Analysis of the Performance of Expanded Programme on Immunization (EPI) for Four Child Killer Diseases under the Military and Civilian Regimes in Nigeria, 1995-1999; 2000- 2005

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ABSTRACT This paper presents a review of the policy guidelines and targets of EPI in Nigeria, analysis of the distribution and performance of EPI in the country from 1995 - 2005, including regime type impact of the military and civilian regimes in determining performance. Data collection for the study was mainly through documentary research, featuring a critical analysis of relevant documents relating to EPI in Nigeria. The growth analysis indicates that polio vaccines had the highest average percentage change over the years at about 8%, while measles antigen had the least average change at 0.4%. For all the antigens, the year with the least change over the previous year was 1998 at -32.9%, while the highest change was recorded in 1997 at 59.3%. Further analysis based on the regime type indicates an average increment of 5.6% in the performance achieved during the civilian regime, while no percentage growth occurred during the military era, which means that the implementation of the EPI during the military was averagely static. The civilian regime performed better than the military in the administration and implementation of all the antigens except Polio vaccine. In conclusion, the performance of the EPI in Nigeria has not yet reached the target stated in the policy guidelines, which has direct implication on the preparedness and ability of Nigeria to achieve one of the Millennium Development Goals (MDG) of ensuring child health and survival by eradicating the major child killer diseases in the country.

INTRODUCTION

The redefinition of health by World Health Organization (WHO) in 1978, from its conception as 'absence of disease' to a more encompassing 'state of physical and mental well-being' and not necessarily the absence of disease has made it to mean and be regarded as a normal public good. As a public good, health is seen as non-rivalry in consumption and non-excludable (Kaul et al. 1999). Healthy living is therefore seen as an improved quality of life, which is an aspiration of every society. Health is also interrelated, featuring several underlying factors, which influence its existence. Among these factors are the spatial factors promoting people's access to health (Ajala 2005a), certain cultural practices inimical to health security (Odebiyi 1977; Ajala 2002), and economic and political factors influencing its equitable provision among the population in a particular society (Gureje 2004; Orubuloye 2005). To get rid of the above complex interaction variables influencing health care delivery, the global environment has introduced some global health strategies to reduce the vulnerability of the underprivileged groups to morbidity and mortality (Ajala 2005b). These under-privileged groups include mothers and children as clearly stated in the United Nations Millennium Development Goals (Gureje 2004). Thus, the enunciation of Primary Health Care (PHC) and Expanded Programmes on Immunization (EPI) are directed towards the prevention and eradication of childhood killers, which are immunizable diseases that cause death of many children in many countries of the World. Of course, sub-Sahara African countries are not excluded in this global response to healthy living. But the impacts of these responses are not the same compared with what obtains in other regions of the world, where infant morbidity and mortality are drastically low. Examples of such communities where this global response yields optimum positive results are Finland (0.3%), Sweden (0.6%), and Britain with 0.4% infant mortality as at 2004 (UNICEF 2005).

Like many other sub-Sahara African countries, Nigeria is still experiencing tremendous crises in maternal and child health care. These crises reflect more on under-five morbidity and mortality, which has not witnessed a significant improvement from its level since the 1990s. For instance, in 1990, the under-five mortality rate was 147 deaths per 1000 births, while in 1995 it increased to 176 deaths per 1000 births and in 2000, it was 153 deaths per 10000 births (CBN 1991, 1993; Ajala 2002; UNICEF 2002). According to the latest Nigerian demographic and health survey (2004), out of every 1000 children born in Nigeria, 70.49 witnessed deaths before they are five years old, with female infant mortality estimated at 67.34 deaths/1,000 live births, while that of males is estimated at 73.55 deaths/1,000 live births. In recognition of the risks associated with Nigerian children, one of the important services covered by PHC in Nigeria is immunization. Although immunization began in Nigeria in 1956, when small pox was severe nationwide, but the nationwide immunization tagged Expanded Programme on Immunization started in 1978 to combat child deadly diseases, which were regarded as the causes of high infant morbidity and mortality in Nigeria. These diseases are polio, measles, yellow fever, whooping cough, Diphtheria, Tuberculosis and marasmus.

Recognizing health as a public good, and interrelated cultural phenomenon, multi-sectoral efforts have been engineered since 2003 to ensure a wider coverage of EPI in Nigeria. This renewed approach involves the private international agencies, multi-lateral organizations and all tiers of Nigerian government. Equally too, government has renewed its political commitment to EPI. For instance, government has organized series of National and State Immunization Days (NIDS and SIDS) aimed at improving the national coverage of EPI in Nigeria. Still, the recent morbidity and mortality rates for Nigerian children under five years of age, attributed to preventable diseases such as yellow fever, whooping cough, poliomyelitis and measles, suggest that there is more to improving EPI, than what has been put forward. This paper presents a review of the policy guidelines and targets of EPI in Nigeria, the distribution and performance of EPI in the country from 1995 - 2005, including regime change analysis of the military and civilian regimes during this period.

METHODOLOGY

Data collection for this study was mainly through documentary research, featuring a critical analysis of relevant documents relating to EPI in Nigeria. Major documents such as periodicals, occasional publications, newspapers and maga-

E. E. OBIOHA, A. S. AJALA AND T. A. MATOBO

zines, which carry information relevant to the research themes, were carefully read, analyzed and relevant information extracted from them. The most viable sources included documents on PHC and EPI from World Bank (WB) 2002; Millennium Development Goals (MDG); UNICEF Annual Reports, Federal Office of Statistics (FOS); Central Bank of Nigeria (CBN) 1991, 1996; Nigerian Institute of Social and Economic Research (NISER) 2003, 2004, and Ministry of Health Data (MOHD). Some other relevant textbooks and archival materials were found useful were also consulted. All the data collected were first stored in notebooks and scrutinized before storage into the computer. The computer Excel software package was employed to generate the growth analysis and percentage change over the years from the data extracted from the documents consulted.

POLICY GUIDELINES AND TARGETS OF EPI IN NIGERIA

The vision of EPI in Nigeria is to improve the health of Nigerian children by eradicating all the identified six killer diseases, which are polio, measles, diphtheria, whooping cough, tuberculosis, and yellow fever. Between 1985 and 1990, as contained in the National health plan for that period, the objectives of EPI were to strengthen immunization; accelerating disease control and introducing new vaccines and relevant technologies, and tools.

In line with the above, Nigeria in 1995, being a signatory to World Health Assembly, adopted the World Health Assembly Resolution (WHAR) and United Nations General Assembly Special Session (UNGASS) goals that by 2005, all countries must achieve: (i) Polio Eradication, (ii) Measles Mortality Reduction, (iii) Maternal and Neonatal Tetanus Elimination (MNTE). Nigeria also adopted the Millennium Development Goals (MDGs) that: Two-third reductions in child mortality, as compared to 1990, should be achieved by the year 2005. In addition to the above, the country similarly ratified the United Nations General Assembly Special Session (UNGASS) goals, that by 2010: Nigeria should aim at: (i) Ensure full immunization of children under one year of age at 90% coverage nationally with at least 80% coverage in every district or equivalent administrative unit, and (ii) Vitamin A deficiency elimination.

Following from the above, Nigeria drew in 1998, the core activities of her EPI policies which

included the following: (i) Monitoring of the performance, quality and safety of the immunization system through indicators; (ii) Assessment of the current burden of vaccine preventable diseases as well as the "future" burden of vaccine preventable diseases in terms of sickness, death and disability, as well as the economic burden; (iii) Assessment of the impact of vaccination strategies, through on-going epidemiological surveillance and reliable laboratory confirmation, as well as impact assessments in Nigeria; (iv) Monitoring of the National immunization policies, particularly the vaccines used in the country and the target population for these vaccines (immunization schedules); and (vi) Monitoring of the overall proportion of children and women who are vaccinated (immunization coverage) and ensuring that all districts of the country are well covered with vaccination.

The Federal Ministry of Health in 2000, following the African Regional Summit on EPI, held in Harare in November 1999, specifically stated its policies on the country's initial visions for EPI as follows:

(*i*) Immunization System Strengthening: By the year 2004, Nigeria should achieve EPI district focused plan and attained 80% DPT3 coverage in all the states of the federation. The specific policy also stated that the government should ensure increasing funding for EPI.

(*ii*) Accelerated Disease Control: By the year 2004, there should be no cases of acute flaccid paralysis associated with wild poliovirus in Nigeria. As for measles, by the year 2004 the country should have reduced measles morbidity by 90% and measles mortality by 95%; while the coverage for yellow fever is expected to increase to at least 80%.

(*iii*) *Innovations*: That by year 2004 Nigeria should include Vitamin A and Hepatitis B (HB) in its national immunization programmes; and the vaccination coverage should not be less than 80% coverage as in other antigens. Under the new technologies drive, the country should adopt the multi-dose vial policy (MDVP) and vaccine vial monitor (VVM) and also introduce new methods for monitoring its use.

From the above policy background of EPI, there seems to be a clear vision to ensure child survival from the killer diseases in Nigeria. The government sets a target of reducing child mortality due to immunizable diseases to 5% by the year 2004. This is achievable, as the government policies on EPI indicated, by covering not less than 80% of all the antigens in all the states of the federation in Nigeria. In fact the government meant to cover 95% coverage on measles antigen in the year 2004. As at July, year 2005, Nigeria is still one of the highest polio infected countries of the World. As noted above, Nigeria ranked third among the remaining six countries of the World still battling with Polio infections. Similarly, the incidence of TB is still common, although this is attributed to AIDS infection, yet since some child morbidity and mortality are still due to TB infection, it implies that TB vaccination has not yet achieved the country's desired vision. To establish a clear picture of the coverage of EPI in Nigeria, the next chapter directs attention to EPI coverage between 1995 and 2005.

RESULTS

Performance of Expanded Programme on Immunization in Nigeria, 1995-2005

Immunization Coverage per Antigen in Nigeria 1995-2005: UNICEF estimates of coverage per antigen provides information on only four antigens in Nigeria, which are used for this study, even though there is also an alternative data source from the Central Bank of Nigeria. These are BCG (TB), DPT (Diphtheria and Tetanus), Polio and Measles. According to UNICEF data as demonstrated in figure 1, between 1995 and 2005, BCG coverage in Nigeria witnessed a decline from 80% in 1990 to 42% in 1995 and from 1995 to 2003, the coverage oscillated between 43% in 1996 and 60% in 2003. In 1997, BCG recorded 53%. This means that the target of at least 80% coverage as indicated in EPI policy in Nigeria could not be met, even as at 2005 it is still not met. EPI policy in Nigeria stipulated that by 2004 no community should have or report cases of Diphtheria in the country. The results show that the vision is not yet realized. In 1990, DPT (Diphtheria and Tetanus) had 56% coverage, and dropped to 31% in 1995, with 26% in 1996, and ranging between 25% and 45% between 1997 and 2005. Apart from 56% in 1990, the peak between 1995 and 2005 was 45% recorded in 1997. In 1990, Polio coverage was 55%, which dropped to 31.5% in 1995, and between 1996 and 1999 it ridiculously dropped to between 26% and 19%. In 2000, it picked to 26% and continued to rise up to 45% in 2005. With the results, it shows that the country's target of eradicating Polio in Nigeria by the year 2004, through 95% coverage vision was not met. Measles' coverage recorded 54% in 1990 and dropped to 44% in 1995 with further drop to 38% in 1996. The peak coverage was 69% in 1997, which later dropped to 40% in 1998 and to 35% in 1999. Since 1999, it has no change over the years except in 2004 and 2005 when the coverage dropped to 32% in 2004.

The downward trend in the coverage of all the antigens appears to be associated with political problems. According to WHO/UNICEF (2004) these political problems included low government commitment to ensure the fulfillment of EPI policy. It also included over-centralization in the administration of EPI at the federal level of governance in Nigeria. The poor coverage of measles between 1998 and 2005 was blamed on vaccine shortage and administrative problems; as it applied to Polio coverage between in 1996, 1999 and 2000; when Polio recorded 26%, 19% and 26% respectively.

As on March 14, 2005, there were 18 States in Nigeria, which reported the infection of wild-polio virus. The infection affected 55 LGAs in the country, with majority of the infected LGAs being from Northern zones. Only Edo State recorded polio infection in two of its LGAs in 2005. As at August 2005, 55 LGAs were still seriously suffering polio infections in 18 States. The above data suggest that since 1975 when EPI started in Nigeria, with government's attention directed to PHC in 1985, Nigeria is still an endemic country to poliomyelitis, thus since year 2000, government has directed its EPI programme on eradication of polio.

Growth Rate in National Coverage/EPI Performance 1995-2005: With regard to the national coverage in Nigeria, the growth analysis table 1 and figure 2, indicate that polio vaccines had the highest average percentage change over the years at about 8%, with the highest change in the year 1997 at 73% as against previous year 1996. The year that experienced the least change was 1998 at -44%. The antigen that had the least average change is measles at 0.4%, with highest rate at 81% change also in 1997 as against 1996. The year when there was the least change was in 1998 at -42%. For all the antigens, the year with the least change over the previous year was 1998 at -32.9%, while the highest change was recorded in 1997 at 59.3%.

Performance of EPI during the Military Regime: In order to understand the influence of type of administration on the performance of EPI in Nigeria, regime change analysis was done. Using the actual outcome and the growth analysis, table 2 shows that during last years of the military regime in Nigeria 1995-1999, the average coverage for all the antigens was 38.1%. Within this period, the highest performance was



Fig. 1. EPI Coverage according to antigens in Nigeria (1995-2005)

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Antigens	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	1996	1997	1998	1999	2000	2001	2002 200	03 2004	2005 /	Ave. 3
BCG	42	43	53	53	43	45	48	48	48	60	65	2.38095	23.256	0	-18.87	4.6512	6.6667	0	25	8.333	5.1
Measles	44	38	69	40	35	35	35	35	35	32	32 -	-13.636	81.579	-42.03	-12.5	0	0	0	-8.5	71 0	0.4
Polio	31	26	45	25	19	26	32	39	39	39	45 -	-16.129	73.077	-44.44	-24	36.842	23.077	21.88 0	0	15.38	8.5
DPT	34	26	45	26	25	24	25	25	25	30	35 -	-23.529	73.077	-42.22	-3.846	-4	4.1667	0	20	16.67	4.0
Average	37.75	33.25	53	36	30.5	32.5	35	36.75	36.75	40.25	44.25 -	-11.921	59.398	-32.08	-15.28	6.5574	. 7.6923	5 0	9.5	24 9.938	3.8
Source:	Calcul	ations	and	estima	tions f	rom S	econd	lary da	ta co.	llectec	1 during	g the field	lwork								
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ears 42 842 842 312 836 recorded in 1997, while the performance in 1999 was the poorest compared to other years. The result shows a sudden increase from 33.25% in 1996 to 53% in 1997 and subsequent slow down in the subsequent years. An examination of the performance based on individual antigens indicates that BCG and Polio antigens achieved greater average total performance than other antigens in the order of first and second positions respectively. Measles antigen was the least in the performance outcome, with its closest antigen being DPT.

The growth analysis showing the percentage change in the performance in table 2 and fig. 3 further illuminates on the performance relate to the previous year. From the total percentage change, the table shows that the throughout the period 0.1% was the total cumulative amount of increment achieved. Similar to the actual analysis, the highest percentage change occurred in 1997 at 59.4% relative to the previous year, while 1998 was the worst year with -32.1% negative growths, which implies an abysmal drop in the performance. Among the antigens, Polio vaccine had the highest cumulative percentage change of 13.4% and the Measles vaccine made the least performance at -11.5%. Similarly, the average total for all the antigens was 0.0, which means that during this period there was neither improvement nor drop in performance from a general point of view. Figure 3 represents a pictorial output of the percentage change in performance. The result of this analysis is consistent with previous interpretations, which indicated that Polio had the highest percentage performance, while the measles antigen had the least performance with negative growth of -2.9%.

Performance of EPI during the Civilian Regime

During the earlier period of the civilian regime 2000- 2004 the analysis in table 3 shows that the average total for the performance of all the antigens was at 36.3% with the highest performance achieved in 2004 at 40.25% relative to repeated outcomes of 36. 7 in 2002 and 2003, while 2000 appeared as the year with the least performance. Further interpretation of the result as shown in the table indicates that there was a progressive increase in the rate of performance from 2000 to 2004. For all the antigens, BCG was vindicated as having the highest performance indicator of 49.8%, while performed poorest at 25.8%.

The growth analysis of the performance of the antigens shows that an average cumulative total of 22.2% was found, with Measles vaccine performing on top of the rest at 45% while the Polio antigen had the least record with a negative growth of -8.6. The average output for all the antigens throughout the earlier period of the civilian regime in Nigeria as shown in figure 4



Fig. 2. Annual growth rate in coverage for all the antigens 1995-2005 (Nigeria)



Fig. 3. Annual growth rate of EPI during the Military Regime 1996-1999



Fig. 4. Annual growth rate of EPI during the Civilian Regime 2001-2004

indicates that expanded programme on immunization was administered at an average performance increase of 5.6% annually between 2000 and 2004. Among the antigens, the measles antigen performed better than any other antigen at an average of 11.2% per annum, while the polio antigen had the least increment at a negative growth of -2.1% yearly.

Comparative analysis of the Performance of EPI during the Military and Civilian Regimes: The result in figure 5 indicates that there is a striking difference in the growth rate achieved during the two regimes in Nigeria. The picture from the average of the percentage change for all the antigens shows that there was an average increment of 5.6% in the performance during the civilian regime, while no percentage increment or negative growth occurred during the military era, which means that the implementation of the EPI during the military was averagely static. Comparatively one may conclude that the civilian regime performed creditably better than the military regime at a ratio of 0=5.6. Further examination of the scenario by antigen type shows that the civilian regime performed better than the military in the administration and implementation all the antigens except Polio vaccine, where the performance of the civilian was less than 0%. At the rate of -2.1% which is far less than the calculated average through the years. Interestingly, the study also showed that each regime had their best performance with particular antigens that the other regime failed woefully, as it is the case with Polio and Measles.

DISCUSSION

Based on the parameters set to measure the performance of immunization or coverage of EPI implementation in Nigeria one important

Table 2: Actual and percentage change in the performance of EPI during Military Regime 1995-1999

		Antigen	coverage of Milite	e with the ary Regin	last yea ne	rs			Percenta (% C	ge chang Change)	е	
Antigen	1995	1996	1997	1998	1999	Average total	1996	1997	1998	1999	Total	Average total
BCG	42	43	53	53	43	46.8	2.4	23.3	0.0	-18.9	6.8	1.7
Polio	44	38	69	40	35	45.2	-13.6	81.6	-42.0	-12.5	13.4	3.4
Measles	31	26	45	25	19	29.2	-16.1	73.1	-44.4	-24.0	-11.5	-2.9
DPT	34	26	45	26	25	31.2	-23.5	73.1	-42.2	-3.8	3.5	0.9
Ave	37.75	33.25	53	36	30.5	38.1	-11.9	59.4	-32.1	-15.3	0.1	0.0



Fig. 5. Comparative annual growth rate of EPI during the Military and Civilian Regimes

 Table 3: Actual and percentage change in the performance of EPI during Civilian Regime 2000-2004

		Antigen o	coverage v of Militar	vith the la v Regime	ast years				Percentag (% C	ge chang Thange)	е	
Antigen	2000	2001	2002	2003	2004	Average total	2001	2002	2003	2004	Total	Average total
BCG	45	48	48	48	60	49.8	6.7	0.0	0.0	25.0	31.7	7.9
Polio	35	35	35	35	32	34.4	0.0	0.0	0.0	-8.6	-8.6	-2.1
Measles	26	32	39	39	39	35.0	23.1	21.9	0.0	0.0	45.0	11.2
DPT	24	25	25	25	30	25.8	4.2	0.0	0.0	20.0	24.2	6.0
Ave	32.5	35	36.75	36.75	40.25	36.3	7.7	5.0	0.0	9.5	22.2	5.6

Table 4: Nigerian government's budgetary commitments to health sector 1995-2005 (NGN)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
% of Public expenditureon Health (in GDP)	0.3		0.2	0.2	0.8	0.5	0.8	1.2		
Health Expenditure per capita in US\$	18		11	9	30	8	15	19		
Federal allocation to Health (in US\$ Million)	5 060.90	4 838	7 343	11 291.90	13 737	17 581.90	35 422	70 741.10	40 741.10	40 741
% of Annual Budget on Health	5.2	3.4	5.02	4.6	4.5	2.7	3.9	4.7	4.7	4.7
No Primary health Care	6 205	6 224	6 242	8 958	8 970	10 149	10 393	15 266	17 012	17 752
No Secondary health care	790	793	795	882	892	936	982	1 976	2 418	2 509
No Tertiary health care	47	48	48	51	51	51	51	219	221	221
Total Health Care	7 042	7 065	7 085	9 891	9 913	11 136	11 426	17 461	19 651	20 482

observation is that the country has not realized or achieved the set target of at least 80% coverage per antigen each year (Obioha et al. 2007). The situation is quite far from the ideal state which is desired to meet the millennium development goal target of reducing infant mortality in the year 2015. From the study and the presentation, there was observed lop-sidedness with regard to attention given various diseases in Nigeria and their vaccination processes. As expected, the administration of the EPI targets even 100% as it is the case in some developed countries, but in Nigeria there are still lapses leading to non-attainment or achievement of targets. From almost all the indications, average and singular coverage for all the antigens were consistently low in Nigeria. Compared to other vaccines, the study indicates that polio vaccines had the highest average percentage change over the years at about 8%, with the highest change in the year 1997 at 73% as against previous year 1996. This revelation is not extremely surprising because of the amount of energy vested in the administration of the Polio vaccine at the expense of others during these years. This is from the observation that National Immunization Days which are special days were set aside nationwide to immunize all children age 0-5 years with 2 drops of polio vaccine irrespective of their immunization status. This is aimed at eradicating poliomyelitis and using the opportunity to detect all cases of Acute Flaccid Paralysis (AFP) for investigation to detect wild polio cases in various LGAs (Obioha et al. 2006). Perhaps it is easier to dictate the devastating effect of poliomyelitis on children than when other diseases occur, so with the fear and the avoidance of its occurrence which usually lead to paralyses there appears to be more interest and attention paid to it. It is also very evident that the process of administering the polio vaccine is least cumbersome and less stressful, which also does not compulsorily require trained medical personnel to administer. Also coupled with the fact that it can still be administered to children until their fifth birth day (Federal Ministry of Health 2005) the coverage may naturally be greater than any other antigen hence it has more target population.

Analysis of the performance of the antigens in the two major regimes that had ruled Nigeria from 1995 to 2005 shows that the civilian regime which had been in power since mid-1999 performed better than the military that relinquished power in the mid-1999 to it with regard to the performance of expanded programme on immunization. The difference in their performance is quite distinct that while the civilian regime recorded an average annual growth of 5.6% in the performance, the military had 0% during their imputed years in the analysis. However, it should be pointed out that the military had better results with regard to the administration of Polio vaccine than the civilian who had its highest performance record from the Measles vaccine and better than the military in other antigens. The performance difference or gap may not be too surprising owing to the economic and political situation in Nigeria during these two regimes. During the military regime, remarkably at the time of General Abacha, most foreign Aids to Nigeria either declined or stopped completely. The provision of health related Aids including the antigens was no exception. For instance, due to political instability, many foreign donors withdrew their assistance towards EPI between 1995 and 1998, as international strategy to compel Nigeria to adopt and practice civil democracy (Obioha et al. 2006). The political instability, which Nigeria experienced between 1993 and 1999, the country's health services suffered a great setback. There were civil disorders, which frustrated many of the national health programmes, which included EPI. The return to civilian regime in 1999 no doubt brought Nigeria back into the international forum and most of the diplomatic and international Aids withdrawn during the military were restored, which may account for the boost in the EPI administration during the civilian and the gap compared with the military.

However, looking at the performance of EPI from specific antigen perspective within the civilian and military regimes, the higher performance recorded for Polio antigen during the military and the subsequent drop during the civilian regime can be viewed from the point of the recourse to other antigens which were hitherto neglected and other factors. Due to the accusation against the EPI implementation body on the lop-sidedness with regard to implementation of immunization for children in favour of the polio antigen, the responsible body reacted by shifting emphasis from Polio antigen to others, which later led to the loss of ground previously claimed to have been gained on polio eradication. This situation accounts for the resurgence of wild polio virus in some states in Nigeria. As on March 14, 2005, there were 18 States in Nigeria, which

E. E. OBIOHA, A. S. AJALA AND T. A. MATOBO

reported the infection of wild-polio virus. The infection affected 55 LGAs in the country, with majority of the infected LGAs being from Northern zones. Only Edo State recorded polio infection in two of its LGAs in 2005. As at August 2005, 55 LGAs were still seriously suffering polio infections in 18 States (Obioha et al. 2006; WHO 2004). Apart from the shift in emphasis there was politically cum-religiously motivated propaganda against the EPI programme, especially the Polio antigen. In the Northern Nigeria, especially among the Hausa-Fulani people, there was a religious propaganda that EPI reduces fecundity and fertility of the immunized children when they are adult. This propaganda was propagated against EPI in 2003 and 2004 in Zamfara State in Nigeria. Based on this, many illiterate mothers refused to allow immunization for their children (Obioha et al. 2006, 2007). It is also worthy of mention that the budgetary allocation to the ministry of health, which is the supervisory ministry of the programme has been all time low (Table 4).

This low funding which indicates lack of political will may be considered as a very strong and challenging factor that has contributed in the poor performance of the programme. An examination of the table reveals that this particular problem was not restricted to any single regime, rather, both regimes have their blames at their own times.

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