



## INFLUENCE OF LOCAL GOVERNMENT ON THE SUCCESS OF IMMUNIZATION IN SELECTED LOCAL GOVERNMENTS AREAS OF KADUNA STATE, NIGERIA (2000-2014)

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### Abstract

*The study examines the extent to which Local Governments in Kaduna State, Nigeria have delivered immunization services to local communities. The study hypothesized that, Government efforts at immunization has produced positive outcome. Six LGAs were selected from the three senatorial districts in the state. Both primary and secondary sources of data were utilized. The results indicates high level of peoples' cooperation on immunization exercise due to the increase of local government and international organization' commitment to the eradication of six killer diseases in the state. The study also shows a correlation between local government efforts at immunization and the rate of child mortality rates as a result of six killer diseases in the state. The research concludes that the success was recorded due to government commitment and involvement of development partners, religious and traditional authorities in the immunization exercise. The study recommend the need to improve management of delivery of immunization service through adequate training and improving competency of health personnel that would ensure effective injection safety, safe disposal and destruction of used injection equipment.*

**Keywords:** Influence, Local Government, Success, Immunization.

### Introduction

In Nigeria, 72% of the deaths have been due to communicable diseases (NPI, 2007). While the infant mortality rate for Kaduna state as at 2014 was 74.9 per 1000 (KSMH, 2015). Though Nigeria is a signatory to all global immunization targets of reaching 80% DPT3 coverage in 80% districts in developing countries by the year 2005 and with MDG4 target of reducing child mortality by two-thirds by the year 2015 (NPI, 2007); indicating meeting these targets even beyond 2016 is still questionable. Everyone expected that, the return of Nigeria to democratic rule would improve adequate health care services provision, however studies shows the contrary. Mortality rate as a result of vaccine preventable diseases are still on the increase (WHO, 2012, Jamo, 2015). The problem of the study is to find out why in spite of government effort on immunization, mortality rate as a result of vaccine preventable diseases is on the increase? Therefore, the study seeks is to examine the extent to which local governments in Kaduna state,

Nigeria have deliver immunization in the rural areas of the state. The study hypothesized that, Government’s efforts at immunization has produced positive outcome.

**Scope of the study**

The scope of the study is limited to Kaduna state due to poor healthcare status of the area and resistance to immunization. The work has also covered a period of five years (2009-2014) due to high in flow of Local Government revenue from the federation account and coupled with high resistant to immunization in the state. Interviews were conducted with beneficiaries (parents) of immunization.

**Methodology**

Survey method was adopted; questionnaires were designed to elicit responses from health personnel. Both open and close ended questions were used so as to give respondents chance to go beyond the options in the questionnaires. Interviews were conducted with five health personnel in each of the six LGs within the state.

To determine the sample size of the population for the study, Yamane’s (1967; 886) formula was used:  $n = \frac{N}{1 + N(e)^2}$ , Where n = Sample size, N = Total population= 1661780, e = Level of significance (95%)<sup>2</sup> =(0.0025),  $n = 1661780 \text{ divide by } 1 + 1661780 (0.0025)$ ,  $n = 743306 \text{ divide by } 743307 (0.0025)$ ,  $1661780 \text{ divide by } 4154.4525 = 399$  or 400 approximately. The sample size is 400.

**Table 1: Composition of the Sampled Population administered with questionnaires per LG.**

Institution	Total Population	Number of sample per LG.
Kaduna North Local Govt.	357,694	86
Sabon Gari Local Government	286,871	69
Giwa Local Government	286,427	69
Kubau Local Government	282,045	68
Kubau Local Government	170,008	41
Kauru Local Government	278,735	67
Jema’a Local Government		
<b>Total</b>	<b>1661780</b>	<b>400</b>

Source: Researcher’s computation, June 2016.

Table 1 presents composition of population and sampled per LG. The table revealed that, out of 400 staff respondents, 86 were sampled from Kaduna North LG, while 69 were sampled from SabonGari LG. Whereas 69 respondents were also chosen from Kubau LG. The table also indicates that 41 and 67 respondents were chosen from Kauru and Jema’a LGs respectively. This indicates that Giwa has the highest sample staff respondents, followed by SabonGari and Kauru LGs respectively.

**Literature Review**

Nigeria’s success and remarkable progress on immunization coverage in recent years was due to active collaboration with development partners and other stakeholders. Whereas the poor health status in Nigeria was attributed to poor PHC infrastructure, lack of morale by the PHC workers

and loss of confidence in the health service by the community (CHECOD, 2011). On the contrary, Ejenbi (2013) study indicates that in spite of a 99% reduction in poliomyelitis prevalence worldwide, Nigeria still accounts for the highest prevalence of circulating wild polio virus in the world and the country was among the ten countries in the world with vaccine coverage below 50 percent. Ethnic group, religion and occupation have been found positively associated with immunization status of the under-five. The study related immunization status to religion and ethnic background rather than government efforts. Similarly, Itimi et al (2012) research shows correlation between education status, location of the area and immunization coverage in Bayelsa state, Nigeria. Result of the study indicates that women in the urban areas would be better informed and educated. And the tendency for higher immunization coverage would be higher in urban areas than those in the rural communities. The study further proved that the suspicion on immunization was not only in the northern Nigeria but also in the southern part of the country. Emphasis of the research was on the educational status, location of the area and immunization coverage rather than government effort on immunization. Not only that, non-availability of vaccines, distance, unknown immunization sites, fear of adverse reactions from vaccines, rumors, lack of trust in immunization and mother not having time for immunization was found to be main reasons for poor immunization coverage in Nigeria (Edokwe, 2013). Where as resistance to the government efforts in Northern Nigeria by some religious leaders who held the belief that, the vaccine contained contraceptive agents and other contaminants with which the Western world hoped to control population growth was among the fundamental factors and challenging constrain for effective immunization in the Nigeria (Allo, 2008). The study was not clear whether correlation exist between government effort and success of immunization in the area. But in some parts of the Northern Nigeria parent's objection, disagreement or concern about immunization safety (38.8%), long distance walking (17.5%) and long waiting time at the health facility (15.2%) are the most common reasons for partial immunization rather than government effort on immunization (Abdulraheem et al, 2011).

Even though the research highlights some aspects of immunization, but too general to reflect the real immunization status in the country, Nigeria. Unlike PATH (2003) study which indicates that routine immunizations in Nigeria were either no longer available or irregular; limited resources for health services and gaps in vaccine storage and distribution added to the challenges of immunization coverage. The study explores the state of RI in Nigeria including the main problem associated with the program and provided feasible solution to the problem. The study indicates government failure in its efforts to provide available resources and vaccines in the previous years. On the contrary research in Bungudu Zamfara state indicates poor coverage which was associated to level of education and the belief that the immunization can cause infertility (Gidado et-al, 2010). The result also indicates government failure to enlighten the citizens in the state. Similar study by Babalola and Lawan (2009) indicates that BCG immunization status in northern Nigeria (Jigawa, Katsina, Yobe and Zamfara) is influenced by child's characteristics, parental or household factors, community characteristics, vaccine supply and the policy environment. The research related immunization status in some states in the Northern Nigeria not only to government effort but to household and community characteristics. But Musa's (n.d) research indicates that immunization has contributed very little among developing countries and Nigeria in particular. Evidence to this shows that, 30% to 50% of injection practices in developing countries were associated with significant morbidity, mortality and socioeconomic loss. While Oluadare (2009) listed ignorance and social cost of access to the

immunization service, the quality of the immunization service, availability to the remote areas, health personnel commitment, and availability as the factors account for the low coverage of immunization in Ekiti state in the southern Nigeria. These findings proved that apart from government failure and other factors were also relevant to low immunization coverage in Ekiti state of Nigeria.

But Elah (2012) study on polio immunization in Kaduna, Katsina and eight other endemic states observed that, immunization coverage in the Northern Nigeria was among the lowest in the world. The poor coverage was attributed to ineffective and deteriorating health care services, lack of investment in personnel, facilities and drugs. Other factors found by the study include poor management of the existing resources, lack of confidence and trust by the public in the health services resulting from the poor state of the facilities and low standards of delivery. Though all these issues raised had been significant, but emphasis was more on polio prevention rather than five killer diseases. However, a survey study of 1697 households in Kano, Katsina and Zamfara states Nigeria indicates higher Vaccines acceptance but with low performance of health personnel (Victoria et al, 2014). The study indicates the need for government to increase its effort to provide adequate health personnel in those areas. Amidst of these researches, emphases were much on sociocultural, religious and environmental factors on the success of immunization in Nigeria. This research offered a possibility of understanding the outcome of the government efforts on the immunization in Kaduna state, Nigeria.

### **Immunization Service Delivery at the Local Government in Kaduna State**

In preparation for campaign immunization, two set of trainings are usually conducted. The first is at the LGA level while the second is the ward level training. At the LGA training, participants of the training include all the ward focal persons and their deputies are trained on the conduct of immunization. If there is a new vaccine or any other strategy, such developments are usually raised and discussed at the training ground.

At the Local Government level, there are many health facilities. Each health facility renders its immunization on a particular fixed day of a week depending on the schedule plan for the health facility. Social mobilization activities are also carried out at all the tiers of government. At the L.G. level it is carried out through media, mega phone, town announcers, meeting with community leaders, community dialogue and sensitization meeting.

At the ward level, the participants include the vaccinators, recorders, ward head(s) or their deputies as the case may be. The ward head(s) are usually requested to submit the names of suitable candidates for the appointment as vaccinators in their wards. Participants are also trained at the ward level on the conduct of immunization and new strategy or development as the case may be. After the training, the lists of the qualified temporary staff are placed at the center.

Micro plan is usually organized for four consecutive days of the exercise. After the training, each supervisor is allocated with the list of vaccinators under his supervision and each vaccinator would be issued with a tally sheet for computing the number of immunized and unimmunized people in their local areas. The daily results are usually compile and submitted to supervisor for compilation. However each supervisor would submit the tally sheets under his supervision to ward focal person. The ward focal persons would submit their results to LGA immunization

officer (LGIO) during their meeting. Issues of non-compliance are raised and discussed at the LG meeting. After the meeting, results are submitted to State Primary Health Care Agency (SPHCA). This process is repeated for the remaining of the three days.

After the compilation exercise, WHO usually fix a day for payment of the participants. There are usually micro plan to involve all the communities so as to avoid missing settlements. The L.G. ensures that, all the supervisors, vaccinations, recorder and crowd controller are fully trained and that logistics need are adequately provided so as to meet the requirement of all vaccination posts and other health facilities within its catchment areas. Each ward calculates the status of all cold chain equipment within its jurisdiction so as to determine the short falls. At each ward level, social mobilization work plan are organized to include all missed settlement.

L.G. focal persons with state official are trained at the micro planning level before the commencement of IPDs so as to update their knowledge and ensure accurate planning. At this stage, the focal persons would be train adequately by their supervisors. At the ward level, the vaccinators and recorders would also be train adequately. At this level, training checklists are used to assess the quality of training. Independent monitors are usually trained accordingly. After all these process, selections are made to ensure that merit and due process are strictly followed. After that, deployment of personnel would be made to places of their assignment. The personnel usually include the State Technical Facilitator (STF), PHC coordinator, cold chain officer (CCO), focal persons, team supervisors, independent monitors, town announces, Qur'anic teachers, vaccinator and community leaders, Fulani Ardos, JNI and CAN representatives.

At the implementation stage, a number of health personnel are posted to go round house to house and administer immunization. Team supervisors report daily at takeoff point to collect vaccines and other materials. They also super-see the activities of fixed posts and house to house immunization. Daily compilation of data at the settlement and ward levels is done and taken to L.G.A for further compilation. At the Local Government level, data are usually reviewed; analyzed and necessary corrections are made. Issues regarding non-compliance are usually raised and addressed at this stage. Monitoring and supervision are usually conducted in all the settlements. Independent and intensive monitors usually monitor the implementation exercise. All the monitors are usually issued with monitoring and supervision tools for assessing the quality of IPDs and inadequacies.

A daily review of meetings are usually conducted throughout the implementation days (4 days) with the purpose of reviewing , analyzing data and observation or mistaken discovered in the field during the exercise. Issues related to non-compliance, shortages of materials are being discussed and addressed. Areas that need more interventions, reimbursement of materials are usually debated and talked at this stage. The review meeting is usually chaired by the PHC coordinator while, focal persons and all the monitors attends as members. The results after being scrutinized by the Local Government would be sent to state ministry of health and State Primary Health Care Agency for further necessary action

### **Data Presentation**

Test of Hypothesis: “Local Government Efforts at Immunization has produced Positive outcome”. To test whether LG effort at immunization has produced positive outcome or not, the

study operationalized “Government effort at immunization” in terms of advocacy and sensitization, training, monitoring immunization, provision facilities and other form of encouragement by the LG to the people. “Positive Outcome of Immunization Service Delivery” was operationalized in terms of the level of cooperation of people toward immunization.

**Table 2: Staff Responses in Respect to Local Government Efforts at Immunization**

S/ N	VARIABLES	RESPO NSES	LOCAL GOVERNMENTS						
			S/Gari	Giwa	K/North	Kubau	Kauru	Jema’a	Total
1.	How would you rate government efforts on immunization in terms of advocacy and sensitization	High	44(11%)	29(7%)	44(11%)	40(10%)	57(14%)	24(6%)	238(59.4%)
		Low	42(10%)	40(10%)	25(6.2%)	28(7%)	10(3%)	17(4.2%)	162(40.5%)
		Total	86(22%)	69(17.2%)	69(17.2%)	68(17%)	67(17%)	41(10%)	400(100%)
2.	How would you describe government efforts on immunization in terms of training of health personnel	High	65(16.2%)	56(14%)	48(12%)	57(14%)	40(10%)	30(8%)	296(74%)
		Low	21(5%)	13(3%)	21(5%)	11(3%)	27(7%)	11(3%)	104(26%)
		Total	86(22%)	69(17.2%)	69(17.2%)	68(17%)	67(17.2%)	41(10%)	400(100%)
3.	How would you rate government effort in terms of monitoring immunization	High	53(13%)	43(10.7%)	50(12.5%)	43(11%)	38(9.5%)	28(7%)	255(63.7%)
		Low	33(8.2%)	26(6.5%)	19(4.7%)	25(6.27%)	29(7.2%)	13(3%)	145(36.2%)
		Total	86(22%)	69(17.2%)	69(17.2%)	68(17%)	67(17.2%)	41(10%)	400(100%)
4.	How would you rate government effort in terms of provision of facilities?	High	65(16.2%)	43(11%)	56(14%)	53(13%)	51(13%)	28(7%)	296(74%)
		Low	21(5.2%)	26(6.6%)	13(3%)	15(2.7%)	16(4%)	13(3%)	104(26%)
		Total	86(22%)	69(17.2%)	69(17.2%)	68(17%)	67(17%)	41(10%)	400(100%)
5.	Is there any form of encouragement by the LG to the people?	High	62(15.5%)	43(%)	53(13%)	43(11%)	51(14%)	25(6.2%)	277(69.2%)
		Low	24(6%)	26(7%)	16(4%)	25(6.2%)	16(4%)	16(4%)	123(30.7%)
		Total	86(22%)	69(17.2%)	69(17.2%)	68(17%)	67(17%)	41(10%)	400(100%)

Source: Researchers’ Survey, 2015.

To ascertain government efforts on advocacy and sensitization efforts, the respondents were asked to rate their Local Government in terms of advocacy and sensitization to the public. 235 (59.4%) of the respondents out of 400 (100%) rated their government high. 162 (40.5%) of the respondents rated their government low. Respondents were also asked to describe government

efforts on immunization in terms of training. The majority of the respondents 296 representing (74%) rated government effort on training high. But 145 (36%) of 400 (100%) rated government efforts on training low. To ascertain the LG effort in terms of monitoring of immunization service delivery, staff respondents were asked to rate their government, 255 of the respondents representing 63.7% rated their government high. Whereas 145(36%) of the staff respondents rated their LG low. To ascertain respondents' views on the LGs' effort in terms of provision of health facilities, the majority of the respondents 296(74%) rated their LGs high. 104(36%) of the respondents rated their LGs low. Respondents were asked to indicate their views on whether there was any form of encouragement by their LGs to the people or not. The majority of the respondents 277 contacted representing 69%, said yes. But 123(30.7) of the staff respondents said "No".

**Table 3: Responses on Positive Outcome of Immunization Service Delivery.**

S/ N	VARIABLES	RESPON SES	LOCAL GOVERNMENTS						
			S/Gari	Giwa	K/North	Kubau	Kauru	Jema'a	Total
1	How would you rate the level of cooperation of people toward immunization?	High	62(%)	49(%)	47(%)	51(12.7%)	47(11.7%)	27(6.7%)	283(70.7%)
		Low	24(%)	20(5%)	22(5.5%)	17(%)	20(5%)	14(3.5%)	117(29%)
		Total	86(21.5%)	69(17.2%)	69(17.2%)	68(17%)	67(16.7%)	41(10.2%)	400(100%)
2	If yes could you attribute that to government effort?	Yes	56(%)	40(10%)	45(11.2%)	44(11%)	46(11.5%)	33(8.2%)	264(66%)
		No	30(7.5%)	29(%)	24(%)	24(%)	21(%)	8(2%)	136(34%)
		Total	86(21.5%)	69(17.2%)	69(17.2%)	68(17%)	67(16.7%)	41(10.2%)	400(100%)

Source: Researchers survey, 2015

Respondents were asked to indicate their views on whether there was any form of encouragement by their LGs. The Majority of the respondents numbering 283 representing 70.7% said yes. But 117 (29%) of the staff respondents said No. Same staff respondents were asked whether people's cooperation could be attributed to LG effort. The majority of the respondents 267 representing 66% said "Yes". 136 representing (34%) of the respondents said "No".

**Table 4: Trends of infant and under five child mortality rates per 1000 in Kaduna state**

1	Year	Infant mortality	Under five mortality
2	2003	100	201
3	2008	75	157
4	2010	69	128
5	2011	75	NA
6	2012	N/A	N/A
7	2013	69	128
8	2014	74.9	NA

Source: PARTHS2, 2015

The table 4 above indicates that infant and child mortality rates as at 2003 were 100 and 201 respectively and dropped to 75 and 157 respectively in 2008. The figure again depreciated to 69 and 128 respectively in 2013 and later infant mortality rates appreciated to 74.9 in 2014. This indicates unstable rates over the years.

**Table 5: Under Five Mortality Rate For Some LGs from 2012-2014**

S/No	LGs	2012	2013	2014
1	S/Gari	15	7.5	1.1
2	Kauru	90.2	71.5	25.8
3	Giwa	60	69	31.6
4	Jema'a	30.5	68.2	24.6
5	KD North	26	19.1	10.1
6	Kubau	47.1	26.4	7.6

Source: Kaduna state ministry of Health,(DHIS2) May 2015.

The table 5 above presents under-five mortality rate in Sabon Gari, Giwa, Jema'a, Kaduna North, Kubau and Kauru LGs respectively. The data indicates that Kauru LG recorded the highest mortality rate with 90.2 and 71.5 in 2012 and 2013 respectively. Sabon Gari LG has the lowest mortality rates of 15 in 2012 and declined to 7.5 in 2013 and 1.1 in 2014 respectively. Giwa LG recorded second position in the ranking of the LGs selected with 60 and 69 in 2012 and 2013 respectively. In 2014 the figure declined to 31.6. Sabon Gari LG recorded the least number of under-five mortality rate with 15 in 2012 and declined to 7.5 and 1.1 in 2013 and 2014 respectively. This indicates that there has been significant decline of the rate of under-five mortality rate in all the three LGs within the period under study. The table 5.1.8 indicates that urban LGs (Kaduna North and Sabon Gari) in the state have the lowest mortality rate compared to their rural (Kubau and Kauru) counterparts.

### **Interview responses on the outbreak of Child killer Diseases in six Local Governments of Kaduna State**

To compare the responses obtained from the staff respondents with that of the beneficiaries of immunization (parents), respondents (parents) were asked to express their views on the relationship between immunization exercise and outbreak of particular disease among the six child killer diseases. The results indicated that, the majority of the women interviewed said "No". While few of the respondents said "Yes" there were cases of outbreak of particular diseases in their communities. This shows that, there is reduction of incidence of six child killer diseases in their areas. Similarly the respondents were asked to express their opinions on whether there was wide publicity about immunization exercise in their communities. Majority of the respondents testified that there was wide publicity of immunization exercise in their communities.

### **Findings, Conclusion and Recommendations**

The study proved that, immunization coverage continued to increase each year which led to the decrease in outbreak of the six killer diseases and the child mortality rate in the LGs studied. This outcome was attributed to government effort on the immunization exercise. From all

indication, government commitment on immunization was very high. All the stakeholders were fully involved which was indicative that the desired objectives have been achieved. The results indicated a high level of peoples' cooperation on the immunization exercise due to the increasing government and International organizations' commitment on the eradication of six killer diseases in the country. In general, findings of the research indicated that there was an increase of immunization coverage in the recent immunization exercise, evident from both the LG documents and the empirical results. This showed that this achievement was recorded due to good coordination from the center (NPI), state to LGs, as well as incorporation of the private bodies including members of the public, religious leaders, NGOs (WHO and UNICEF). The results indicated a high level of awareness by the committee members of the exercise. This was achieved in collaboration with the traditional and religious leaders who both sensitized and mobilized the public on immunization exercise and the dangers of six killer diseases. The study observed that government only allocated a stipend amount to some religious and traditional leaders as part of encouragement. These findings proved that peoples' cooperation toward immunization exercise was due to the increasing in government effort. This has not only increased the immunization coverage in the LGs but also reduced the transmission of polio virus and other child killer diseases. The findings further indicated that the level of suspicion on the program decreased due to government commitment on the matter. This is not to say that people were fully cooperating but rather a reasonable percentage was recorded. The survey indicated that all most all the health facilities visited deliver routing immunization service at least once in a week. Apart from that LG conduct mobile services in certain areas when the need arises.

The results indicated a reasonable and availability of logistics and welfare needs. Generally, all the three LGs provided a fairly adequate support to cater for immunization exercise. Logistics supports were made in terms of adequate provision of cold chain, vaccines, vaccine carriers, syringes, needles, cold boxes and other equipment required for the immunization. There were fairly proper provisions of adequate potent vaccines in most of health facilities visited. From the facility survey conducted and documents reviewed, available data indicated fairly adequate facilities were used to cater for both the routing and the campaign immunization exercise in the six LGs. This is not to say that there were no shortages of facilities. Shortage of equipment at some clinics particularly at remote areas was noticed. This has also confirmed the research hypothesis that "Government efforts at immunization has produced positive outcome".

The study proved that significant disparities of immunization coverage exist in the state. Urban local governments appear to have higher immunization coverage than rural Local Governments in the state partly due to the level of health education and awareness were significantly higher in urban local governments. This has further provides impressive evidence of factors responsible for success of immunization in some Local Governments than others. Part of the reasons include the location and the type of the Local Government, the level of awareness and health education were found significantly important.

### **Conclusion**

The research set out to evaluate Local governments' performance in Kaduna in terms of immunization service delivery. Hypothesis of the study was formulated to ascertain whether or not government effort on immunization has produced positive impact. The findings of the research generally revealed that Local governments' performance in Kaduna state in the terms of

immunization services delivery was quite commendable. The success was recorded due to government commitment and involvement of development partners, religious and traditional authorities in the immunization exercise.

### **Recommendations**

There is need to improve monitoring and improving the supply of facilities to the Local Governments. There is need to improve management of delivery of immunization service through adequate training and improving competency of health personnel that would ensure effective injection safety, safe disposal and destruction of used injection equipment.

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