ORIGINAL ARTICLE

Availability of Resources for Provision of Child Health Services at the Primary Health Care Level in Nnewi, Nigeria

Chinomnso C **NNEBUE**[1]
Uzo E **EBENEBE**[2]
Prosper O U**ADOGU**[2]
Stanley K **ONAH**[3]
Ugochukwu U **ONYEONORO**[4]
Chigozie O **IFEADIKE**[2]
Chika N **ONWASIGWE**[5]

[1]*Institute of Human Virology/ Department of Community Medicine*
Nnamdi Azikiwe University Teaching Hospital
Nnewi, NIGERIA
[2]*Department of Community Medicine*
Nnamdi Azikiwe University Teaching Hospital
Nnewi, NIGERIA
[3]*Department of Paediatrics*
Nnamdi Azikiwe University Teaching Hospital
Nnewi, NIGERIA
[4]*Department of Community Medicine, Federal Medical Centre*
Umuahia, NIGERIA
[5] *Department of Community Medicine*
University of Nigeria Teaching HospitalEnugu, NIGERIA

Received: May 12th, 2012
Accepted: July 17th, 2012

ABSTRACT

Background: Children are the building block of a nation's human resource development and the state of health of any nation reflected in her under-five morbidity and mortality rates. Hardly does any Nigerian Local Government Area (LGA) meet the minimum standard of providing all the basic PHC services. Health system performance dependson the availability of materials, health infrastructure, funding and human resource development.This study determined the resource availability in efficient delivery of Child Health Services in PHC facilities of Nnewi North LGA of Anambra State, South-East Nigeria.

Methods: The study design was descriptive. Simple random sampling technique was used to select four out of 12public PHCfacilities that provide at least three of the range of essential child health services. A checklist on availability of child health services, physical structure, record system and resource availabilitywas developed and administered in these health facilities. Focus Group Discussion and Key Informant Interviews were done.

Results: Community health officers are the most involved in child health services offered by the facilities, which include: growth monitoring, immunization, sick child consultation, nutrition and health education. The facilities appeared generally good though a few were in a state of disrepair and untidiness. Funding was mainly from donor agencies, voluntary organisations and philanthropists but only one operated a health insurance scheme.

Conclusion: None of the health facilities had the minimum equipment package nor all essential drugs required to enable them offer quality child health services.

Keywords*: Delivery, efficient, funding, millennium development goals*

INTRODUCTION

The Millennium Development Goal number four dwells on the reduction of child mortality.[1,2]The main target of MDG 4 is to reduce under – fivemortality rates(U5MR) by two-thirds between 1990 and 2015.Infant Mortality Rate (IMR) and U5MR measure such indices as:the level of immunization against common childhood diseases; the nutritional state and health knowledge of mothers; availability of maternal and child health services within five kilometers or 30 minutes' walk from where they live.[1,2.]These children form the base of the nation's human resource development and it is only ideal that the society provides the supportive and enabling environment for the optimal attainment of their full potentials.The

unnecessary morbidities and mortalities reflect a significant breakdown of basic services, and in particular of primary health care in the country.[3] Coverage and utilization of these interventions are correspondingly low.[3] The Nigerian health situation makes it a major sector in the global achievement of MDGs 4.[3]

In order to achieve the MDG 4 means strategies to address problems such as low immunization coverage, inadequate provision of clean and potable water, lack of infrastructures like good roads and transportation in the rural areas need to be put in place. Other problems that need to be addressed include: unavailability of basic obstetric and neonatal care in most health facilities,low education level of mothers, unwholesome sale of expired drugs in the rural areas and urban slums. A strong political will must be enshrined as the present budgetary allocation to the Health Sector in Nigeria remains at an abysmal low of 5% of the national annual budget.[4]Quality of care reflects how the available resources have been utilized to produce an effect8]ive and efficient outcome. However, very few studies have been done on the assessment of availability of resources for quality child health services, and none in the study area.

Under international law, the realization of the fundamental human right to health requires that a sufficient number of health care facilities, goods and services be made available throughout a country's territory.[5] The availability of child health services in primary health care facilities is country-specific and also location specific within a nation's borders.In most health facilities in the developing countries including Nigeria, clients are directed to come back at another time or day to receive services of their choice.[5]A needs assessment survey carried out by the National primary healthcare developing agency (NPHCDA) in 2000 revealed that none of the sampled Local Government Areas met the minimum standard of providing all the basic primary health care services which include treatment of minor ailments, immunization, antenatal care, delivery services, family planning, health education, growth monitoring and control of locally endemic disease.[6]

Availability also refers to the number and cadre of human resources or skilled personnel capable of responding to paediatric emergencies. The performance of health system is dependent on the availability of drugs, equipment and other materials, supplies and health infrastructure.[7]Also human resource development is the key to ensuring the availability of health care services.Manpower for primary health care delivery services include: Public Health Nurses (PHN), Nursing Officers and Staff Nurses, Nurse-Midwives and Medical Officers, Community Health Officers (CHOs), Senior Community Health Extension Workers (SCHEWs), Junior Community Health Extension Workers (SCHEWs), Pharmacy Technicians, Laboratory Technicians, Medical Record Officers and Dental assistants.[8]The functions of the junior PHC workerapart from Medical Officers is to provide primary care according to the standing order, identify and refer difficult cases to a higher level of care, and mobilize the community.

Reporting on the status of PHC in Nigeria, Adeniyi, *et al* showed that 5.9% of health facilities did not have the basic equipment package adapted for use in the PHC as directed by the NPHCDA.[8] Only 3.8%, 2.2%, 2.5%, 1.3%, 4.4% and 0.9% of health faciclities in the North Central, North East, North West, South East, SouthSouth and South West Zones respectively, had between 75–99% of the minimum equipment package available.[8] Olumide,*et al*, found examination couches, stethoscopes, weighing scales, forceps and vaccine carriers to be available in 66.7% of health facilities. Thermometers were found to be available in only 8.3% of health facilities

while cold boxes were available in 90% of health facilities.[6] It was found that all the health facilities surveyed had weighing scales and ice packs available.

Millions of people especially in low and middle income countries do not have access to basic good quality health care services. There is limited allocation of resources to the health sector inspite of the growing concerns.[9]In spite of the rising costs of accessing health care, its funding continues to be low.[10]Poverty in these countries apart from being major cause of child morbidity and mortality prevents children from proper and adequate medical attention due to their inability to afford quality child health care services.

This study was therefore aimed at determining the effectiveness of resource availability in efficient delivery of Child Health Services in PHC facilities of Nnewi North Local Government Area of Anambra State, South-East Nigeria.

METHODOLOGY

Nnewi North Local Government Area (NNLGA) is one of the 21LGAs in Anambra State, South-East Nigeria. It is about 40 minutes drive from the State capital, Awka and about 30 minutes from Onitsha. The Nnewi North LGA lies in the tropical rainforest with typical climatic conditions and two distinct seasons, a rainy season and a dry season.The land mass has an area dimension of 72km^2 and an approximate total population of 157,569 people (census 2006) giving an average population density of 2.189 people per square kilometre.[11] The people are ethnically Ibos and the inhabitants are mainly traders, with a few white collar and blue collar job workers, farmersand artisans, and are predominantly Christians. Nnewi is the second biggest commercial town in the state next to Onitsha. It is a town popular for industrialization, with raw materials mainly imported from outside the country, thus attracting dealers on these products from different parts of the country and beyond. Both the Federal and state Institutions have their offices in Nnewi. There are numerous privately and publicly-owned primary and secondary schools in the LGA.

The NNLGA has a number of health facilities; a federal teaching hospital, the Nnamdi Azikiwe University Teaching Hospital, Nnewi (NAUTH) Nnewi, two mission hospitals, about 30 private hospitals and clinics, 24 Primary Health Care Centres (12 PHCs and 12 Health Posts) run by the LGA, and maternity homes.There are traditional and religious health care providers as well as community and village health workers, and patent medicine vendors.

The study design wasdescriptive and the study population comprisedof the health facilities available for the provision of child health services.Only public primary health facilities that provide at least three of the range of essential child health services viz: growth monitoring, immunization and sick child consultation were enrolled into the study. From the list of the twelve health facilities that meet these inclusion criteria, four health care facilities were selected by a simple random sampling technique applying balloting system. Those selected were Umuenem Otolo Primary Health Care Centre, Okpuno Nnewichi Primary Health Care Centre, Edoji Uruagu Primary Health Care Centre and Eme Court Umudim Health Clinic.

Checklist-A comprehensive checklist was developed and consists of three sections. The sections (I-III), sought information on;I-physical structure, II-record system, III-resource availability- personnel,child health services,minimum equipment package for use in a generic PHC facility, essential drugs and consumables, financing, and supervision.

The WHO guide on quality assessment and assurance in PHC was employed in scoring the presence and status of the physical structure.[12]

Key informant interviews were conducted with all the unit heads of the four select health facilities as well as the PHC Co-ordinator at the NNLG. The 5 sessions of Key Informant Interviews each lasting about 45 minutes was aimed at obtaining insight into the perspective of quality of child health services from the unit heads that were directly in-charge of the running of the health facilities, and the PHC coordinator.

Two FGD sessions were held with 6-8 care givers receiving child health services in two out of the four health facilities that were selected for the study. Two FGD sessions were held with 6-8 providers in two out of the four health facilities that were selected for the study.

Approval and permission to conduct the study were obtained from the Nnamdi Azikiwe University Teaching Hospital Ethical Committee (NAUTHEC), State Ministry of Health, and the NNLG PHC Department.

Competing Interests

The authors declare that they have no competing interests.

RESULTS

Tables 1 and 2 show the socio-demographic characteristics of the caregivers and their relationship with the clients. The mean age of the caregivers was 31.9±9.4 years. Majority, 277(90.8%) of them had at least primary education. Two hundred and fifty-one (82.3%) of them were mothers of the clients they brought to the facilities.

Table 1. Socio-demographic characteristics of the caregivers

Socio-demographic Characteristics	N=305	%Age
<15	3	1.0
15-19	10	3.3
20-24	32	10.2
25-29	93	30.5
30-34	69	22.6
35-39	40	13.1
40-44	23	7.5
45-49	12	3.9
>=50	15	4.9
Nil response	9	3.0
Educational Status		
Nil	24	7.9
Primary	90	29.5
Secondary	114	37.4
Tertiary	73	23.9
Nil response	4	1.3
Occupation		
Trading	116	38.0
Unemployed	57	18.7
Student	30	9.8
Civil servant	24	7.9
Teaching	17	5.6
Hair dressing	6	2.0
Farming	3	1.0
Artisan	2	0.6
Driver	1	0.3
Security personnel	1	0.3
Nil response	34	11.1

Table 2. Relationship of caregiver with the children

Relationship	N=305	%
Mother	251	82.3
Sister	19	6.2
Father	11	3.6
Grandmother	4	1.3
Brother	1	0.3
Nil Response	19	6.2

The distribution of various cadres of health care providers in all the facilities is shown in table 3. Those who were not involved in child care were providing other aspects of care

such as maternal care and general outpatient care. School health, immunization outreach, home visits, food demonstration and nutrition were not provided by the facilities as at the time of this study. Sick child consultation is offered five times a week in two health facilities and every day in the other two. All the health facilities offered growth monitoring/infant welfare clinic, immunization and health education/health promotion once a week.

Table 3. Health care Resources available daily by facility

Cadre	No.	No. involved in child care
Doctor	1	1
CHO	4	3
SN/M	3	2
SCHEW	2	1
JCHEW	1	1
Others	2	0

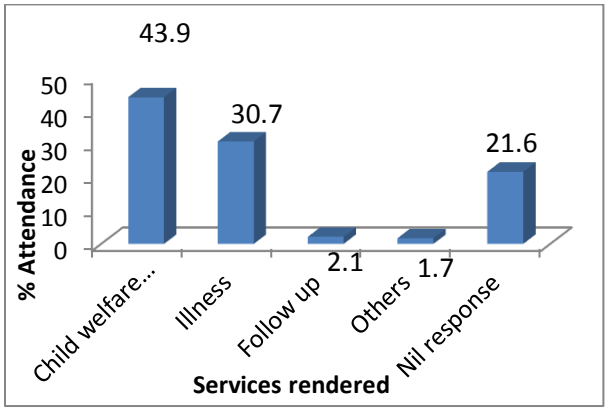
Pattern of Health Service Delivery	No. of days service is available in a week			
	A	B	C	D
Growth monitoring/infant welfare clinic	1	1	1	1
Immunization	1	1	1	1
Sick child consultation/Outpatient care	5	5	7	7
Nutrition/Fooddemonstration	0	0	0	0
Health education/Health promotion	1	1	1	1

KEY

CHO- Community Health Officer
SN/M-Staff Nurse / Midwife
SCHEW- Senior Community Health Extension Worker
J CHEW- Junior Community Health Extension Worker

- ***A-*** *Umuenem Primary Health Care Centre*
- ***B-*** *Okpuno Nnewichi Primary Health Care Centre*
- ***C-*** *Edoji Primary Health Care Centre*
- ***D-*** *Eme Court Health Clinic*

Figure 1. Services received during visit to the health facility



Of the 305 caregivers involved in the present study (figure 1), 223 77.8(%) had a physical examination conducted on their children, 168(58.5%) were told the illness the child had, while 266(92.7%) had drugs/vaccines prescribed for them. Eighty six (32.3%) had a form of antibiotics prescribed for them while, anti-malarial was prescribed for 83(31.2%), analgesics for 78(29.3%), vaccines for 61(22.9%), and haematinics for (20.8%). Most of them 220 (82.7%), that had drugs/vaccines prescribed for them, received their medication. Majority of them 268(93.5%) who did not receive their prescription gave no reason for not obtaining the prescribed medication, however 3(6.5%) mentioned unavailability of the prescribed drugs as the reason for not obtaining the drugs.

One hundred and ninety-nine (88.1%) out of the two hundred and sixty six caregivers said they were given instructions on how to administer the medications given to them. Almost all of them 224(99.3%) that were attended to by a health care provider were told when to come for the next appointment at the facility. Indications for the next appointment were as follows; routine immunisation 105(36.8%), follow up appointment 88(30.8%), if symptoms persists 83(29.1%) and for additional drugs 17(6.0%).

Table 4. Availability of Equipment and Essential Drugs

Equipments	Available &Functional	Available & Non-Functional	Not Available
Artery forceps (all types)	4 (100.0)	0 (0.0)	0 (0.0)
Covered bowl for cotton wool	4 (100.0)	0 (0.0)	0 (0.0)
Gallipots	4 (100.0)	0 (0.0)	0 (0.0)
Disposable gloves	4 (100.0)	0 (0.0)	0 (0.0)
Kidney dishes	4 (100.0)	0 (0.0)	0 (0.0)
Instrument tray	4 (100.0)	0 (0.0)	0 (0.0)
Vaccine carrier	4 (100.0)	0 (0.0)	0 (0.0)
Examination couch	3 (75.0)	0 (0.0)	1 (25.0)
teriliser	3 (75.0)	0 (0.0)	1 (25.0)
Stethoscope	4 (100.0)	0 (0.0)	0 (0.0)
Scissors	4 (100.0)	0 (0.0)	0 (0.0)
Thermometers	4 (100.0)	0 (0.0)	0 (0.0)
Syringes and needles(all sizes)	4 (100.0)	0 (0.0)	0 (0.0)
Weighing Scales(adult&infant)	4 (100.0)	0 (0.0)	0 (0.0)
Shakir's tape	1 (25.0)	0 (0.0)	3(75.0)
Dressing trolley	1 (25.0)	0 (0.0)	3(75.0)
Standing order	0 (0.0)	0 (0.0)	4(100.0)

Essential Drugs	Readily Available in Satisfactory Quantities	Available in Small Quantities	Not Available at all
Ampicillin(capsule,syrup)	4 (100.0)	0 (0.0)	0 (0.0)
Co-trimoxazole tablet	4 (100.0)	0 (0.0)	0 (0.0)
Metronidazole tablet	4 (100.0)	0 (0.0)	0 (0.0)
Procaine Penicillin injection	1 (25.0)	0 (0.0)	3 (75.0)
Tetracycline eye ointment	1 (25.0)	0 (0.0)	3 (75.0)
Benzyl Benzoate	1 (25.0)	0 (0.0)	3 (75.0)
Chloramphenicol eye ointment	1 (25.0)	0 (0.0)	3 (75.0)
Antimalarials	4 (100.0)	0 (0.0)	0 (0.0)
Oral Rehydration	4 (100.0)	0 (0.0)	0 (0.0)
Gentian Violet	3 (75.0)	0 (0.0)	1(25.0)
Mebendazole tablet	3 (75.0)	0 (0.0)	1(25.0)
Paraldehyde injection	2 (50.0)	0 (0.0)	2(50.0)
Paracetamol tablet	3 (75.0)	0 (0.0)	1(25.0)

Table 4 shows that most of the facilities surveyed had all the equipment required for the provision of child health services except for shakir's tape and dressing trolley. None of them had standing orders. The equipment where available, were functional and in sufficient quantities. Furthermore, none of the facilities operated drug revolving fund scheme nor possessed the list of essential drugs. Also sources of drug and vaccines for all the facilities include open market, state store and LGA. All the facilities had vaccines used for routine immunisation in sufficient stock. As well as consumables, which included needles and syringes, cotton wool, latex gloves, antiseptic lotion and sutures and in sufficient quantities too.

Table 5. Availability of Child Health Record Forms and Quality of Records

Records/Cards	Availability n=4 (%)	Correctness n=4 (%)	Completeness n=4 (%)
Growth Monitoring	4 (100.0)	4 (100.0)	4 (100.0)
Daily Statistics form	0 (0.0)	0 (0.0)	0 (0.0)
Immunisation Register	4 (100.0)	2 (50.0)	3 (75.0)
IDSR 001	3 (75.0)	0 (0.0)	1 (25.0)
IDSR 002	3 (75.0)	0 (0.0)	1 (25.0)
IDSR 003	3 (75.0)	0 (0.0)	1 (25.0)

All the facilities had growth monitoring card and they were fully and correctly completed, but none of them had daily statistics form. Immunisation register was found in all, though poorly filled in 50% of the facilities and was completely filled in 75% of cases. All of them did not fill IDSR forms correctly and only in one facility was it completely filled (table 5).

Table 6 shows that all the facilities had good general appearance and their walls were in a good condition; however one of the facilities had bad curtains, furniture and the surroundings in a bad state. Furthermore, majority of the health facilities have basic sanitary amenities and other amenities required, while few of them were in a bad state. All the PHCs had immunisation and consultation areas. Most immunisation areas were in good state except for two facilities that were in poor hygienic condition. Similarly, in their consultation area the issue of cleanliness was also of concern in 25% the four facilities.

Table 6. State of Physical infrastructure, amenities and sanitation the Health Facilities

N=4 (%)

Structure	Good	Bad
General appearance	4 (100.0)	0 (0.0)
Wall	4 (100.0)	0 (0.0)
Curtains	3 (75.0)	1 (25.0)
Condition of furniture	3 (75.0)	1 (25.0)
Condition of surrounding	3 (75.0)	1 (25.0)
Amenities and Sanitation		
	Water closet	**VIP**
Nature of latrine	2 (50.0)	2 (50.0)
	Yes	No
Clean & usable	3 (75.0)	1 (25.0)
	Borehole	Well
Source of water	4 (100.0)	0 (0..0)
	Fairly constant	constant
Regularity of water supply	3 (75.0)	1 (25.0)
	Covered dustbin	Open dumping
Refuse disposal method	3 (75.0)	1 (25.0)
	Good	Bad
Condition of refuse disposal system	3 (75.0)	1 (25.0)
	National Grid/Generator	Lantern
Source of power supply	3 (75.0)	1 (25.0)
	Good	Bad
Regularity of power	2 (50.0)	2 (50.0)
Immunization area	**Yes**	**No**
Floor area swept	4 (100.0)	0 (0.0)
Furniture wiped and clean	2 (50.0)	2 (50.0)
Walls reasonably clean	2 (50.0)	2 (50.0)
Walls –damage	0 (0.0)	4 (100.0)
Roof damage	0 (0.0)	4 (100.0)
Broken equipments and litters	0 (0.0)	4 (100.0)
Consultation area	**Yes**	**No**
Floor area swept	3 (75.0)	1 (25.0)
Furniture wiped and clean	4 (100.0)	0 (0.0)
Walls reasonably clean	2 (50.0)	2 (50.0)
Walls –damage	0 (0.0)	4 (100.0)
Door damage	1 (25.0)	3 (75.0)
Roof damage	0 (0.0)	4(100.0)
Broken equipments and litters	0 (0.0)	4(100.0)

Table 7 depicts that funding of the health care facilities was mainly through contributions from donor agencies, voluntary organisations, philanthropists and CBOs. Beside the wages of health care providers paid by the government, only one PHC received additional support from the government in form of funding, while another one was involved in the health insurance scheme. All the health facilities charged N50.00 as fees for card/registration, but none charged money for consultation or immunisation.

Table 7: Sources of Funding and User-fee Charges

Source of funding	Yes	No
Government allocation	1 (25.0)	3 (75.0)
User charges	3 (75.0)	1 (25.0)
Donor contributions	4 (100.0)	0 (0.0)
Voluntary organisations	4 (100.0)	0 (0.0)
Health Insurance	1 (25.0)	3 (75.0)
Fund raising	2 (50.0)	2 (50.0)
Donations from philanthropists	4 (100.0)	0 (0.0)
CBOs	4 (100.0)	0 (0.0)
Charges		
Card	4 (100.0)	0 (0.0)
Consultation/lab/immunisation	0 (0.0)	4 (100.0)
Drugs	2 (50.0)	2 (50.0)
Exemption/Deferment mechanism	0 (0.0)	4 (100.0)

Laboratory services were not available in any of the health facilities and half of them charged money for drugs. The amount charged for drugs depends on types and quantity of drugs dispensed. Two hundred and forty seven care givers (81.0%) paid for the various services received during the visit, 31 (10.2%) of them did not pay.The non-response rate here was 27 (8.9%). Among the services paid for include: drugs (54.3%), registration (45.3%), laboratory services (30.8%), immunisation (1.3%) and others (4.5%).

The FGD revealed that most of the health facilities have a good outlook but lack enough sitting capacity for the clients. A discussant said: "They need to provide comfortable chairs instead of these old benches." Generally, the buildings in the facilities were described as insufficient, lacking enough bed spaces and that the security gates were not manned by security officers. Also reported, was that equipment and supplies were fairly adequate particularly with insufficient infant weighing scale and thermometers.

Most providers in their discussion said the health facilities were in fair condition. They also lack of residential accommodation for health workers, lack of constant water supply among the problems affecting the general state of the health facility and thus negatively

affect the quality of services provided. They also affirmed the shortage in the supply of equipment such as infants weighing scale, thermometers. One respondent said: "When mothers bring their kids for immunization and other treatment, the child becomes restless because all of them are weighed using one scale thereby causing time wastage".

From the KII,the respondents said the drug revolving fund collapsed 3 years ago but they still receive free drugs from the state government while the LGA provides them with cards, and forms. However, other funding is from internally generated revenue obtained through service charges.

DISCUSSION

The availability of essential child health services which include immunization, growth monitoring and sick child consultation varies with the type of facility. The finding that curative services for children were available for 5 or more days in a week in all the health facilities studied was similar to the findings of the Service Provision Assessment (SPA) survey carried out in Tanzania, Ghana, Egypt.[13-15]In this study curative services for children are more likely to be available than other services and this is similar to the finding of a study by Adeniyi, *et al*.[8]This is likely to reduce utilization of child health care services as an integration of services would have been the better option.

Equipment and manpower constitute essential parts of resources in quality of care. The finding of this study is similar to other studies where none of the health facilities studied had all the minimum equipment package available.[8.16-18] Most of the facilities had all equipments required for the provision of child health services except for shakir's tape and dressing trolley. The providers of child services complained that some of the equipment like infant weighing scale, thermometers were insufficient and some were not functional and this contributed to long waiting times for the clients.

None of the facilities studied operated drug revolving fund scheme and none has the essential drugs list. Consequently, none of the health facilities had all the essential drugs expected for a primary health centre. This was similar to the findings by other studies carried out on essential drugs availability in primary health care facilitieswhere gross inadequacy was recorded.[11,16,19-21.]The health facilities had all the routine vaccines. This could be linked to the provision of a central collection point at the NPI cold room in NNLG. All the health facilities had consumables, which included needles, syringes, cotton wool, latex gloves, antiseptic lotion etc. They also have soap and water available, similar to findings from Ghana where most of the primary health facilities had soap and water at the service point of immunization, but differed from the findings in Egypt where most facilities did not have soap and water.[15]

Quality assurance requires that every facility maintains records of activities including child health services. In this study all the facilities had record system in place, but with varying functionality. None of the facilities had all the forms required for child health services available, similar to the findings of Sambo, *et al*, in a study in Tafa LGA North Central Nigeria.[17] All the facilities had growth monitoring cards fully completed and correctly too. Immunization registers were also available.

This differed from the findings of the BASIC II Baseline Survey where immunization registers were not available in most of the PHC facilities in the focal LGAs selected for the study.[22] However, the registers were poorly filled in 50% of the facilities, similar to the findings of the Integrated Cluster Childhood survey in 2003 where immunization registers were not available in

most facilities but where available were incorrectly filled.[7,22.] None of the facilities had daily statistics forms. This will no doubt negatively affect quality assessment and assuarance as well as planning towards effective chid haelth service delivery.

Most health facilities surveyed have good outlook, and in fair condition. This differed from the findings of an evaluation of primary health care in Nigeria where many of the PHC facilities were dilapidated with little or no evidence of maintenance or repair.[7] The care providers however suggested that additional buildings should be constructed in the health facilities to serve as residential accommodation for health workers. Most respondents said the health facilities were in fair condition. They complained about lack of constant water supply similar to other studies where water supply was found to be inadequate in primary healthcare facilities.[6-8,19.]Refuse disposal was adequate in all the health facilities. This contrasts with the findings by Olumide, *et al* where about half of the primary health facilities surveyed had inadequate refuse disposal.[6] However, most facilities need comfortable chairs and more bed spaces.

Funding of health care facilities was mainly through contributions from donor agencies, voluntary organisations, philanthropists and community based organisations but this differed from other studies where government allocation was reported to be the main source of financing apart from user charges.[8,13,15,18] This was similar to the finding of the population report of 1999 which reported limited allocation of resources to health in spite of the growing concerns. There was no written policy for exemption or deferment of payment for certain groups. None of the facilities studied reported exemption mechanisms this is similar to findings in other studies that very few LGAs have been reported to have exemption polices[11,23]

CONCLUSION

None of the health facilities had the minimum equipment package nor all essential drugs available without an essential drug list.

RECOMMENDATIONS

1. Functional basic equipment such as infants weighing scale, thermometers for the delivery of child health services should be provided to the health facilities.
2. The PHC department of NNLG should adopt standard minimum basic equipment and supplies as well as services required at the PHC facility level. These standards should be used for regular inventory. It should be regularly updated and used as a guide to supply or refurbish health facilities.
3. The Drug Revolving Fund Scheme should be revisited and implementation recommenced.

REFERENCES

1. United Nations Geneva. Millennium Development Goals (MDG) 2000. UNDP approach:www.undp.org/mdg/goallist.shtml . *Assessed 28th May, 2012.*
2. WHO Goal 4: Reduce child mortality http://www.who.int/mdg/goals/goal4/en/index.html.*Assessed 28th May, 2012.*
3. World Health Organization. Road Map for Accelerating the Attainment of the MDGs Related to Maternal and Newborn Health in Africa. World Health Organization, 2005.
4. MDG's UN Statistics Division; http://unstats.un.org/unsd/mi/micovertrial.htm.*Assessed 28th May, 2012.*
5. Physicians for human rights. Deadly delays. Maternal mortality in Peru. A rights – based approach to safe motherhood. Physicians for human rights.org. Assessed online @ www.physiciansforhumanrights.org on 28th May, 2012.
6. Olumide E A A, Obionu C N, Mako IV. An assessment of the quality of primary healthcare in Nigeria – report of a survey commisioned by the National Primary Health

care Development Agency. The NPHCDA, Abuja, 2000.
7. UNICEF / Federal Republic of Nigeria, children's and Women's Right in Nigeria. A wake–up call.Situation Assessment and Analysis 2001, National Planning Commisssion and UNICEF, 2001; 2–10.
8. Adeniyi J D, Ejembi C L, Igbineosun P, Mohammed D. The status of primary healtth care in Nigeria. Report of a Needs Assessment survey. The NPHCDA, 2001; 1–100.
9. Population Reports.Improving quality services. Population Information Program, Center for Communication Programs, USA. Series J, No. 47, 1999: 6–30.
10. Shehu U. Health policies in Nigeria: An overview. *Nigerian Journal of Health Planning and Management* 1996; 1(2): 4–9.
11. The Public Relations Office Nnewi North Local Government Area. The profile of Nnewi North Local Government Area 2008; 1-2.
12. Roemer M E, Montaya C A. Quality assesment and assurance in PHC, WHO Offset Publications 1988;105: 1–78.
13. National Bureau of Statistics (NBS) and Macro International Inc., Tanzania Service Provision Asseessment Survey, International Inc. Tanzania, 2007.
14. Ghana Statistical Service (GSS) Health Research Unit, Ministry of Health ORC Macro, Ghana Service Provision Assessment Survey 2002, Calverton Maryland, Ghana Statistical Service and ORC macro, 2003: 59–85.
15. Ministry of Health and population, El – Zanaty Associates and ORC Macro, Egypt service Provision Assessment Survey 2004, Ministry of Health and Population and ORC Macro, Calverton, maryland USA, 2005: 57–83.
16. Ehiri J E, Oyo–Ita A E, Anyanwu E C, Meremikwu M M, Ikpeme M B. Quality of child health services in primary health facilities in Southeast Nigeria. *Child Care: Health and Development*2005; 31(2):181-191.
17. Sambo M N, Lewis I, Sabitu K. Quality of record system in primary health centres of Tafa LGA, North Central Nigeria, *Annals of Nigerian Medicine* 2005; 1(1): 155-158.
18. Musa E O, Ejembi C L. Reasons and routine of paediatric referrals from first level healthfacilities in Sabon Gari Zaria, *Northwestern Nigerian Journal of Community Medicine and Primary Health Care* 2004; 16(1): 10–15.
19. Gouws E, Bryce J, Pariyo G, Schellenberg JA (et al). Measuring the quality of child health care at first level facilities. *Social Science and Medicine* 2005; 61: 613–625.
20. Reerink I H, Sauerborn R. Quality of Primary Health Care in developing countries. Recent experiences and future directions. *International Journal of Quality in Health Care* 1996; 8(2): 131–139.
21. Maurajadeh S, Qutob R, Road F. The assessment of quality of care in prenatal services, the female clients and the healthcare provider, IDRC 1995. CD – Rom medical and health library.
22. BASICS II / Nigeria. Report of the Integrated Child Health Cluster Survey (IHCS), Basic support for institutionalising child survival 2003: 1–3.
23. John M. Children's rights and power: Charging up for a new century. Jessica Kingsley Publishers Ltd, London, 2003:77-198.

LEGEND

A 2-point scoring system was used for checklist analysis.

Availability of equipment, drugs, and supplies (Available – Yes; Not available - No); **General appearance** (Good- well erected buildings with no structural defects, Bad- poorly erected buildings.); **Condition of wall**s (Good - walls with no cracks; Bad - walls with cracks).

Condition of curtains (Good – curtains present, clean and on all windows,(Bad – no curtains, curtains present but not clean or not on all windows); **Furniture (**Good – benches and chair in good condition and clean, Bad – no benches and chair, or present but broken or dirty); **Surrounding** (Good – clean and tidy, Bad – dirty); **Refuse disposal** (Good – ideal covered bin, no refuse littering, Bad – open dumping or no dustbin), **Regularity of water supply** (Constant - borehole or pipe borne water, Fairly constant – supplies from water vendors, overhead tanks).

Regularity of power (Good- at least for 12 hours a day, Bad – less than 12 hours a day).