fever, he cited a situation where the yellow fever vaccine was kept in the cold box, and the diluent was kept outside the box, with an environmental temperature of 36 degrees centigrade. In addition, he revealed another case where the health worker had filled several syringes with the vaccines and placed them on a surface for more than 5 minutes - vaccines lose their potency when placed under the sun for about 5 minutes. Given these and many more challenges, Professor Tomori stated that Nigeria is not making adequate progress in tackling vaccine preventable diseases.

He further stated that this meeting was intended to address these issues, noting that government officials, in general, do not pay significant attention to these problems, which are impediments to improving Nigeria's health system. He concluded by stating that the meeting would try to proffer solutions to many of the aforementioned challenges in the sector.

Ambassador Bashir Yuguda
Supervising Minister, National Planning Commission

The Minister of the National Planning Commission, through his representative expressed gratitude to the Nigerian Academy of Science (NAS) for his invitation to the meeting. He expressed his regard for the NAS especially in collaborative efforts to work with government in improving science and technology in Nigeria. He informed members that he is pleased with the purpose of the meeting, adding that immunization is an integral aspect of the health sector, and is a key area for the National Planning Commission, which focuses on developmental planning. He added that discussions from the meeting would fit into strategies for achieving the Millennium Development Goals (MDGs) and Vision 20:20. He noted that given the importance of immunization in improving human capital indices in Nigeria, the NPC would send delegates to the meeting to obtain views that would feed into the ministry's plans for the health sector.

CHAPTER ONE: Overview Of Routine Immunisation In Nigeria

I. Routine Immunization in Nigeria: A Historical Perspective

Idris Mohammed FAS
Co-chair NAS-VIAC

Professor Idris Mohammed described immunization as the process by which a person is made immune or resistant to an infectious disease by the administration of a vaccine. Vaccines stimulate the body's own immune system to protect the person against subsequent infection or disease. Vaccines act by inducing the production of pathogen-specific antibody as well as both B & T memory cells, which cooperate in a complex manner to protect the body against the pathogen.

In highlighting the benefits of immunization, Professor Mohammed stated that the World Health Organization (WHO) concludes that immunization:

- Is a proven tool for controlling or eradicating infectious disease
- Is one of the most cost-effective health investments
- Has clearly defined target groups health investments
- Does not require any lifestyle change
- Averts 2-3 million deaths annually
- Has proven strategies for access to most hard-to-reach populations
- Can be effectively delivered through outreach activities

He went further to present a brief historical background of Immunization around the world, as follows:

- There were attempts to prevent or control infection in Central Asia in the 11th century
- The practice of "variolation" was introduced to England towards the end of the 18th century, using cow pox as an antigen
- The success of Jenner's experiments led to the development of the smallpox vaccine in 1798, later used to eradicate smallpox
- The first rabies vaccine was produced by Louis Pasteur in 1885
- Vaccines against diphtheria and tetanus were developed in the 1900s
- BCG vaccine was developed and introduced in 1927
- Poliovirus vaccines became available in 1955; and the measles vaccine in 1960

He argued that immunization has been undertaken in Nigeria for over 70 years, stating that there was no significant rejection of, or resistance to immunization, until 12 years after the Polio Eradication Initiative (PEI) was introduced. Professor

Mohammed stated further that the Expanded Programme on Immunization (EPI) was introduced by WHO in 1974 following the successful eradication of smallpox and the six EPI targeted infections were:

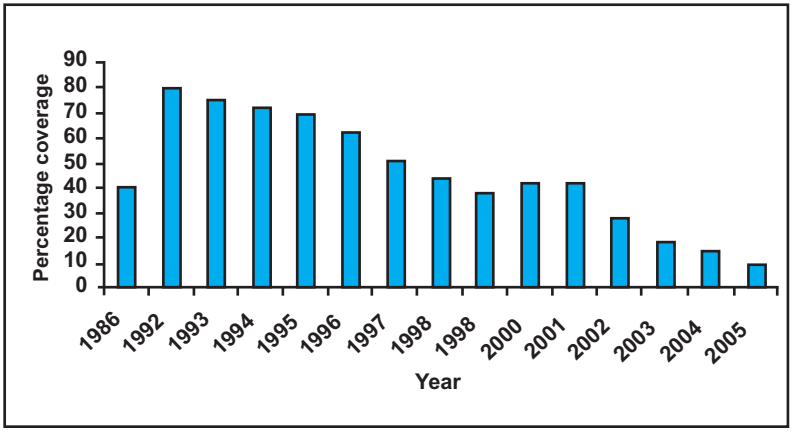
- Diphtheria
- Pertussis
- Tetanus
- Tuberculosis
- Poliomyelitis
- Measles, Yellow fever, and Hepatitis vaccines were included to the list in the 1990s

In terms of routine immunization (RI) in Nigeria, Professor Mohammed highlighted some key events and initiatives surrounding RI in Nigeria. These include:

- Introduction of EPI in 1978
- All States embraced EPI between 1979 and 1982
- Shortage of vaccines nearly led to program collapse in 1983– coverage 10%
- Coverage remained around 20% between 1983 and 1987, despite re-launch in 1984
- Government introduced "National Immunization Days (NIDs)" in 1988
- RI under EPI progressed well, without any problem
- By 1992 coverage had reached 80% - an all time high for Nigeria to date
- From then coverage took a downward turn to the 40% level by 1999
- President Obasanjo demanded NPI should work to achieve 80% by 2005
- NPI organized and conducted the first ever nationwide rapid assessment of RI coverage in the six geo-political zones in 2003
- Action plan for accelerating RI down to the local government area level developed by NPI Board to attain President's set target by 2005
- President fully funded and physically took part in immunization activities in support of the five-year Action Plan
- Donor support from WHO, UNICEF, World Bank, DFID, USAID, JICA, foreign governments was high
- However, a number of factors including managerial and professional incapacity drove RI down to 12.7% in 2004
- Disproportionately high attention diverted towards the PEI
- Despite low coverage of the 6 EPI target diseases, more antigens were introduced by the NPI
- Vaccines were introduced against hepatitis B and yellow fever
- New combination vaccines were also introduced, including the pentavalent vaccine [DPT + HBV + Hib]

- In the 1970s Groups A and C meningococcal (cerebrospinal) polysaccharide vaccine were used only by some 'at risk' states(state activity) but in 1997 this activity was taken over by the NPI
- The newly developed protein-polysaccharide conjugate meningococcal vaccine (*MenAfriVac*) was introduced in 2011 and most children and young adults of West Africa have been covered with the vaccine, and no significant side effect has been reported.

Figure 1: Routine Immunization Coverage in Nigeria. 1986-2005



Source: Mohammed, 2012

He presented some possible reasons for the failure of RI to include:

- Lack of ownership at the local level
- Professional and managerial incompetence
- Cultural and religious issues
- Lack of adequate oversight
- Accountability issues
- Poor social mobilization
- Undue emphasis on the PEI relegating RI to the background
- Failure to address the cold chain and logistic issues and possible "donor fatigue"

Professor Mohammed noted that Nigeria now ranks third in terms of distribution of WPV1 cases with 49 reported cases in 2013, after Afghanistan and Pakistan. He presented the following facts on polio eradication:

- The landmark successful eradication of smallpox in 1972 proved that other vaccine-preventable diseases can similarly be eradicated

- Poliomyelitis was selected as the next disease to be targeted for eradication in 1988 – measles could have been selected instead but polio was considered more feasible
- The PEI vigorously pursued by WHO, UNICEF, and Rotary International Polio Plus; later by others notably the Bill and Melinda Gates Foundation (BMGF).
- Polio eradication was expected to have been achieved by the year 2000; so the PEI is 13 years late, and no one can be certain that it would be achieved by the new target of 2015
- A combination of negative factors including "The Nigerian factor" acted in concert to frustrate the PEI in Nigeria which, in turn, has been largely responsible for the failure to attain polio eradication in the world, even till 2013

Conclusion

Immunization is very important in any country and averts over 2-3 million deaths annually. Over many decades, Nigeria has recorded successes and setbacks with regards to routine immunization. Between the year 1992 and 2004, Nigeria experienced a decline in routine immunization coverage partly as a result of lack of ownership at the local level, professional and managerial incompetence, and cultural and religious issues among other factors. Also, the country faces a huge challenge in eradicating polio, after failure to eradicate the disease in the target year of 2000.

II. Overall score sheet on RI and Polio eradication in Nigeria

Ado Muhammad
National Primary Health Care Development Agency (NPHCDA)

Dr Muhammad expressed satisfaction with the theme of the meeting. He stressed the importance of the three areas of focus, which are immunization, polio eradication and accountability. With regard to polio eradication, he noted that Nigeria has taken proactive measures some of which include the formulation of the National Polio Eradication Emergency Plan in 2012 and 2013, and the establishment of a Polio Emergency operation Centre, which is the operational unit designed to increase the effectiveness of the polio eradication program.

Dr Muhammad noted that some level of progress has been achieved in the last few years. The NPHCDA was able to reduce the transmission of poliovirus by 60% in the year 2013. The agency has also restricted the circulation of poliovirus in

Nigeria to a few states, which are Borno, Yobe, and Kano. While the challenges faced in Kano State are majorly operational issues, Borno and Yobe states present huge challenges for the agency, as a result of the increased level of insecurity. He added that the genetic clusters of the virus have collapsed from 8 to 2, signifying positive signs in the struggle to eradicate polio. He stated that the agency would continue to intensify efforts to totally eradicate the disease from the shores of the country.

At the meeting of the Expert Review Committee on Polio Immunization, held in the last quarter of 2013, members of the committee collectively agreed that Nigeria is on track and commended efforts of the NPHCDA geared towards eradicating polio. Dr Muhammad reiterated his pledge that the agency will intensify efforts and interventions within the next 6 months to address the problem. According to Dr Muhammad, before the declaration of a state of emergency in some northern states, the agency (for about 6-7 months) had been unable to access about 17 local government areas, i.e. 750,000 to 1 million children, implying that Nigeria has a large mass of unimmunized children. To address this challenge, the agency introduced key innovative measures, in terms of head counts and comprehensive maternal and child health (MCH) interventions. Dr Muhammad stated that the agency has made significant progress in this regard.

With respect to routine immunization (RI), Nigeria has experienced periods of high coverage in the 1980s and declining coverage in the 1990s. The main reason for this imbalance is the existence of a non-functional primary health care system. In a bid to address the systemic issues in routine immunization, the NPHCDA strategically enhanced the capacity of health workers within the last two years and also stabilized the supply of vaccines intended for children who are less than 1 year of age. Dr Muhammad informed participants that the agency also provided vaccines for 7.5 million children less than 1 year of age in Nigeria, thus reducing the number of unimmunized children by 69%. He stated further that 3.2 million and 2.2 million children were immunized in 2010 and 2011 respectively, adding that the agency will continue to perform this core function of ensuring that every Nigerian child gets immunized.

Furthermore, to resolve this huge challenge, the agency identified the need for all the stakeholders in the health sector to be held accountable for their actions. This call led to the vaccine summit in 2012, which birthed the first National

Routine Immunization Strategic Plan (NRISP). The summit also introduced cost effective measures of immunization and revealed the need for innovation in vaccine administration in Nigeria. The summit agreed on the following key recommendations:

- Call to action
- Establishment of key structures
- Need for collaboration of all stakeholders
- Provision of an enabling environment for vaccine manufacturing in Nigeria
- Convening of an Africa vaccine summit

The first NRISP for 2013 to 2015 was designed to achieve the aforementioned goals as well as ensure swift implementation of other recommendations reached at the summit. Dr Muhammad highlighted some initiatives/measures being undertaken by the NPHCDA to ensure that the summit recommendations are met. Some of these measures include:

- The ward development committees (WDCs) and health facilities management committees are currently looking into issues of village health facility ambassadors
- In terms of achieving 100% funding for immunization in Nigeria, in 2013, the agency was allocated N4.5 billion as against the N6.5 billion requested. The difference was covered by the Subsidy Reinvestment and Empowerment Programme (SURE-P)
- The intervention of the private sector health alliance of Nigeria (PHN), which is co-chaired by Mr Bill Gates, Alhaji Aliko Dangote, and Mr Jim Ovia in the last measles outbreak in Nigeria, suggests that captains of industry are increasingly participating in immunization in Nigeria
- Given the strategic role of the media in the immunization process, the NPHCDA is working to foster partnership with the media, to engage "journalists for immunization"
- To strengthen the primary health care (PHC) delivery system, the agency is leveraging on support from its partners. So far, NPHCDA has received huge support from partners and bilateral institutions in this regard. GAVI, for instance, provided financial support to the agency. The funds have been used to train health workers and improve the data collection system. The essence of the partnerships is to ensure that Nigeria has a functional PHC system, which is necessary for effective immunization

- In addition, the agency continues to partner with the PHN in terms of scaling up high impact interventions such as the GIS mapping for obtaining information on the effectiveness of the vaccinators as well as the population of an area. The agency has adopted this strategy in states like Kano, Jigawa, and Sokoto
- On local production of vaccines, discussion is on-going between the federal government and BioVaccines Limited for the latter to begin the production of vaccines in Nigeria. Dr Muhammad stated that the agreements would be finalized in the coming months adding vaccines will be produced in the country shortly after.

Dr Muhammad further stated that the NRISP was hinged on accountability. According to him, the plan clearly reveals the key roles of all the stakeholders, including the government. He stated that accountability is not the duty of only government alone and therefore should also be demanded from other stakeholders in the health sector.

He added that for routine immunization, some progress has been made in the last one year. Administrative coverage has improved from 51% in 2012 to 83% as at October 2013. This progress is as a result of the availability of vaccines to the facilities and effective supervision and monitoring of its distribution. In addition to providing injection materials to administrators, the agency deployed thousands of village health workers to create demand for these vaccines. The agency also introduced the pentavalent vaccine (it has better economic value), which is currently being piloted in five states. Dr Muhammad stated that the pneumococcal conjugate vaccine (PCVs) will be introduced in Nigeria in the 3rd quarter of 2014, adding that this vaccine will be available in private hospitals and delivered to every Nigerian child at affordable costs.

Conclusion

In the fight against polio, Nigeria has recorded some level of progress with the reduction of the transmission of the poliovirus by 60% in the year 2013 and the restriction of the circulation of the poliovirus to a few states, which are Borno, Yobe, and Kano. This progress is as a result of efforts of the NPHCDA to address issues relating to primary healthcare in Nigeria as well as the formulation and implementation of the NRISP, which outlines key roles of all the stakeholders in the sector.

Audience Reflections:

Participant: A major problem of immunization in Nigeria is that many of the solar refrigerators at the local government level are broken down. Secondly, we often experience cases where the vaccines are delivered separately from the syringes and needles. Thirdly, we continue to experience situations where the independent monitors prepare their reports before the materials are received. These issues need to be addressed. The United States Agency for International Development (USAID) has been supportive of immunization in Plateau State. My state (Plateau) has not recorded a case of polio in the last four years and also our cold room can serve the whole of North Central Zone.

Participant: On the issue of cold chain maintenance, we can explore different opportunities such as partnering with the telecoms companies that have masts/infrastructure in some of these rural areas. On the wages of health workers, I believe that there is lack of transparency in this regard, and this issue needs to be looked into.

Participant: It is important for us to promote and advocate for birth registration of each child, which is essential for routine immunization.

Participant: My concern is on the introduction of more vaccines in Nigeria when we have not fully utilized the existing vaccines. I would like to know the rational for introducing more vaccines into the country, even as many children have not been immunized. Also, I think it is important for us as a country to channel more funds to advocacy and enlighten many heads of local government on the importance of health indicators as key measures of development. Many of our local government chairmen are more concerned about embarking on physical projects and often ignore health-related projects.

CHAPTER TWO: Funding Immunization

I. Cost of fully immunizing the Nigerian Child

Kenneth Ojo
Centre for Health Economics and Development

A fully immunized child is one who has received the complete doses of the standard six antigens – BCG, Diphtheria Tetanus Pertussis (DTP) (3 doses), polio (3 doses), and measles vaccines. Dr Ojo stated that the two main types of costs in immunization are recurrent costs and capital costs, adding that in his research, he examined the future needs of vaccines for the next five years by a population-based method. He pointed out that three types of costs were calculated and they include:

- The total estimated costs (TEC) of running the National Immunization Programme (NIP)
- Programme-specific costs estimated for immunization: These relate to costs incurred specifically in rendering immunization services, apart from those shared with other health activities
- Current variable non-personnel costs: These relate to costs that are mobilized by FMoH annually for NIP activities from all sources, including the ministry and donors

Dr Ojo revealed that the annual estimated cost of the NIP was valued at $309 million, out of which 79% constituted routine program costs while 21% was earmarked as campaign cost. He added that the campaign cost which totalled US$65.3 million consists mainly of recurrent items. See table 1.

Table 1: Total Estimated Cost of National Immunization Program

Cost Component	Routine Programme Cost (US$)	Campaign Cost (US$)	Total Programme Cost (US$)	% of Total
Recurrent Costs				
Personnel	180 750 700	21 643 259	202 393 959	65.32
Vaccine	21 772 892	18 321 204	40 094 096	12.94
Supplies	12 967 381	2 470 525	15 437 906	4.97
Transportation	4 257 816	9 870 110	14 127 926	4.56
Short term training	848 650	0	848 650	0.27
IEC/Social Mob.	8 333	2 011 127	2 019 460	0.65
O&M	9 258 125	0	9 258 125	2.99
Others*	14 381 122	10 941 978	25 323 100	8.17
Sub Total	*244 245 019*	*65 258 203*	309 503 222	*99.89*
Capital Cost				
Building	0	0	0	0
Vehicle	200,000	0	200 000	0.06
Equipment	154 167	0	154 167	0.05
Training	*0*	0	0	0
Sub-Total	*354 167*	*0*	*354 167*	*0.12*
TOTAL	*244 599 186*	65 258 203	309 857 389	100
% of Total Cost	78.94	21.06	100	100

*Others include disease surveillance, programme management, and other routine recurrent costs

The table below shows the estimated unit cost of the NIP.

Table 2: Estimated unit cost of NIP

Measure	Total Cost in US$	Output	Unit Cost in US$
Number of Doses (Fixed Strategy)	241, 207,456	17, 452, 302	$8.6 Per Dose
Number Doses (Outreach Strategy)	64, 902, 019	256, 429, 808	$0.25 Per Dose
Children fully immunized by age 12 months	46, 125, 883	1, 213, 664	$38 Per FIC
Per Capita Cost of Immunization	241, 207, 456	140, 003, 642	$1.7 Per Capita

Implications of findings from cost estimates

- These findings suggest greater efficiency of IPDs as a vaccine delivery strategy. The cost per fully immunized child was estimated at US$38. Studies from Cote d'Ivoire (1999), Morocco (1999) and Bangladesh (1999) reported costs for the FIC to be US$24.29, US$20.89 and US$23.39 respectively. The relatively higher cost found in this study may be due to the low fully immunized child (FIC) coverage (21%) in Nigeria
- Two issues are addressed here. The first relates to the estimation and need to reduce wastage cost in the NIP in Nigeria - Duplication in payment should be reduced or even stopped completely. The second relates to computing cost effectiveness ratios of the NIP

In terms of estimating wastage cost, two major wastages were identified: system wastage and service wastage. Dr Ojo pointed out that while the system wastage is the difference between the average vaccine doses supplied and used per year, the service wastage was calculated as the difference between average vaccine doses used per year and the number of target population vaccinated. He however cited data availability as a major challenge encountered in his research, adding specifically that there is a possibility of errors in the data for vaccine supplied and used.

Table 3: Cost of Vaccine Supplied, Used and Wastage, National Immunization Programme, (NIP) 2007

Vaccine Type	Price per Vial (US$)	Cost of Vaccine Supplied (US$)	Cost of Vaccine Used (US$)	Cost of Children Vaccinated (US$)	Cost of System Wastage (US$)	Cost of Service Wastage (US$)	Total Wastage Cost (US$)
BCG	0.096	9 570 672	8 652 841	5 702 145	917 831	2 950 696	193 426
DPT	0.168	23 962 332	24 488 853	19 990 212	*	4 498 640	397 212
OPV	0.132	53 590 237	46 213 696	33 939 739	7 376 542	12 273 957	979 557
Measles	0.254	1 637 556	1 447 401	901 469	190 155	545 931	994 500
Total		**88 760 797**	**80 802 791**	**60 533 565**	**8 484 528**	**20 269 224**	**2 564 695**
Yellow Fever	0.82	39 581 072	38 561 115	24 353 360	1 019 957	14 207 755	15 227 712
Hep B	0.21	25 278 504	25 955 771	22 108 573	*	3 847198	3 169 931
TT	0.07	5 676 150	5 361473	3 529 017	314 677	1 832 456	2 147 133
		70 535 726	69 875 359	49 990 950	1 334 634	19 887 409	683 3

*= data not available

In presenting some limitations of the study, Dr Ojo informed participants that the following costs were not estimated:

- Opportunity cost/indirect costs: e.g. parents' time for attending immunization sessions

- Incentives: e.g. Conditional cash transfer and other performance based incentives
- Leakages/invisible hands: corruption, theft and fraud

Summary

In estimating the cost of immunizing a child, Dr Ojo categorised cost into three areas: Total estimated cost of routine immunization; program specific cost for immunization and current variable non-personnel costs. His study revealed the cost per fully immunized child in Nigeria to be US$38, higher than that of Cote d'Ivoire (US$24.29), Morocco (US$20.89) and Bangladesh (US$23.39). It also revealed the need to reduce wastage costs in the process of immunization. He cited the availability of data as a major challenge in this study.

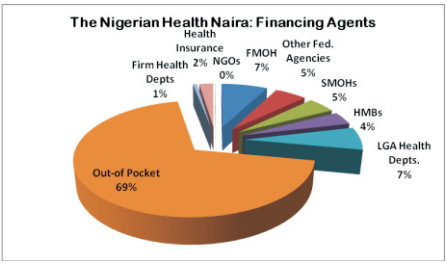
II. Financing Immunization for results: Financing pathways, bottlenecks & accountability challenges

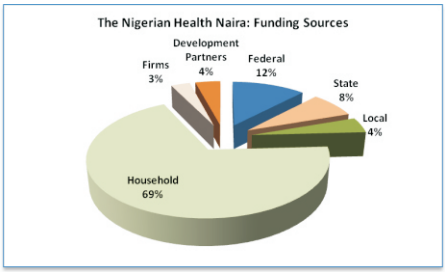
Benjamin S.C. Uzochukwu
Health Policy Research Group

Immunization is a cost effective intervention. The National Immunization Policy (NIP) states that vaccines should be freely administered to patients at no cost but this is not the reality. The NIP also prescribes different sources of funds for immunization. They include budgetary allocations from the three tiers of government, the private sector intervention funds (through the Private Sector Health Alliance), donations from development partners, and community participation. Following the introduction of new vaccines in the last few years which are costlier than previous vaccines, it is important for the government to develop a comprehensive multi-year plan and budget, detailing measures of financing immunization in Nigeria.

Professor Uzochukwu explained that there are four basic operational components in immunization that require finance. They are vaccine supply & quality; advocacy & communication; logistics; and surveillance, all of which are geared towards service delivery. He highlighted the sources of health care financing in Nigeria as shown in figure 2.

Figure 2: Health Care Financing in Nigeria (Source NHA 2003-2005)





In terms of the relationship between funding of health care and the burden of disease in Nigeria, the primary health care segment (which has the highest burden of disease) is the least funded. The segment accounts for only 5% of the total funds in the sector, while the secondary and tertiary account for 15% and 80% respectively. Primary health care accounts for 80% of the disease burden in the sector, while the secondary and tertiary account for 15% and 5% respectively. He added that more funds should be channelled to the primary health care segment if Nigeria is to experience improvement in the sector. With respect to funding sources, he pointed out that a significant percentage of funds in the sector originate from the Nigerian government while donors contribute about 15% of the total funds. He disclosed that most of the funds are channelled towards personnel costs, and this is trending upwards with the recent efforts to eradicate polio.

On cost strategy, he noted that routine immunization (RI), which is very important in eradicating polio, receives an increasing amount of funds year after year. In developing the 10th European Development Fund (EDF), the cost per child for RI was discovered to be €80.6 (Polio: €3.9). He added that there is strong support for RI both from the Federal Ministry of Health (FMoH) and the NPHCDA.

Although Professor Uzochukwu acknowledged the importance of huge financial inflows in the sector, he was of the view that very few individuals in rural communities benefit significantly from these funds. He cited limited budgetary allocations, delays in the release of government funds intended for immunization, and inefficient utilization of resources as major impediments to the development of the sector. Another major issue of concern is the possible drawback of funds by development partners. For instance, following the termination of the EU-Prime project, the European Union stopped funding

health-related activities in Nigeria. In addition, funds in the sector are skewed towards polio eradication to the detriment of RI. The lack of accountability in the system, undefined roles in the three tiers of government, and a lack of community engagement in routine immunization are key issues that need to be addressed in Nigeria.

The government is making attempts to address some of the issues through three key measures:

- The National Routine Immunization Strategic Plan 2013-2015 (NRISP) has been developed by the (FMoH) and (NPHCDA), in close collaboration with other routine immunization partners, in an effort to address fragmentation in the sector and agree on a way forward
- The RI Supply Chain initiative within the framework of SOML (the Saving One Million Lives initiative) was launched in April 2013 to address the acute problems related to the supply of vaccines through the federal and state level cold-chain systems
- The FMoH together with RI partners are developing the Accountability Framework for Routine Immunization in Nigeria (AFRIN) with the objective to address accountability challenges in the PHC structure and put PHC activities under one roof.

Conclusion

As stipulated by the National Immunization Policy, the methods of financing immunization in Nigeria include budgetary allocations of the Nigerian government, private sector funds and donations from development partners. Professor Uzochukwu revealed that it is important for the Nigerian government to channel the highest proportion of funds to the health care segment with the highest burden of disease (i.e. primary healthcare) as opposed to what currently obtains in the sector, where the tertiary segment (with the lowest disease burden) receives the highest amount of funds. Some challenges faced in the area of healthcare financing include limited budgetary allocation, inefficient utilization of resources and delays in the release of government funds.

Audience Reflections:

Participant: I suggested earlier that vehicles should be handed over to the local governments (LGs) for logistic purpose but many participants refuted this idea. Would you rather allow heads of ministries, departments, and agencies (MDAs) at the federal level to continue to mismanage the nation's resources while those at the LGs should not do the same? If the money gets to the LGs, even with some level of corruption, the projects will be executed. If the LGs are denied resources, how would they continue the work/project?

Participant: In Nigeria, we seem to know what the solutions are but we often find it difficult to implement them. For this meeting to be different, we need to come out of this meeting with clear recommendations on the way forward for immunization, and ways to implement these recommendations.

Participant: There are usually problems with the release of budgeted government funds for the health sector. The government needs to ensure timely release of allocated funds and ensure its accountability and efficient use.

Participant: Most problems being faced by Nigeria are endemic in the system. Players in immunization that are most-in-need (LGAs) get the least funding. Government should ensure that the LGAs are equipped with all necessary resources to ensure effective immunization delivery.

Participant: Polio is one of the diseases that should be eradicated through routine immunization due to the limited technical requirements in administering the vaccines. However, routine immunization has not improved in Nigeria and this is as a result of political and economic influence of the operators/service providers. Also, we need to improve our methods of gathering health-related data. To tackle the problems associated with immunization, we need a strong level of commitment, transparency, accountability and honesty from all the stakeholders. These features have to be enforced in the health sector.

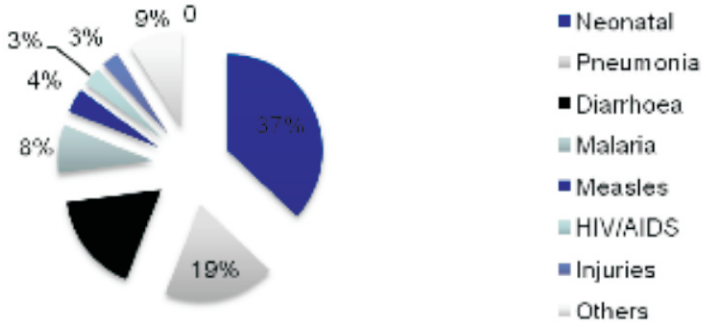
CHAPTER THREE: Accountability in Immunization

I. Vaccine Security in Nigeria: Mutual Accountability for Efficient and Effective Routine Immunization

Boubacar Dieng
UNICEF

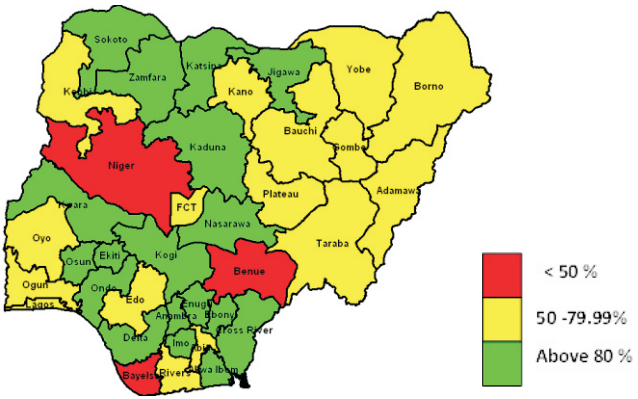
The purpose of immunization is to reduce the under-five mortality rates in Nigeria, which still remains very high The main causes of mortality rate are shown below in figure 3:

Figure 3: Causes of under-five mortality rates (Source: UNICEF, 2012)



Many of the diseases listed in the figure are vaccine preventable diseases. The disparity in terms of immunization coverage is also shown in figure 4:

Figure 4: Nigeria's Routine Coverage Rates: Disparities within Zones and States (Source: UNICEF, 2012)



In the aspect of vaccine storage, a lot of measures are currently being taken to revamp the cold chain infrastructure in Nigeria. The country is covered with cold rooms with some connected to the national grid while a few others are not due to some issues.

On vaccine security and supply chain, Dr Dieng pointed out that the main challenge is to secure vaccines and ensure that they are distributed to their intended destinations. He added that there are 23,000 health facilities and, if the right measures are adopted, Nigeria can achieve over 80% immunization coverage rate. He also noted that it is important for the key decision makers to understand the supply chain. He further highlighted the problems on needs estimation to include:

- Gaps of target populations: census, implementation of activities – objectives, alignment strategies and targets
- Inadequate training of health workers: the health workers do not know how to carry out the immunization sessions
- Insufficient vaccine wastage control: systematic use of same figures for years, and lack of wastage monitoring
- Insufficient use of data for action: non-utilization of wastage as management tool

Dr Dieng is of the view that Nigeria has a lot of challenges in the immunization space, which include, but are not limited to:

- Increased number of products to manage
- Increased number of shipments
- Increased volume and weight of supplies to be transported
- Increasingly complex packaging and repackaging
- Information management systems will need upgrading to provide exact information of client's order and delivery times

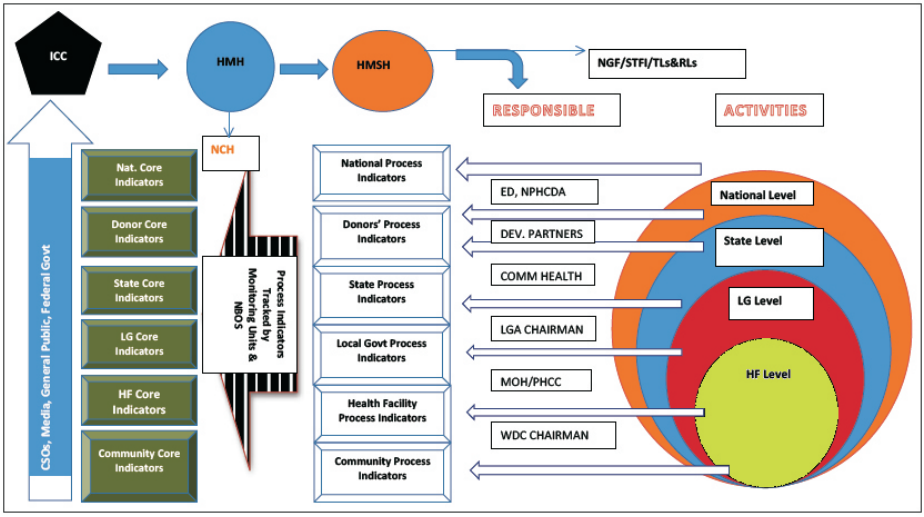
Funding • Inefficient use of available funds Human resources • Inadequate knowledge of immunization • Competing programs and demands • Ownership and commitment Vaccines and devices stocks • Bundled stocks • Stock outs	Cold chain • Storage capacities • Transport facilities • Regular equipment maintenance culture Data quality issues Catchment area delineations Community demand • Public awareness and information (IEC) • Recall and reminders

In concluding his presentation, Dr Dieng made reference to the NRISP, which if implemented has the potential to address the aforementioned challenges. He highlighted the features of the NRISP as follows:

- Lays out goals and objectives for Nigeria's routine immunization systems
- Details strategies to achieve the stated goals
- Importantly – Aligns to the NSHDP
- Expands on the cMYP
- Will operate alongside the SOML efforts to attain the MDGs
- Clarifies roles and responsibilities for different levels of government
- Intensifying reach to every ward through accountability
- NRISP Technical Policy V5.

He presented the operational scheme of the Accountability Framework in figure 5 below:

Figure 5: Operational scheme of accountability framework (Source: UNICEF, 2012)



Conclusion

The purpose of immunization is to reduce the under-five mortality rate in Nigeria and impact on the MDG-4. The major causes of under-five mortality include neonatal, pneumonia, diarrhoea, malaria, and measles among other diseases. For Nigeria to achieve over 80% of immunization coverage, issues surrounding vaccine storage, security and distribution need to be given utmost

attention. Policy makers need to understand the dynamics of the vaccine supply chain and also embark on invention programs to train health workers, reduce vaccine wastage, and ensure efficient use of data and information management systems. Additionally, the swift implementation of the NRISP and the accountability framework would translate into better public service delivery in the health sector.

II. DHIS platform as a tool to improve accountability in data management for efficient routine immunization

Ahmad Abdulwahab
Partnership for Reviving Routine Immunization in Northern Nigeria

The District Health Information System (DHIS) is a tool that addresses the problems associated with data management and improves accountability of routine immunization in Nigeria. According to Dr Abdulwahab, "DHIS-2 is a generic tool specifically designed for the collection, validation, analysis, and presentation of aggregate statistical data, tailored (but not limited) to integrated health information management activities". He noted that the DHIS is web-based, open source software, developed by the Health Information Systems Programme (HISP) Oslo and used in over 30 countries in Africa, Asia and Latin America. He highlighted specific features of the DHIS-2 which include:

- Data entry
- Creation of Datasets
- GIS for mapping
- Calculate indicators
- Mobile DHIS2
- Data validation
- Pivot tables
- Dashboard (user specific)
- Send SMS
- Using mobile phones
- Automatic data aggregation
- Data visualizer -charts
- Defined level of access with passwords
- Surveillance
- Patient tracking

Dr Abdulwahab added that the software tackles the issues of data discrepancies and users can create any kind of data set. He revealed that there are some RI datasets already contained in the DHIS.

- National Health Management Information System (NHMIS) 001 has been revised and harmonized to include RI coverage data
- A module is currently being piloted to capture vaccine data for all vaccines storage points at HF, LGA, State Stores.
    - Uses mobile phones to provide weekly vaccines stock data
- The module also has a cold chain component which is being developed in conjunction with PATHS II which will cover

- Status of cold chain equipment (CCE)
- Temperature monitoring
- Storage capacities

In terms of promoting accountability, the DHIS works in the following ways:

- Easy access to RI data from anywhere which
  - Promotes transparency
  - Provides the opportunity to raise concerns
  - Provides accountability for the NRISP
- Automated system that alerts defined users when certain thresholds are crossed
  - E.g. any case of maternal death, vaccines stock out/ over stock/ expiry etc.
- Triangulation with other health systems data e.g. surveillance, human resources etc.

Suggested Ways Forward

- NAS to champion use of DHIS-2 in Nigeria
  - Promote use of a single DHIS architecture as resolved at the National Council on Health (NCH) in Lagos
  - Coordination (and cooperation) of partners is key
- NPHCDA needs to fully adopt/roll out the use of DHIS-2 for immunization activities.
  - Create central and zonal databanks
  - Provide a few computers to each of the databanks
  - Bundle a mobile phone with each solar refrigerator procured to ensure data capturing and reporting at each site.

Conclusion

The District Health Information System (DHIS) is a platform designed to address the challenges associated with data management in the health sector. The DHIS is designed for collection, validation, analysis, and presentation of aggregate statistical data, tailored (but not limited) to integrated health information management activities. This tool would improve accountability of routine immunization in Nigeria by creating easy access to RI data, creating an automated system that alerts defined users when certain thresholds are crossed and through the triangulation with other health systems data e.g. surveillance,

human resources etc. Dr Abdulwahab urged the NAS and NPHCDA to promote the use of DHIS in Nigeria.

III. Accountability Issues in Immunization: Where are we going?

Edugie Abebe
Independent Consultant

According to Dr Abebe, immunization is key to the health sector. It is one of the indicators with which we can measure the effectiveness of the government. As a country, Nigeria has made significant progress in the past but sustaining this progress is a major challenge that needs to be addressed. It is important to note that we cannot sustain progress without having a strong health system.

Accountability in immunization is important. There are some key players in immunization that should be held accountable for their actions.

The first is the National Primary Health Care Development Agency (NPHCDA). Dr Abebe stated that the agency was established in 1992 to operate as a development agency, saddled with the responsibility to improve the primary health care system within 10 years of operation. However, this agency has become an institution that implements primary health care services, which, originally, is the primary task of local governments. In 2006, when the President issued a directive that the NPI should be positioned under the FMoH, a few professionals in the health sector campaigned against this directive, stating that immunization should be supervised by the NPHCDA. This campaign turned out a success but, sadly, the NPHCDA began to conduct immunization as 80% of its functions. According to Dr Abebe, how do we hold the agency accountable for not developing primary health care either as a system or as a service? Why do we concentrate on service alone and not at the system we are supposed to have? Also, unfortunately, the accountability framework for immunization is in the custody of the NPHCDA. Given this, it is almost impossible for the agency to be held accountable for the failure of primary healthcare in Nigeria.

Secondly, the partners should be held responsible. These partners are conducting parallel programs with the Nigerian government. Donors have different agendas, and the issue of accountability is pertinent also in relation to accountability between the state and federal government. In addition, Dr Abebe noted that the discussion of accountability is a distraction from the major

tasks that need to be done. Every Nigerian knows the key action steps to be taken to improve conditions in the sector.

Dr Abebe pointed out that in terms of polio eradication, high profile events are not the key solutions and we are dealing with individuals who are culturally sensitive. She informed participants that while in charge of NPI in 2006, she spearheaded a consultation, which focused on revealing the most preferred methods of immunization based on community demands. Many of the community heads were not keen on government flag off programs/ceremonies. She stressed that a lot of work needs to be done to sensitize individuals, particularly the traditional and local government leaders, on the benefits of immunization. She stated that during her tenure, the NPI supported and empowered local governments to carry out immunization. This strategy was effective in 2006 and consequently led to a decline in polio cases particularly in Kano state. She urged agencies to conduct less of publicity stunts but targeted communication that is sensitive to the needs of the communities. She concluded by stating that we should hold the agency responsible for not developing the primary health care system but rather rendering the sole service of immunization.

Conclusion

Immunization is a key component in measuring the effectiveness of government in Nigeria. This gives credence to the reason why key stakeholders in immunization should be held accountable for their actions/inactions. The NPHCDA, as a key stakeholder should focus on developing the primary healthcare segment rather than conducting immunization as its main activity. Dr Abebe urged government agencies to develop immunization programs that are sensitive to the needs of the communities.

Audience Reflections:

Participant: One of the key initiatives advocated by Professor Eyitayo Lambo was for the inclusion of the responsibility of providing health services into the Constitution. He also developed the Health Act, which was sent to the National Assembly, which felt it could not make laws for the state and local governments. I think that this a major issue as concerns accountability.

CHAPTER FOUR: Polio Eradication & Other Disease Control Initiatives

I. Disease Control Initiatives in Nigeria: How ready are we for epidemics?

Abdulsalami Nasidi
Nigeria Centre for Disease Control

Dr Nasidi began his presentation by stating that one of his objectives is to reveal why Nigeria has not succeeded in eradicating diseases like polio and yellow fever. In his presentation, he showed statistics portraying Nigeria's strength in the health sector. One of such is the ownership of health facilities in Nigeria. According to Dr Nasidi, Nigeria had 34,172 health facilities in 2012, out of which 22,850 (67%) were owned by the public sector while the remaining 11,322 were private establishments. In terms of the category of healthcare facility ownership, primary healthcare segment accounted for 88% of the total available facilities in the country while secondary and tertiary segment accounted for 11.6% and below 1% respectively, implying increased focus on primary healthcare relative to the other segments. He stated that in terms of number of health workers as a ratio of total population, Nigeria is not performing poorly when compared to some other countries. However, the health sector, in general, is bedevilled with enormous challenges that are yet to be addressed.

With respect to funding, Nigeria's healthcare funding as a percentage of gross domestic product (GDP) stands at 4.9%. This figure is low when compared with that of selected African countries such as Malawi (12.9%), South Africa (8.6%), Rwanda (7.5%), Ghana (6.7%), and Cameroon (5.2%). Dr Nasidi pointed out that the Nigeria's life expectancy has dropped significantly from above 50 years in 1991 to below 40-45 years in 2008 - the latest available figures. He added that a weak surveillance and response system is a major challenge in the health sector. In his view, the following are characteristics of Nigeria's present surveillance and response system:

- Uncoordinated
- Not particularly reliable
- Too donor dependent
- Response time to emergencies still too long
- Grossly under-funded
- Too many actors
- Too many to report to

Dr Nasidi stated that globally, a major key performance indicator of health care systems is the response time. He mentioned a few countries like Japan, Sweden, and the Scandinavian countries, that have embarked on strategic measures to reduce response time. He stated further that weak data management is a major challenge in the sector in Nigeria, adding that there are many cases of data discrepancies in Nigeria as well as wide differences between reported data and reality. He noted that data on tuberculosis, HIV/AIDS, and Malaria, for example, are often extrapolated.

He presented the trend of disease epidemics in Nigeria from 1986 to 2008 and explained that during these outbreaks, Nigeria had intervened but did not sustain its efforts in eradicating the disease. This may explain why there are repeated outbreaks of certain diseases in the country. On yellow fever, for example, he noted that Nigeria had embarked on a mass campaign from 1987 to1992, which was a major success; however, the country continues to experience frequent outbreaks of the disease due to a lack of sustained efforts. He advised that more attention should be given to the recent yellow fever outbreaks in the country, in order to prevent mass death of citizens, as was the case in 1987 where it was estimated that over 9,000 individuals died of the disease.

On Avian Influenza, he noted that the first outbreak of the disease in Africa was reported among the poultry population in Nigeria when a suspected outbreak of Highly Pathogenic Avian Influenza virus infection in poultry farms in North Central Nigeria was identified and reported on the 8th of January, 2006. The virus - H5 was diagnosed by the National Veterinary Research Institute (NVRI), Vom, and confirmed as H5N1 on Feb. 6th, 2006 by the OIE lab in Padova, Italy. The Nigerian government officially notified FAO of the confirmed outbreak on the 8th February 2006.

With respect to measles, Dr Nasidi noted that there are discrepancies in reported figures and the reality in Nigeria. For instance, he showed that measles outbreak is common and most severe in northern Nigeria, citing an article that reported the death of 200 children in North Central Nigeria from the disease. He revealed a graphical representation of vaccination status of reported measles cases in Kano State, which showed that 74% of children with the disease were never immunized. In summary, Dr Nasidi presented a trend of the disease in Nigeria as follows:

- The last measles campaign conducted was in 2005
- No measles case reported in 2006
- Active measles cases emerged in May 2007 and peaked in October 2007
- Acute shortage of vaccines since late November 2007
- Current cases affecting the entire country, but mostly states with low coverage and high level of immunization rejection

Dr Nasidi was of the view that the vaccine for measles is one of the most effective vaccines ever developed after that of yellow fever. He mentioned that despite the fact that the measles vaccine is cheap and affordable, Nigeria continues to experience major outbreaks of measles every two years. He pointed out that routine measures rather than campaigns should be adopted in executing measles vaccination. Dr Nasidi called for health sector reforms that would achieve the following:

- Improve the stewardship role of government
- Strengthen the national health system and its management
- Reduce the burden of disease
- Improve health resources and their management
- Improve access to quality health services
- Improve consumers' awareness and community involvement, and
- Promote effective partnership, collaboration and coordination

He pointed out that despite having many health policies; perhaps more than any country in the world, Nigeria's health indicators remain poor. Some of the country's existing/new policy initiatives include:

- A revised National Health Policy and draft National Health Bill
- A framework for achieving the Health-Related MDGs in Nigeria
- The revitalization of the National Council on Health
- A report on Repositioning of the Federal Ministry of Health
- Health Financing---the National Health Insurance Scheme
- Human Resources for Health Policy
- Health Promotion Policy
- National Drug Policy
- Public-Private Partnerships Policy

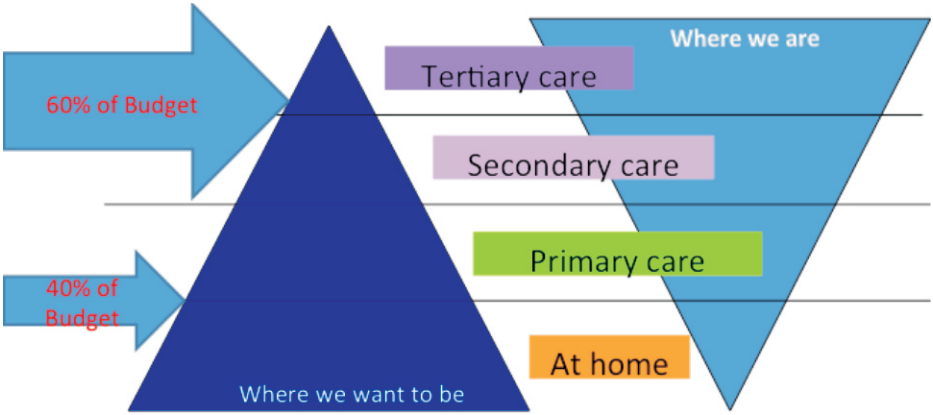
- Several sub-sectoral policies including those on:
    - Maternal, Neonatal, and Child Health
    - Adolescent Health
    - Health Sector Response to HIV/AIDS

To address the issues in the health sector in Nigeria, Dr Nasidi called for three major steps:

- Address institutional and managerial weaknesses
- Define responsibilities and improve coordination across the three tiers of government
- Rationalise federal government structures and harmonise partner support

In addition, Dr Nasidi believes that the primary health care segment is underfunded, accounting for about 40% of the health care budget in Nigeria, while the secondary and tertiary health care segments account for a total of 60% of the budget (see figure below). He noted that, for Nigeria to tackle the many challenges in the sector, more resources should be channelled to the primary healthcare segment.

Figure 6: Patterns of health care seeking behaviour versus budget allocation (Source: NCDC 2012)



He gave a brief background on the NCDC, and pointed out the rationale for Nigeria to have the NCDC. Some reasons cited include the following:

- The incessant occurrence of disease outbreaks with severe adverse effects on communities in Nigeria and neighbouring countries has

continued to disrupt our health intervention programmes and limit our ability to attain our set targets and objectives, including the Millennium Development Goals (MDGs)

- Frequent health emergencies and increasing upsurge of non-communicable diseases such as diabetes and hypertension
- The establishment of the NCDC not only is transformation by itself but will also stimulate transformation in other components of the health care system
- The centre will coordinate and network all programs and activities relating to the national response to epidemics, including other health emergencies and the prevention, surveillance, and control of communicable and non-communicable diseases

According to Dr Nasidi, the vision of the NCDC is to drastically reduce mortality and morbidity resulting from diseases of public health importance, and enhance the economic development of Nigeria. Its mission is to provide the nation with long-term health and social security, and to promote the peoples' health status through effective disease prevention and control.

He explained the overarching goal of the NCDC; which is to protect the health of the Nigerian population through integrated control measures to reduce the burden of diseases. Other strategic goals include:

- ***Strategic Goal 1***: To conduct effective surveillance and control of infectious diseases and conditions, particularly epidemic and pandemic prone diseases
- ***Strategic Goal 2***: To conduct effective surveillance and control of non-communicable diseases (NCDs) and Injuries
- ***Strategic Goal 3:*** To enhance laboratory capacity to support disease surveillance, prevention, and control
- ***Strategic Goal 4***: To conduct, support, and use public health research.
- ***Strategic Goal 5***: To reduce the health-related consequences of disasters
- ***Strategic Goal 6***: To operate an organization that builds and effectively manages human and financial resources

• Dr Nasidi noted that the agency has played a key role in providing the nation with long-term health and social security, and in promoting the peoples' health

status through effective disease prevention and control. Some achievements of the NCDC include the following:

- Bill for submission to the National Assembly drafted
- On-going renovation of acquired NCDC buildings
- Reference laboratory being built by the Federal Ministry of Health with support from the US CDC
- Nigeria Field Epidemiological and Laboratory Training Programme (NFELTP) training up-scaled from 13 to 43 intakes per annum and training based on the "One Health" principle (human and animal health as one)
- Early Warning and Alert Response Network (EWARN) completed and Emergency Operational Centre established and functional
- Epidemiology division interventions on Lassa fever, Hepatitis B, Meningitis, and Cholera outbreaks carried out with improved outcomes.

Some of the expectations of the NCDC include the provision of leadership role:

- In the public health and medical communities to detect, diagnose, respond to, and prevent illnesses, including those that could occur as a result of any deliberate attempt to harm the health of our citizens (health security)
- In developing and providing an efficient, effective, and equitable public health system capable of integrating efforts of the health and closely related sectors (such as nutrition, agriculture, water and sanitation, environment and education) for effectiveness and general health improvements
- In supporting states and LGAs to identify priorities and how best to deliver interventions to the targeted population in the most cost-effective manner.

Conclusion

In addition to the positive statistics in Nigeria's health sector particularly in the area of ownership of health facilities and number of health care workers as a ratio of total population, the sector faces enormous challenges in terms of funding and weak & uncoordinated response to disease outbreak. According to Dr Nasidi, Nigeria is lacking in the aspect of sustaining efforts to eradicate diseases and prevent further outbreaks, citing examples of outbreaks in yellow fever, measles and avian influenza. To address issues in the health sector, stakeholders must support structural reforms aimed at addressing the weak institutional and managerial system, poor level of accountability and

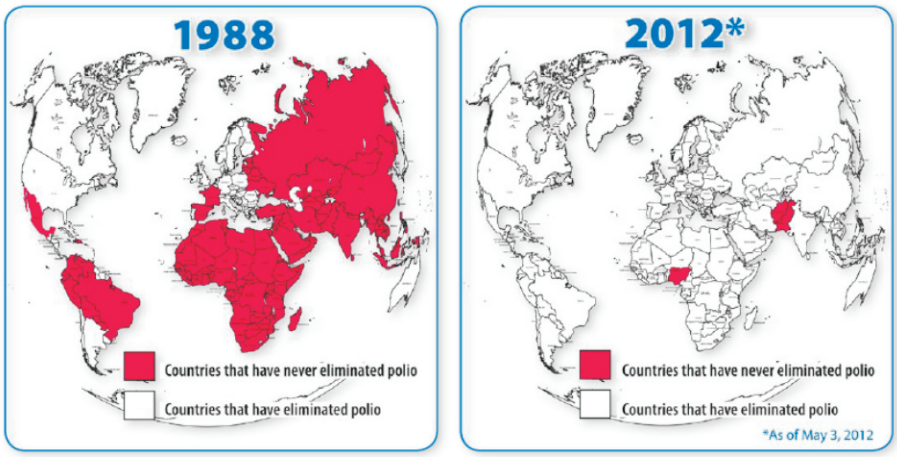
collaboration of stakeholders in the sector. He called on stakeholders to support the mandate of the NCDC.

II. Economics of Polio Eradication: National and International Interplay

Dele Abegunde
Independent Consultant

Much is expected from Nigeria in the global community but the country is yet to meet this expectation. The global alliance computed the cost and benefits of eradicating polio all over the world. In that study, it was revealed that the costs for 2013-18 are projected to be approximately US$ 5.5 billion i.e. US$ 1.054 billion in 2013. The benefits of eradicating polio however was put at US$40-50 billion between 1988-2035, assuming the wild polio virus was eradicated in 2012. Another benefit would be the prevention of more than 8 million cases of life-long paralysis. Dr Abegunde presented the geography of polio in 1988 and 2012, which showed the number of countries with reported polio cases in the different years. See figure below

Figure 7: Polio eradication: World view (Source: Abegunde D, 2012)



In Africa, Nigeria remains the only country that is yet to eradicate polio. Globally, Afghanistan, Pakistan, and Nigeria are the only three countries where polio is still endemic. He noted that Nigeria is among the exporters of polio, which is

synonymous with insecurity, poor hygiene, and a weak health system. Dr Abegunde stated that it is baffling that despite the huge human and economic resources available to Nigeria; the international support it gets, and the perceptible future benefits that polio eradication will bring to Nigeria, there still appears to be limited political commitment to appropriate these benefits.

There have been a number of well thought through strategic plans which have spelt out the needed steps to eradicate polio in Nigeria. Some of them include

- Presidential task force set up in 2012
- Polio Eradication Initiative
- Polio Eradication Emergency Plan, also set up in 2012

It would however appear that the problem lies not in the strategic plans, but in the implementation of these plans, such that they either fall wide off target or fail to achieve significant success.

Dr Abegunde then suggested the following steps for Nigeria to achieve total eradication of polio:

- Harmonization and consolidation of the existing strategic plans & initiatives
- Integration of PEI into strengthened RI, whist translating the present level of commitment into effective local action, especially in the hard hit areas
- Identifying and costing alternative strategic pathways to achieving eradication, to determine the most cost effective option
- Establishing modalities for appropriating international support and establishing strategies for post eradication activities

Conclusion

According to Global Alliance, the benefit of eradicating polio far outweighs its cost. Nigeria remains the only country in Africa that is yet to eradicate the disease. While the global community celebrates other countries which have achieved the status complete eradication, Nigeria is viewed probably as at 2012, the only polio virus reservoir in Africa from which the polio virus can spread to other seemingly less politically and economically endowed neighbouring countries. Additional innovative vaccination strategies to interrupt all WPV transmission will need to be considered, along with those already being implemented.

Audience Reflections

Participant: One of the biggest problems in our health sector is the low participation of the private sector. In many developed societies, the private sector plays a strategic role in delivering health services to citizens. In areas like immunization, for instance, Nigeria seldom utilizes the resources of the private sector. Another major concern to me is accessibility. Accessibility is a major challenge for Nigeria and this is as a result of institutional and managerial weaknesses. In many developed countries where routine immunization has been proven successful, the borders of healthcare are widely open to different cadres of professionals and care providers. There is a need for deliberate policy shifts to remove restrictions and open the sector to other strategic players like the private sector.

Participant: another major problem in immunization is a lack of commitment. It is noted that some state and local governments do not make financial provisions for immunization. Politicians would rather build a health centre than fund immunization. If funds are made available for immunization purposes, health workers would be more effective in vaccine distribution and administration. There is the need for advocacy to sensitize heads of local governments on the importance of immunization.

CHAPTER FIVE: Critical Issues for Routine Immunization in Nigeria

I. Community Attitude, Advocacy, and Communication

Halima Ben-Umar
Independent Consultant-Women Advocacy

Despite various initiatives and campaigns, immunization coverage in Nigeria, has remained low, thereby contributing to high mortality and morbidity among children. According to Mrs Ben-Umar, important reasons for this low coverage are problems arising from knowledge, attitude, and perceptions regarding vaccination.

While some parents cite issues such as long distance from immunization centres, insufficient vaccines, religious superstitions, and side effects as reasons for not obtaining immunization for their children, others accept immunization and suggest that the government should continue to create awareness on the benefits of immunization. In exploring the reasons for poor uptake/rejection of immunization, she noted that in general, the community response is that of a misconception that immunization is a ploy by outsiders (enemies of Islam) to reduce the Muslim population through fortification of the vaccine with contraceptives.

On the issues relating to health workers and work ethics/attitude, Mrs Ben Umar pointed out that many community inhabitants have observed the following:

- Long waiting time at the health facilities for routine immunization
- Poor attitude of health workers during RI activities
- Pressure of work by health care workers; low staff to patient ratio
- The polio vaccine being administered by poorly trained personnel
- False data being presented following the polio immunization days (PIDs) exercise
- Health workers pouring out vaccines, and recording them as administered

She emphasized the importance of advocacy and communication in the struggle to eradicate polio stating that the health system needs to develop more advocacy tools, which will help to engage with families, record reasons for refusal, understand the complexities of multiple community identities, and overcome deeply rooted social and cultural barriers. Her recommendations include:

- A need to intensify public health education on the vaccine preventable diseases using printed materials and TV/radio programs. Emphasis should be on poliomyelitis and particularly on the wrong perception, of its association with infertility and HIV/AIDS
- Since men are the major decision-makers for childhood immunization, male participation in the planning, implementation, and evaluation of immunization services is very essential
- As rejection is commoner with the polio vaccine during house-to house campaign, this strategy should be de-emphasized. Routine immunization strategy should be accorded the highest level of priority. There must be a paradigm shift from campaigns to routine immunization

Conclusion

The reasons for low immunization in Nigeria include issues relating to knowledge, attitude and perception of communities towards vaccination. In other to promote the acceptance of immunization in communities, it is important for the government to create awareness on the importance of immunization and its long-term benefits. Also necessary is training of health workers to improve their work ethics and deliver quality services to patients in the communities. To ensure successful immunization in communities, there's need for the government and other stakeholders to engage in public health education, involve men in the immunization process and accord high priority to RI rather than campaigns.

II. Politics, Religion, and Cultural Practices

Ben Anyene
Health Reform Foundation of Nigeria

Routine Immunization (RI) is very important to the well-being of a nation. The interplay of RI includes childhood mortality and morbidity, politics, religion, and cultural practices. Dr Anyene revealed some important facts surrounding immunization in Nigeria. They include

- Nearly a million children under the age of five years die each year
- 22% of these deaths are as a result of Vaccine Preventable Diseases (VPDs), about 220,000 deaths per year
- Only 47% of children now get routine vaccination
- With large population - 160 million - Nigeria has second highest childhood deaths
- Efforts to meet Goal 4 of the Millennium Development Goals (MDGs) will likely fail because of VPDs

He added that his presentation seeks to answer the following critical questions:

- How do politics, cultural practices, and religion affect routine immunization and vaccination rates in Nigeria?
- How do we address and counter the challenges these factors pose to increased routine immunization rates in Nigeria?
- What may be effective strategies to adopt with respect to these factors?

According to Dr Anyene, politics plays a key role in the Nigerian health sector, given that politicians develop policies. Politics is relevant in developing the health system such as the primary health care system; formulating policies for routine immunisation and determining how much to allocate to primary health care and to the local governments whose major responsibility is to provide health care to community inhabitants.

In analysing the spread of politics, he recognized the key political stakeholders in Nigeria's health sector to include traditional rulers and religious leaders; local government chairmen and all 774 local governments in Nigeria and Federal Executive Council (FEC), the Legislature, and the Commissioners and the State Ministries of Health.

Dr Anyene further identified the challenges of political origin in Nigeria to include the following:

- Neglect of routine immunisation in favour of polio immunisation
- Financial incentives for polio vaccine activities with negative impact on primary health care systems
- Neglect of international vaccine safety standards owing to political reasons
- Failure to submit reports when due in order to hold back negative information
- Lack of transparency and adverse impact on cost-effectiveness
- Continued failure to address challenges around the primary health care system
- Politicization of primary health care matters
- Security issues- the impact of terrorism and religious extremists
- Span of authority

"Most appointments into key roles in the national and local immunisation delivery programmes have, like most things in Nigeria, been politicised. Public Officials in authority have used immunisation projects as opportunities to reward cronies and political allies, neglecting the vital importance of qualified staff in manning the processes. Frequent changes in these appointments as governments change, or in an effort to reward enough people, prevent continuity and stability"

"It is impossible, ineffective and inefficient to manage the processes, inputs and implementation of immunization services spanning states, local government, health facilities, the communities and even the private sector from Abuja but it is what obtains. It pays the operators but not the system nor the people. The recently introduced accountability framework may be one of the tools necessary for addressing this but we will have to wait for the quality of the implementation to return the verdict of value added if any".

He alluded that the delay in the passage of the National Health Bill, which was first drafted in 2005 is a deliberate action of key politicians, with vested interest in the health sector. He stated that the gains of politics in Nigeria are significantly higher than the associated costs, thus making it attractive to many individuals, who do not have national but selfish interests.

Dr Anyene noted further that Nigeria is a very religious country. He stated that religion permeates many health matters in Nigeria, including immunization adding that some religious leaders have propounded and promoted different conspiracy theories linking vaccination and fertility control and/or sterilization. He cited the polio vaccine boycott of 2003/2004, which showed the great influence of religion on health matters. He added that religious leaders are a potential force that must be used for, instead of against, routine immunization in the country, and summed up that engagement with them therefore remains crucial, as does sensitivity to the differences in opinion that abound.

With regard to culture, he stated that certain cultural practices impede the uptake of immunization. For example, in some parts of the country, a woman is required to remain indoors for 40 days after giving birth. This prevents her from accessing both post-natal care for herself and immunization services for her new-born child. He added that in some communities, having babies at home is still the norm. Opportunities for immunization, especially the early ones like BCG and OPV1, may therefore be missed. In other communities, a husband's permission is required for a woman to leave the house, and/or obtain medical treatment or health services for the child. The woman may be unable to obtain such permission. The same sensitivity applied to addressing the effect of religion on vaccine related matters should also be applied to cultural issues.

Dr Anyene added that it is important to understand the political tone, cultural beliefs and religious inclinations, and use this to develop and implement the right kind of engagement, education, and other strategies needed to move immunization forward such as

- Engaging political leaders; understanding the structures, institutions and agents in the political economy of our environment
- Encouraging follow-through in all initiatives until desired outcomes are achieved
- Increasing participation at all level; developing and sustaining vital relationships with political, community and religious leaders
- Making routine immunization a priority
- Improving PHC and access to it

Conclusion

Political, cultural and religious dynamics are relevant for the routine immunisation in Nigeria and play key roles in determining uptake rates. Given the rates of childhood mortality in Nigeria, these are matters that must be addressed with sensitivity but also with urgency to stem the tide of needless deaths of children in this country.

Audience Reflections

Participant: I once encountered a health worker who during a SIA program, disposed of the vaccines in her possession in order to meet her target. Perhaps there is the need to re-strategize and find other ways to carry out these SIA's due to the attitude of these workers.

Participant: Advocacy campaigns for RI are important to gain community support and ownership. Political leaders need to setup funding structures to support this

Participant: On the attitude of health workers, there is need for another strategy to immunize children particularly in rural and hard to reach areas. Health workers need to be made accountable. Community ownership and support is vital

Participant: As a country we need to improve on our attitude towards health and disease surveillance and prevention. After the Hajj this year in Saudi Arabia, many countries conducted check-ups on their returning citizens to determine whether they were infected with a certain respiratory syndrome that was seen to be prevalent in Saudi Arabia. Each country represented on the teleconference had results to present. Nigeria had 88,000 individuals that went for the Hajj in Saudi Arabia, but we did not carry out any routine examination. I think it is important for us Nigerians to improve our attitudes and learn to do things the right way.

Participant: We need to educate and inform citizens on the importance of their voting rights, to enable them make the right decision during elections. The media has a strategic role to play. We need to establish personal contacts with some of the media practitioners to get them involved in forums like these.

CHAPTER SIX: National Vaccine Summit & the Global Vaccine Action Plan

I. Overview of the Recommendations/Action Points from the 2012 National Vaccine Summit

Dorothy Esangbedo
Co-Chair, 1st National Vaccine Summit

Dr Esangbedo presented a brief background to the Vaccine Summit in 2012, stating that it was the first summit that focused on vaccines in Nigeria. She noted that immunization is critical to improving child health, adding that Nigeria has benefited from the EPI program as evidenced by the reduction of under-five mortality from 214/1,000 live births in 1990 to 124/1,000 live births in 2011. However, the velocity of improvement falls short of achieving the UN target of a two-thirds reduction of the under-five mortality rate of 1990 by 2015 (MDG-4). Also, there is significant disparity in routine immunisation (RI) coverage among the states in the country. These issues called for a high-level advocacy meeting to stimulate a shared vision for the promotion of RI and vaccine uptake in the country. The objectives of the summit were as follows:

- Sensitization on how vaccines promote child survival and yield economic benefits
- Issue a call to action to reach every child in the country with RI by 2015 in order to achieve MDG-4
- Raising pledges of support for RI from Nigerian leaders in politics, business, traditional, and religious arena
- Establishment of an action plan and accountability framework to follow up on pledges made at the summit and execute a call to action

The summit brought together over 1,000 stakeholders in the health sector. The summit covered the following areas:

- The value of vaccines and assuring financing
- Expanding ownership of immunization for sustainability
- Leveraging synergies between RI and polio eradication programmes
- Parliamentarians roundtable on the roles of legislators as immunization champions
- Private sector roundtable on private public partnership for immunization
- The need for a call to action and accountability framework

The summit arrived at the following recommendations:

Governance
• Increase political will at all levels of government especially at the local government level • Build an accountability system that ensures that immunization funds are released as needed and used efficiently. • Improve infrastructure for better access to vaccines in the hard-to-reach and the under-served communities • Place emphasis on implementation of the immunization work plan.
Financing
• Government must be prepared to fill the funding gap that arises from introduction of new vaccines • Implement innovative financing systems like pooling resources • Extend National Health Insurance to include the informal sector • Put in place a results-based financing system • Develop a more robust cold chain equipment management system
Health Management and Information System
• Demand for the utilization of data in planning, forecasting, and surveillance of immunization programs
Human resource for health
• Provide incentives to health workers at the point of service delivery to improve on the commitment to service • Increase the number of health professionals • Improve the skills of health professionals such as logisticians, epidemiologists, and statisticians involved in immunization programs
Community participation
• Mobilise communities through advocacy and communication to encourage the use of available health services • Facilitate Community Ward Committees to get involved in accountability of services delivery at PHC facilities • Galvanise implementation of services through social mobilization
Partnership
• Multi-sector involvement including the Ministries of Finance, Works, Education, Women Affairs etc. is needed in planning and execution to ensure success of immunization services • Recommendation of peer reviews between ministries, departments, and agencies • Enable greater civil society organization (CSO) involvement in decision-making to improve accountability and patient focused programming • Explore private sector solutions for improving access to immunization services
Research & Development
• Explore and encourage local vaccine development and manufacturing. • Encourage research and development of vaccines that do not require cold chain storage and/or maintenance.

Call to Action

- For volunteers as Village Health Facility Ambassadors (VHFA) who will take personal responsibility for promoting vaccination services in their own local health centres across the nation's 9,572 wards
- Government funding of vaccination programs at 100% of need, with appropriate legislative and accountability frameworks to ensure timely release of funds at federal, state, and local government levels, towards self-reliance and sustainability

At the summit, there was a call for the establishment of

- A Nigerian Alliance for Vaccines and Immunization (NAVI), a public-private partnership that will raise funds to bridge financing gaps in vaccination program delivery
- A National Immunization Technical Advisory Group (NITAG), an independent body to provide unbiased and expert advice on vaccination programs
- Journalists for Immunization': a team of health journalists from print and electronic media to maintain the momentum of interest on vaccine matters generated from the 1st National Vaccine Summit through increased publications on issues concerning vaccine

A call for stronger collaboration

- To intensify efforts to interrupt polio virus transmission and plans to introduce new vaccines
- To strengthen RI, while ensuring these efforts are integrated into the overall strengthening of the PHC delivery system
- Collaboration among the health insurance scheme (HMOs and NHIS) and the immunization program to expand access to live-saving vaccines
- Cooperation among the public and private sectors, and among the political, community, civil society, and private sector leaders to support a scale up of proven interventions to improve RI coverage

Government to encourage and support

- Local production of vaccines by adopting pro-active policies and providing the necessary infrastructure
- A call for Nigeria's leadership to convene an inaugural African Vaccine Summit as the continent's platform to track her progress on the Decade of Vaccines Action Plan

Progress of Action points

- The National Immunization Strategic Plan and Accountability framework has been developed and launched
- There is renewed interest of private sector leadership in optimising RI. An Alliance between local philanthropists with Bill and Melinda Gates Foundation to support RI is being instituted
- Increasing participation of pharmaceutical companies in vaccination programs
- Reports of vaccine stock-out is less common
- Though local involvement in vaccine manufacturing is encouraged no specific infrastructural support established to date
- NPHCDA requested for paediatricians to join the monitoring teams of the Integrated Measles Campaign 2013

The following were presented as the on-going challenges, even after the summit

- The FMoH has not instituted a NITAG to date, so the input of local professionals is still very limited in policy making for the immunization program in the country
- Government support for data generation through research and surveillance studies is still very limited
- Government funding of vaccines and vaccination program at 100% of need is yet to be achieved

Conclusion

The vaccine summit was a gathering of stakeholders in the vaccine segment to discuss the issues surrounding immunization and develop action points to tackle the challenges, going forward. Some key action points are the development of the accountability framework for the segment and the call for increased participation of pharmaceutical companies in vaccination programs.

II. Addressing the Global Vaccine Action Plan (GVAP) in Nigeria

Oyewale Tomori FAS
Co-chair, NAS-VIAC

Professor Tomori began his presentation by stating that the goal of the "Decade of Vaccines" (DoV), which is part of the GVAP is hinged on four pillars. They include:

- Achieve a world free of polio
- Meet global and regional elimination targets
- Meet vaccination coverage targets in every region, country, and community
- Develop and introduce new and improved vaccines and technologies

He highlighted other key objectives of the DOV which include:

- Avert hundreds of millions of cases of disease and millions of future deaths
- Gain billions of dollars of economic productivity
- Contribute to exceeding MDG-4 target for reduction in child mortality

On the strategies to achieving these objectives, he presented six key measures:

- All countries commit to immunization as a priority
- Individuals and communities to understand and demand immunization
- Benefits equitably extended to all people
- Strong immunization systems that are an integral part of a well-functioning health system
- Sustainable access to long-term funding and quality supply
- Country, regional, and global R&D efforts maximize the benefits of immunization

He stated that the GVAP was endorsed by the World Health Assembly, an institution that strongly supports the GVAP in creating synergies with other primary health care programmes and also in identifying human and financial resources for the provision of technical support among other things.

As part of measures to achieve the aforementioned objectives, the World Health Assembly requests member states to designate the last week of April, as World Immunization Week and also requests the WHO and other stakeholders to support this initiative. At the global level, the GVAP also calls for the development of the M&E / accountability framework; support for low and middle-income countries (LMICS) to access more favourable prices for vaccines and promotion of research and development activities. The regional strategies include updating regional strategies and action plans and including a regional monitoring framework with annual reporting to the regional council.

In terms of the implications for immunization programme at the regional and national levels, every country needs to strengthen monitoring systems to collect,

review, and report progress on an annual basis. Professor Tomori pointed out that the last decade of vaccine was greeted with major challenges some of which are overcrowded vaccine vehicle, confused vaccine traffic, and demographic nightmare i.e. different figures of the country's population. He added that with the GVAP, many of these issues would be addressed, stressing on the need for us as a country to consult all the stakeholders in formulating Nigeria's framework for the initiative.

Conclusion

The GVAP is a set of strategies aimed at improving primary health care across countries and creating synergies in primary health care programmes. One of the strategies to achieve these objectives is the designation of the last week in April as World Immunization Week. GVAP also calls for countries to strengthen monitoring systems to collect, review, and report progress on an annual basis.

Audience Reflections

Participant:

On logistics, I believe Nigeria had good coverage in the 1980s and this is because many things were in order at the local governments. In the past, we had effective cold chain system but this is not the case anymore. There is hardly electricity supply to rural areas, which is essential in preserving the vaccines. Another key issue is transportation of vaccines. Many local governments do not have vehicles to transport the vaccines from the store to the field. This is a major issue that should be looked into. Also, we should be more concerned about the quality of immunization rather than the number of children being immunized.

Participant: There is much work to be done by regulatory agencies to ensure that all LGAs are properly covered. A possible way of addressing this is proper incentives for health workers.

Participant: I think the recommendation on local production is very important. I learnt that in the past Nigeria produced vaccines. I think we should look back to the past and determine what went wrong. Local production is the only sustainable way to address certain issues in immunization. Depending on donors is not sustainable. On concerns on HPV for instance, the available serotypes don't cover all the pathogens but if we produce locally we can cover the shortfall. It is shameful that

with our size and resources as a country, we cannot produce simple things like vaccines.

Participant: Were there implementation time frames for the recommendations reached at the vaccine summit? If there is, how are we faring in that regard? I think we should examine the progress we have made at the national level before we begin to think of organizing the African Vaccine Summit. Secondly, on monitoring the measles campaign by paediatricians, the number of paediatricians in Nigeria is very limited when compared to that of doctors in general. I do not know why the Nigerian Medical Association was not considered to be part of this exercise.

Participant: There was no representation from the Association of Public Health Physicians of Nigeria (APHPN) in the monitoring team, given their key role in immunization and their close relations with the community. I think every stakeholder should be carried along.

Participant: I want to challenge NAS to play the role of an advocate in informing government of key action steps that should be taken in procuring vaccines in order to prevent future stock-outs. They also need to inform the national assembly that reducing health budgets endanger the lives of Nigerian children. The civil society must also play a key role in this regard.

Participant: With respect to research, can we not compel international institutions/companies to channel a certain percentage of their funds coming into the country to fund research activities? The Nigerian government may not see the importance of research. Many partners come in with the view that Nigeria needs funds, and so use their money to drive our activities.

Participant: Research activities in Nigeria have suffered neglect. Our research institutions are not sufficiently empowered; there is no equipment, there is no motivation, and there are funding challenges. This is a sad reflection of what academic activities have become in the country. Many individuals are more interested in getting a fellowship, securing a job in the public sector and spend 75% of their time in their private clinics. I think we need to do something about these issues.

Participant: In terms of the GVAP, I am concerned about how Nigeria would meet her target. In addition, I believe that routine immunization is very critical for Nigeria in achieving the MDG-4. I would like to know how we could achieve the right balance between the resources given to polio eradication and routine immunization. I do not see how we can strengthen routine immunization when we conduct about 13 campaigns in a year for a total period of 39 weeks (each campaign takes 2 to 3 weeks).

Participant: My concern is on the frequent change of policy makers. When new heads of government assume office, they usually have a new set of priorities, which obstructs the implementation of initiatives presented to their predecessor. Secondly, the lack of 'self-will' by our political leaders is a major issue. The actions of these leaders should be in the interest of the community including the children, who are the future leaders of this country

Participant: Do we incentivize industries rather than government to take part in vaccine production? From my experience, I do not think the government is capable of having a good and effective system of producing vaccines.

Participant: I think commitment plays a key role in ensuring that the problems in the sector are addressed. India was in the same situation as Nigeria some years back but it took a strong level of commitment at the national level to reverse the trend. For this reason, India (which recorded a higher number of polio cases than Nigeria some years ago) has never recorded a case of polio in the last two years. Thus, to resolve many of the issues in Nigeria, I think commitment from all stakeholders is necessary. I did mention earlier that one of the first diseases we need to eradicate is our own attitude. If we make up our minds to change our country for good, the change will happen.

"We all know what our problems are as a nation, but who is ready to contribute to solving these problems? A Vice Chancellor who steals from his university will steal more when he becomes a minister. We cannot continue to play the blame game, and until individuals begin to show commitment to the needs of the country, nothing significant will be achieved".

CHAPTER SEVEN: National Routine Immunization Strategic Plan & Local Vaccine Production

I. Nigeria's National Routine Immunization Strategic Plan (NRISP): an Overview

Emmanuel Abanida
National Primary Health Care Development Agency

Dr Abanida made reference to a few initiatives being put in place with respect to enhancing RI. First, he mentioned the existence of the private sector health alliance, which would replace the GAVI alliance, thus promoting partnership in the sector. Secondly, on vaccine production, he stated that a meeting would be held next week to begin a conversation with key private sector players that have expressed interest in meeting the vaccine requirements in Nigeria through local production. He also mentioned that invitations for this meeting would be sent to other stakeholders to keep them informed. Thirdly, on a National Immunization Technical Advisory Group (NITAG), he highlighted that the WHO is working to ensure the formation of a Nigerian NITAG. Based on input from stakeholders, a draft document ought to be ready by early next year (2014) regarding the formation of a NITAG.

In his presentation, Dr Abanida revealed that the National Routine Immunization Strategic Plan (NRISP) was launched in November 2013. According to him, Africa is a big continent that can geographically accommodate many of the developed countries that render support to African countries. In terms of inequality and UNICEF index of child wellbeing, Nigeria ranks poorly when compared to many European countries. The NRISP encompasses issues such as accountability and funding of immunization activities in the country. He presented the two major goals of the NRISP to include:

- Achieve at least 87% sustained national immunization coverage
- Achieve >90% of the LGAs reaching at least 80% of infants with all scheduled routine antigens by 2015

The objectives of the NRISP are as follows:

- 100% bundling of quality vaccines
- Minimum of 80% functionality of cold chain at LGA and health facility levels
- 100% of wards fully implementing the Reaching Every Ward (REW) strategy
- Train frontline workforce in at least 80% of the service points by 2015

- Improve immunization data quality to 80% as measured by Data Quality Service (DQS)
- Create demand for RI beyond behavioural change to social transformation
- Establish an RI accountability framework at all levels
- Support the roll out of new vaccines (Pentavalent, PCV, Rota, HPV, Td, MRV, IPV)
- Integrate polio campaigns and other health interventions
- Operational research to improve RI and health systems

On accountability, he pointed out that the NPHCDA couldn't monitor issues of accountability in immunization given the complexities of the civil service in Nigeria. He urged NAS and civil societies to play the role of whistle-blowers and inform the public of mismanagement where necessary.

Conclusion

The NRISP has the broad objectives of addressing issues surrounding immunization and achieve at least 87% sustained immunization coverage in Nigeria. The plan also calls for accountability of stakeholders in the health sector and makes provision for the funding of immunization activities across states. Dr Abanida mentioned the heightened interest of the private sector through the private sector health alliance as well as private sector participation in local vaccine production.

II. Health Service Delivery & Effective Data Management

Idris Mohammed
Co-chair NAS-VIAC

Professor Mohammed began his presentation by stating that data on health care in Nigeria is in most cases unreliable and confusing. He also presented examples of data discrepancies in the health sector, adding that this was a major challenge facing the sector.

According to Professor Mohammed, the most important health care service is at the primary health care level. While he acknowledged the key role of the NPHCDA, he opined that the agency should assume a developmental role rather than deliver primary health care services at the local level. He noted that the delivery of such services by the agency would limit efficiency and

effectiveness of health care services in Nigeria. He stated further that routine immunization and primary health care are the major responsibilities of the local government and by taking these responsibilities from them, very little would be achieved in improving health care services in Nigeria. He noted that it was important that these functions are restored to the local government.

He noted further that all over Africa, there has been a decline in the health sector but this decline is most severe in Nigeria. He added that the failure of Nigerian leaders and the elite to accept responsibility for ensuring professionalism and upgrading functionality of health services in Nigeria would continue to yield negative performance values of health indicators, and would also impact negatively on the poor citizens, who often suffer the most from the inefficiencies in the sector. He revealed that the elite have neglected the public health care facilities in Nigeria, which cater for about 99% of Nigerians, adding that these rich individuals often travel outside the shores of Nigeria to obtain quality medical care, at the expense of developing the local health system.

On the state of health service in Nigeria, Professor Mohammed noted that it is important to consider the burden of diseases caused by infections as well as the burden of diseases caused by non-communicable diseases, which do not depend on immunization. He informed the audience that while there is a reversal of the perception that 70% of diseases were caused by infection, non-communicable diseases are achieving a greater proportion of the cause of diseases. He lamented that data collection, dissemination and management were very poor in Nigeria, and this hampers the development of an effective policy for immunization in the country. He was of the view that Nigeria's health sector was yet to embark on measures to counter this trend. He noted that the existence of adequate data that is representative of the reality would go a long way to aid decision-making and improve the quality of health care service in the country.

Conclusion

As regards immunization, the NPHCDA should transit from the delivery of primary healthcare services to assume a developmental role in the sector. Routine immunization is a major responsibility of the local government and thus, the LGAs should provide support and improve the capacity of the LGAs to deliver this mandate. Data collection and management in Nigeria is very poor and this hampers the development of effective policy for immunization in the country. Professor Mohammed was of the view that Nigeria is yet to embark on measures to counter this trend.

III. Local Vaccine Production in Nigeria: Successes

Sani Ahmed
National Veterinary Research Institute (NVRI)

Dr Ahmed presented a brief background of local vaccine production in Nigeria. According to Dr Ahmed, the scourge of Rinderpest was largely responsible for the establishment of veterinary services by the colonial administration. The catastrophe precipitated the drastic reduction of cattle population from 9 million to 2.7 million in the 19th century. NVRI started operations as a Veterinary Department in Zaria in 1913 and moved to Vom in 1924. The history of the NVRI is synonymous with the history of animal health and production in West Africa as the pioneer veterinary institution in the sub-region. The institute has grown into one of the biggest veterinary establishments on the continent. It provided the necessary animal vaccines required for the control of animal diseases in West Africa from the colonial days up to 1975.

Dr Ahmed presented the mission of the NVRI which is "to be the foremost veterinary research institute in Africa, producing international quality vaccines, and offering services for the identification, control, and eradication of economically important livestock diseases, through best practices, research excellence, and applying modern technology, with highly trained, experienced and motivated personnel".

He also informed participants of major successes with respect to the production of vaccine in Nigeria by the NVRI:

- The development and sustained production of the vaccines over the last century
- This success has been as a result of investment in the training of highly specialized staff and their retention. Vaccine production is highly technical and requires well-trained and specialized manpower
- Major successes were also achieved as a result of an improvement in disease outbreak reporting and the increased awareness of farmers on the use of animal vaccines for disease prevention
- NVRI has built a reputation for producing high quality vaccines due to in-process and product quality control
- The Pan African Veterinary Vaccine Centre (PANVAC) in Ethiopia facilitates the standardisation of veterinary vaccine production and the harmonisation of quality control techniques in Africa. This provides a second layer of quality assurance of vaccines produced by NVRI

Some key challenges of the institution include:

- The production of egg-culture vaccines. Embryonated eggs are used for the production of many of the viral vaccines as these invoke a high titre of the virus for harvest
- The institute lacks a specific pathogen-free (SPF) poultry facility and has to rely on minimal disease-free poultry for egg production. The other option is to import SPF eggs which are quite expensive and the purchase process is fraught with logistics problems for now
- Storage is also a major issue; raw materials, vaccines, and seed viruses have to be stored at ultralow temperatures at all times The constant demand for power supply is therefore one of the major costs of production
- Water supply is also another problem and so the institute runs its own water treatment plant and a system of bore holes as backup

Conclusion

- The techniques for vaccine production and testing are being revised due to advancements in technology and molecular biology
- The demand for Vom vaccines has increased enormously with the growth of the livestock industry, particularly poultry
- Vaccine production increased over the years from 30 million doses in 1970 to 117 million doses in 1983 and is projected to reach 500 million doses by 2020.

Dr Ahmed made the following recommendations on future animal vaccine production in Nigeria; which he categorized into three options

Option 1

- Private ownership, where an investor will build their own production facilities and employ their own staff
- NVRI will provide vaccine seeds for production, continual research to improve on the current vaccines, and develop new ones for the company and earn royalties based on a memorandum of understanding (MoU).

Option 2

- Public private partnership (PPP) where the federal government, represented by NVRI, and private investors will own shares in the

company. The current infrastructure and vaccine production facilities will form part of the equity shares of government

- NVRI will provide vaccine seeds and continue research to improve on the current vaccine seeds and develop new ones for the company and earn royalties from the research output.

Option 3

- Federal government, represented by the NVRI, will lease out the current infrastructure and vaccine production facilities to private investor(s) to be run as a wholly owned private company
- The institute will continue to provide the vaccine seeds for production and will continually conduct research to improve on the current vaccine seeds and develop new ones for the company and earn royalties from the research output.

IV. Local Vaccine Production in Nigeria: Failures

Abdulsalami Nassidi
Nigeria Centre for Disease Control

The Rockefeller Foundation established the Federal Vaccines laboratory, in Yaba-Lagos in the year 1917. Many viruses were isolated from this laboratory, and the 17-D Yellow fever virus was actually developed in this facility. Human vaccine production started in the early 1930s with the production of the smallpox vaccine. In the 1940s, anti-rabies vaccine production was introduced and, subsequently, in 1952 the production of Yellow fever vaccine was started in the same establishment. This laboratory played a very vital role in the eradication of smallpox infection not only in Nigeria, but also in other West African countries as a whole. The smallpox vaccine produced by this laboratory attained a very high quality and was ranked among the best in the world then. This made the laboratory famous and its activities earned some foreign exchange for the country since its products were also being exported. Production of the small-pox vaccine was however stopped in 1980, due to the successful elimination of the disease globally.

The laboratory continued to do well despite this, with Yellow fever and anti-rabies vaccines being the only two vaccines produced by the laboratory. The production of the Yellow fever vaccine was upgraded from 150,000 doses to 1.5million doses per annum, and with the continued success of the facility, the

Federal Government gave the approval for the facility to be upgraded to a National Institute for Vaccines and Biologicals. The proposed Institute would continue to produce the Yellow fever, anti-rabies and anti-snake venom vaccines, and when fully completed would also produce the measles and polio vaccines in collaboration with other already established vaccine manufacturers. The International Development Research Centre of Canada (IDRC) pledged their support by providing the facility with equipment and technical support to the tune of CAN$1.5 million.

The planned upgrade of the Yaba laboratory commenced, with the remodelling and upgrading of the structural buildings at the site. The first phase of the planned works was completed with the equipment procured through the IDRC grant all fully installed. A WHO team visited Nigeria to inspect the site, as well as assess the progress made. The team made their recommendations for some changes to be made in order for the facility to meet the WHO standard. However, a change in the leadership of the facility caused severe delays in the expansion plans, and the eventual collapse of the entire facility. The facility has remained inactive since then.

After years of inactivity, the Federal Government set up a committee to look into the re-vitalization of the facility, and make recommendations on how the facility can resume operations, and possibly produce some of the NPI vaccines. Following the committee's submission, the Federal Government went into a Joint Venture (JV) agreement with a private company. The objective of the JV was for Nigeria to attain self-sufficiency in vaccines and biologicals, as well as increase local capacity to produce vaccines, and eventually have enough for exportation. Unfortunately, this agreement fell through even before taking off, and is currently being re-visited.

Conclusion

The Federal Vaccines Production Laboratory was an excellent facility that produced some vaccines that served Nigeria and other countries within Africa. Unfortunately due to management issues, this facility has been inactive till date, and efforts being made to revive it are yet to be successful.

Audience Reflections

Participant: In one of the presentations, I saw an image of some individuals that developed the NRISP. I noticed there was no representative of the rural community. it is important to involve the community in developing immunization plans and strategies. We need to have a proper communication strategy. Also, communities have requested that they want their voices to be heard. They have called for the establishment of community radios through which they can discuss health issues and other issues of concern but no one seems to have paid attention to this. Community inhabitants are not illiterate. Their voices need to be heard.

Participant: I am aware that some organizations have been involved in whistle blowing in the past but little has been done on the part of the government to address the issues of concern. For instance, Transparency International has identified and exposed corruption in some areas in the health sector, particularly in the area of HIV/AIDS data collection. Nothing seems to be done to amend these issues or prevent corruption from happening in similar events/projects.

Participant: One possible reason for NPHCDA's direct intervention in immunization could be because of the failure of the local governments to support immunization activities in their LGAs. Data collection is a major problem particularly at the local government level. Before data is sent to the public, it is necessary for it to be reviewed by the health professional/observer. A Medical Officer of Health should also utilize data in planning.

CHAPTER EIGHT: Conclusion & Recommendations

At the end of the two-day meeting, a communiqué was developed, which captured a summary of the discussions and deliberations.

Conclusion

- Empower village health workers and volunteers to enable effective data generation and transmission at the facility level
- Campaign for increased private sector participation in immunization. Companies can partner on projects that are related to routine immunization as part of their corporate social responsibility
- To reduce wastages in immunization, engage the private sector in demand planning to ensure RI works effectively, since the private sector has the relevant technical expertise in project planning
- Establishment of a proper legislative process that will ensure that all births are captured/registered which will enable easy follow up of each child for routine immunization
- Systematic research, evaluation, and innovation must be the guiding principles for successful immunization
- There is need to consider including the IPV into PEI
- Direct financing of primary health care from the federation account. Project-based financing methods (as practiced in the education sector) should be applied
- Re-designate the vaccine budget line from capital to recurrent to help address any delay in the release of budgeted funds
- Community engagement in immunization must be encouraged
- Private sector collaboration in immunization is vital for sustenance. Companies can partner on projects that are related to routine immunization as part of their corporate social responsibility
- Engaging political leaders in immunization activities is important as politics cannot be entirely separated from immunization
- Improve primary health care and access to care, especially in the rural and hard-to-reach areas
- Specialized and credible institutions like NAS should create quality space for people of different political, religious, and cultural background to meet to do the needful for the sake of the Nigerian child.

Recommendations

Short Term

- Vaccines stock-out should still be kept in view especially given that payment for vaccines in Nigeria is currently up till mid-next year, i.e. June 2014. NAS and other CSOs should advocate early procurement of vaccines and vaccine commodities

Mid Term

- NAS should advocate the adoption of the DHIS-2 by all states and the surveillance tool should be included. Data management needs to be properly looked into and the problems addressed
- SIAs need to be improved upon and there's need to de-emphasize extravagant publicity
- Open a communication line between the stakeholders and the policy makers

Long Term

- Nationally, the state houses of assembly should adopt the existing laws on children's rights
- State and local governments should have a budget for routine immunization
- Improvement in local manufacturing of vaccines is important. Government should encourage the private sector to move into vaccine production while government serves as the regulator
- All states should establish a PHC board
- Speedy passage of the National Health Bill, which would ensure that more funds are allocated to the primary health segment through the proposed National Primary Healthcare Development Fund
- There should be basket funds for health where partnership resources can be allocated and disbursed in line with priority
- The private sector should be deliberately and effectively involved in immunization activities in the country
- Research facilities should be improved upon. Government should make demands of the research institutes, identify needed research areas, and introduce these to funding partners rather than letting the funders dictate
- Donor-dependence for vaccine procurement and immunization activities is not sustainable. Nigerians need to take ownership of our own issues

Appendix

A. Break - Out Sessions and Group Presentations:

Group 1: Polio Eradication Initiative (PEI) in Nigeria: Challenges and Solutions

The group identified the following challenges encountered in polio eradication in Nigeria:

- Misconceptions about the vaccines
- Cultural misconceptions about PEI
- Lack of incentives/delayed disbursements
- Lack of sufficient advocacy about PEI to the communities
- Lack of demand creation for vaccines
- Political interference in the selection of vaccinators at the grassroots level.
- Vaccine security challenges
- National security challenges
- The type of vaccine in use for the PEI is leading to cVDPV (circulating Vaccine Derived Polio Virus)

Recommendations

- Effective sensitization and mobilization at the community level
- Community involvement in the planning to the execution stages
- Step up capacity building of health workers
- Improved Vaccine security: Cold chain, storage, maintenance and delivery
- Logistics: Leveraging on existing opportunities through partnerships with philanthropic organizations
- Limited targets should be given to health workers considering area covered, terrain, distance and location
- Security: Government should ensure that adequate security is provided for health workers
- The ad - hoc vaccinators should be trained and re – trained
- There is need to consider including the IPV into PEI

Group 2: Sustainable Financing for Immunization in Nigeria

The group pointed out that providing regular source of funding for RI operations in the recurrent budget of states and LGAs will improve sustainability of immunization. However, over the years, governments have been relying on partners to a large extent, and in the recent past, pooled funds from States and LGAs have been established and made available for vaccine logistics only. The group noted that proper planning; costing, and budgeting are required to address the issues in financing immunization in Nigeria.

Recommendations

- Empower village health workers and volunteers to enable effective data generation and transmission at the facility level
- Campaign for increased private sector participation in immunization. Companies can partner on projects that are related to routine immunization as part of their corporate social responsibility
- There is need for strategic partnership with the private sector. We need to consider the possible scenario where Nigeria's per capita income would increase to the point where the country would be excluded from donor funding
- In line with best practice, include the cost of vaccine distribution in the cost of procurement. State and local government should take responsibility of managing the cold chain while the federal government should provide support. The operational cost should be between the state and local governments
- Immunization funds should be considered at first-line charge i.e. after salaries and other key activities have been taken care of
- On sources of fund, we should advocate for the creation of basket funds, where each party (State, local government, funding partners, private sector) would be required to contribute a specified amount of money intended for immunization
- Explore private sources of funding- for instance a certain percentage of the value of contracts should be reserved for immunization

Explore other sources of fund for immunization for instance, tax levy on contracts etc

Group 3: Routine immunization and opportunities for private sector collaboration

The group identified the important role of the private sector in improving Nigeria's health system. They concluded that it is necessary to have a good framework for private sector participation in the sector. They realize the existence of a memorandum of understanding (MoU) between NPHCDA and the private sector; however they observed the lack of awareness of this MoU. Only very few states in Nigeria are leveraging on the benefits of this MoU.

Recommendations

- Review the MoU to encompass wider stakeholders' participation in the sector
- Create awareness on the MoU and enforce the agreements

- Cold chain management: Leverage on the existing base stations of telecoms companies to provide power supply to storage facilities for vaccines, particularly in hard-to-reach areas. This would arrive at no or very minimal cost to the telecoms companies
- To reduce wastages in immunization, engage the private sector in demand planning to ensure RI works effectively, since the private sector has the relevant technical expertise in project planning
- Engage private sector to train resource persons
- Leverage on the media to create more awareness on immunization

B. Stakeholders Meeting Agenda

Meeting Goals

1. ***To bring together key stakeholders to discuss without bias, attitude, politics and accountability as it affects routine immunization in Nigeria***
2. ***To discuss the delay in polio eradication and other disease control initiatives in Nigeria, and initiate a process for sustainable national disease control programs***
3. ***To evaluate progress made on action points from the 1st Vaccine Summit in 2012***

DAY ONE

Wednesday, December 4, 2013	
08:30-09:00	Registration
Chair:	Oyewale Tomori FAS President, the Nigerian Academy of Science (NAS)
09:00-09:15	**Chairmans Opening Remarks** Oyewale Tomori FAS President, NAS
09:15-09:25	**NAS Statement of Purpose** Doyin Odubanjo Executive Secretary, NAS

09:25-09:45 GOODWILL MESSAGES

- The Honourable Ministers
- National & International Organizations

OPENING ADDRESS

09:45-10:00 **Routine Immunization in Nigeria: A historical perspective**
Idris Muhammed FAS (confirmed)
Federal Medical Centre, Gombe

SESSION 1: Routine Immunization Activities in Nigeria: Accountability and Economics

Session Objective: To discuss the actual cost of routine immunization, sustainable funding and challengesTo discuss accountability and politics as it affects RI in Nigeria

Moderator: Dele Abegunde
Independent Consultant

Economics of Routine Immunization in Nigeria

10:00-10:20 **Cost of fully immunizing the Nigerian child**
Kenneth Ojo
Centre for Health Economics and Development

10:20-10:40 **Financing bottlenecks and accountability challenges in Nigeria**
B.S.C Uzochukwu
Health Policy Research Group

10:40-11:00 Discussion

11:00-11:20 **Tea Break**

Accountability in Routine Immunization Activities

Moderator: Uche Isiugo- Abanihe
University of Ibadan

11:20-11:35 **Vaccine Security in Nigeria: Mutual accountability for Efficient and Effective Routine Immunization**
(Accountability framework discussed)
Dr Boubakar Dieng
UNICEF

11:35-11:50 **DHIS Platform as a tool to improve accountability in data management for efficient Routine Immunization**
Ahmad Abdulwahab
Partnership for Reviving Routine Immunization in Northern Nigeria

11:50-12:10 Discussion

12:10-13:10 **Lunch & Networking**

SESSION 2: POLIO ERADICATION, SUPPLEMENTARY & ROUTINE IMMUNIZATION IN NIGERIA

Session Objective:

- To discuss the politics of polio eradication in Nigeria
- To discuss quality assurance, community attitude and ethics of health workers to RI and SIAs
- To discuss socio-cultural and religious attitude of polio eradication
- To discuss other disease control initiatives, and Nigeria's readiness for epidemics

Moderator**:** Cheluchi Onyemelukwe Onuobia
Health Ethics & Law Consulting

13:10-13:25 **Disease Control Initiatives in Nigeria: How ready are we for epidemics?**
Abdulsalam Nasidi
Nigeria Centre for Disease Control

Polio Eradication (PE) in Nigeria

13:25-13:40 **Economics of PE: National & International Interplay**
Dele Abegunde
Independent Consultant

13:40-13:55 **Accountability issues**: **Where are we going wrong?**
Edugie Abebe
TY Danjuma Foundation

13:55-14:15 Discussion

14:15-14:30 **Community attitude, advocacy and communication**
Halima Ben-Umar
Women Advocacy

14:30-14:45 **Influence of politics, religion and cultural practices**
Ben Anyene
Health Reform Foundation of Nigeria

14:45-15:05 Discussion

15:05-15:20 **Tea Break**

SESSION 3: BREAK OUT SESSION

Session Objective: Group Work

- Polio Eradication Initiative in Nigeria
- Sustainable Financing of Immunization in Nigeria
- Routine Immunization & Opportunities for Private Sector Collaboration

Moderator**:** Christian Acemah
United States National Academies

15:20-16:00 Group Work

16:00-16:50 Group Presentations

16:45-17:00 Closing Remarks & Setting the stage for Day 2
Oyewale Tomori

DAY TWO

Thursday, December 5, 2013

08:30-09:00	Registration
Chair:	Ben Anyene HERFON

09:00-09:10 Chairman's opening remarks

SESSION 4: 2012 NATIONAL VACCINE SUMMIT: WHERE WE STAND TODAY (ROUND TABLE DISCUSSION)

Session Objective: To discuss action points and decisions made at the National Vaccine Summit in 2012.

Moderators	Mariya Mukhtar-Yola Paediatric Association of Nigeria B.S.C. Uzochukwu HPRG-UNEC
09:10-09:20	**Overview of recommendations from the 2012 National Vaccines Summit** Dorothy Esangbedo NAS-VIAC
09:20-09:30	**Overall score sheet: Status of implementation of recommendations from summit** Ado Muhammed NPHCDA
09:30-09:40	**Addressing GVAP in Nigeria** Oyewale Tomori FAS The Nigerian Academy of Science
09:40-09:50	**Legislative & fiscal space for immunization in Nigeria** Senator Ifeanyi Okowa Chair, Senate Committee for Health
09:50-10:20	Discussion/Q&A
10:20-10:45	**Tea Break**

SESSION 5: MOVING FORWARD FROM HERE -NRISP in focus (ROUNDTABLE DISCUSSION)

Session Objective: To discuss strategies to be employed by stakeholders in protecting present and future investments in immunization.

Moderators	Taofeek Ibrahim Usman Dan Fodio University, Sokoto Dele Abegunde Independent Consultant, Ibadan
10:45-11:00	**Overview of National Routine Immunization Strategic Action Plan** Emmanuel Abanida NPHCDA
11:00-11:10	**Health Service Delivery & Effective Data Management** Idris Muhammed FAS Federal Medical Centre Gombe
11:10-11:30	**Local Vaccine Production: Successes & Failures** M. Sani Ahmed VOM Abdulsalam Nasidi Nigeria Centre for Disease Control
11:30-12:00	Discussion & Wrap up
12:00-12:15	**Communiqué, Conclusions, and Closing Remarks: Moving Nigeria Forward** Oyewale Tomori President, NAS
12:15-12.30	**Vote of Thanks** Oladoyin Odubanjo The Nigerian Academy of Science
12:30 – 13:30	**Lunch & Departure**

C. NAS Vaccines And Immunization Advisory Committee NAS VIAC

Oyewale Tomori FAS (Chair)
Virology

Idris Mohammed FAS (Co-Chair)
Infectious Diseases/ Immunology

Emmanuel Abanida
Policy/ Government

Taofeek Ibrahim
Public Health & Epidemiology

Ben Anyene
Civil Society

Olaniyan Olanrewaju
Health Economics

Uche Isiugo-Abanihe
Sociology

Cheluchi Onyemelukwe-Onuobia
Health Ethics/Law

Mariya Mukhtar-Yola
Paediatrics

Halima Ben-Umar
Women Advocacy

Lekan Asuni
Pharmaceutics

Christian Acemah (Adviser)
US National Academies, USA

Oladoyin Odubanjo (Adviser)
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5	Olufemi John	Independent Consultant
6	Tomi O. Odugbemi	Association of Public Health Physicians of Nigeria (LAGOS Chapter)
7	Cheluchi Onuobia	Health Ethics & Law Consulting
8	Shittu Abdulbaqi	The Nigerian Academy of Science
9	Vivienne Irikefe	TVC News Lagos
10	Abonoghera Innocent	Etsako District Council Edo State
11	Sani Jugu	State Ministry of Health Jos
12	Ezeuym Aaron Onah	State Ministry of Health Enugu
13	Taofeek Ibrahim	Usmanu Danfodio University Sokoto
14	Oyewale Tomori	The Nigerian Academy of Science
15	Emeka Anuforo	Guardian Newspapers
16	Francis Ohanyido	USAID/TSHIP
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68	Kikelomo Ogunsulire	The Nigerian Academy of Science
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