# Assessment of Infrastructure and Commodity Supply in Nigeria Private Health Facilities: Implication on the implementation for Maternal and Child Care Policies

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**Abstract**

The Government of Nigeria provides health infrastructure, equipment and essential commodities to government owned health facilities, with the exclusion of private health facilities. This study assessed the privately owned health care services provisions, with regard to service delivery rooms / area, utilities, equipment and training and commodity availability.

A cross sectional study was carried out on seventeen randomly selected privately owned health care delivery facilities, in North Central, North West, South East and South-South regions of Nigeria. Using Pathfinder International integrated services delivery assessment tool.

Result showed that all the private health facilities were connected to National grid for power (electricity) supply. 4 out of the 17 (23.53%) had inadequate lighting within the facilities, and supply of water was very good in 9 (52.94%) of the facilities accessed and only 3 (17.65%) had in adequate supply of water. Hot air ovens (auotclave) were used by 58.82% of the facilities for sterilization of instruments. Only 5.88% and 23.53% of the facilities had Norplant implant insertion /removal kits and mini laparotomy kits respectively. Vasectomy kit was not very common in the facilities accessed. All the facilities had sphygmomanometers and stethoscopes.

It can be concluded from this study that the state of the physical infrastructural facilities of the private sector health facilities is generally adequate for delivery of maternal and child health services. Though there is significant absence of systemic approach to quantification of health commodities and availability of essential commodities. It is therefore recommended that federal government and private nonprofit organizations should support the private sector commodity consumption and family planning programmes for reduction of maternal and child morbidity and mortality rates. Ongoing review of the National Reproductive Health Policy should include private sector health facilities.

**Key word:** Private Health Facilities, Maternal and Child Health, Infrastructure and commodities provision.

## Introduction

Effective and efficient delivery of primary health care (PHC) services and health management do not only require technical capability but functional physical infrastructure, equipment and consistent uninterrupted supply of quality essential commodities and consumables. The expansion of primary health care infrastructure in Nigeria has been phenomenal[1]. There have been three remarkable attempts by government at improving PHC infrastructure in Nigeria. The first attempt was in 1976 during the implementation of the Basic Health Services Scheme (BHSS). The second attempt was between 1986 and 1992 when Nigeria adopted the district health system and the LGA focused acceleration of primary health care programme with the devolution of responsibility of PHC to the LGAs. The third attempt of 2010 was the current Ward Health System (WHS) initiative which started in 2001 with the construction of model primary health care centers in selected wards to serve as a focal point for provision of health services in political wards. Over these periods, there has also been establishment of a large number of privately operated health facilities providing maternal and child health care and related services in many communities in Nigeria[2, 3, 4, and 5]. Yet none of the attempts by government at improving PHC infrastructure includes private health facilities. Even though it is a well known fact that private health sector facilities also play significant role in improving access to and ensuring equity in health care delivery.

However, it is not well known if the infrastructural facilities, trained health personnel, equipment and supply of commodities and consumables at private health facilities in Nigeria, are adequate for providing minimum health care package

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for maternal and child health care.

This study therefore accessed the health Infrastructure – vis-à-vis service delivery rooms area, utilities, equipment and training and commodity availability in private health sector for quality maternal and child service delivery in Nigeria. The study will inform the review and implementation of integrated maternal and neonatal child health care IMNCH policy.

**Materials And Methods**

A cross section study was carried out in one hundred and two private health facilities. For proportional distribution seventeen health facilities were selected from a randomly selected State and LGA in each of the six regions namely North Central, North West, North East, South East, South West and South-South Nigeria. All the private health clinics/hospitals were drawn from the service delivery facilities of Non-Governmental Organizations (NGOs), namely the Nigeria Medical Association (NMA), Federation of Muslim Women Association of Nigeria (FOMWAN) and Evangelical Church of West Africa (ECWA) in Kaduna State. The Medical Women Association of Nigeria, (MWAN), Association of General Private Medical Practitioners of Nigeria (AGPMPN), and Abia State Network of Non-Governmental Organization.

The facility assessment of the clinics / hospitals was carried out after obtaining consent from each facility head and Director of Non-Governmental Organizations (NGOs). The exercise was carried out using approved Pathfinder International Quality of Care for Integrated Services Facility Assessment Tool. A planning meeting was held to plan the modalities for the assessment. The outcome of the planning meeting among others was the designation of and the composition of the team of assessors to visit each selected health facility. Pre assessment training was carried out to acquaint the assessors with the tools and to agree on modalities and deliverables. Deployment to the field took place after the tool was pre tested at Kwali Area Council to ascertain the ease of administration. The administered tools were returned and analyzed.

**Results**

From table (1) above all the private health facilities were connected to the National grid for power supply. Only few of the facilities, 17(23.53%) had inadequate lighting within the facilities, supply of water was adequate in 84(82.35%) of the facilities accessed, with only 18(17.65%) having inadequate supply of water.

Form Table 2; All the facilities had sphygmomanometers and stethoscopes while tables, chairs and screens were adequate in 72(70.59%) facilities. Operating room light was functional in all the facilities and 90(88.24%) of facilities had adequate instrument trays. Only 48(47.06%) had gooseneck lamps, 30(29.41%) facilities did not have while 24 (23.53%) needed repairs. Hot air oven (autoclave) was used by 60(58.82%) of the facilities, More than half 54(52.94%) of the facilities had IUD insertion/ removal kits while only six 5.88% of the facilities had implant insertion /removal kits. None of the facilities had adequate mini laparotomy and vasectomy kits. It was inadequate in the only facility that had it 6(5.88%). Seventy two (70.59%) of the health facilities used disinfectants and antiseptics (Jik, Izal and Savlon) to decontaminate instruments in the hospitals. About 18(17.65%) to 30 (29.41%) have inadequate drapes and linen. In all the facilities accessed gloves and safe needles syringes were found in 84(82.35%); See Table 3.

A study of the figures given above shows that while a reasonable number of clinics – typically above 70% had adequate infrastructure, quite a number still fall below the boundary of acceptability. Areas in which existing structures / equipment generally fell short included; Outside Signage, Availability and Visibility of behavioral change communicating materials (BCC) and IUD insertion kits. Norplant and Minilap kits were discovered to be generally unavailable.

In the area of commodity availability, the clinics were asked about their supplies, and if any of these ran out in the immediate past (three months). This was to ascertain the amount and condition of contraceptive supplies, the stock-keeping behavior and the ability to provide services on an ongoing basis.

Form table 4, combined pills and IUCD commodities stock run out for three months occurred only in 12(11.76%) and 24(23.53%) of the facilities respectively, while Male condoms and injectables were consistently available except for 12 (11.76%). Female condoms were not available in 90(88.24%) and implants in 84(82.35%) of the facilities accessed so also prepackage emergency contraceptive pills (ECPs) were not available in 66(64.7).

From the results presented above, most clinics had adequate quality / supply of commodities. This is shown in the percentages which averaged over 70%. However, there is insufficient supply of Female condoms, Implants and Prepackaged ECPs, with more than 50% of facilities visited lacking this commodities.

In table 5; above, Inventory of equipment and commodities were present in 72 (70.59%) only 24(23.53%) do not have a good storage systems for commodities. More than two-third 72(70.59%) had good systems of ordering reordering of supplies.

**Discussion**

Equipment is essential elements of any health care service delivery. To deliver efficient services, basic equipment must be available in a facility. In this study more than 50% of the facilities accessed had minimum equipment such as basic emergency obstetric care (EOC) items like oxytocics, anticonvulsants,

## Tables of Results

**Table 1: Infrastructure – Utilities**

| Parameters | NP | IAQ (N %) | AQ (N % | Total |
|---|---|---|---|---|
| Electricity | 0(0.00) | 17(5.88) | 96(94.12) | 102(100.0) |
| Running Water | | - | 102(100.0) | 102 (100.0) |
| Functioning sink in examination room | - | 18(17.65) | 84(82.35) | 102(100.0) |
| Adequate supply of water | | 18(17.65) | 84(82.35) | 102(100.0) |
| Toilet for Clients | 6(5.88) | 24(23.53) | 78 (76.47) | 102(100.0) |
| Adequate lighting | 6(5.88) | 18(17.65) | 78(76.47) | 102(100.0) |
| Telephone | 6(5.88) | 24(23.53) | 72(70.59) | 102(100.0) |
| Signs Directing Clients to servic es | 12(11.76) | 24(23.53) | 66(64.70) | 102(100.0) |

Note; Not Present (NP), Inadequate (IAQ) and Adequate (AQ).

Table 2: Infrastructure – Equipment

| Parameters | NA (%) | IAQ (N %) | AQ (N %) | Total |
|---|---|---|---|---|
| Tables & chairs | 6(5.88) | 24(23.54) | 72(70.59) | 102(100.0) |
| Stethoscopes | ----- | ------- | 102(100.0) | 102(100.0) |
| Sphygmomanometer | ---- | -------- | 17(100.0) | 17(100.0) |
| Screens | 12(11.76) | 18(17.65) | 72(70.59) | 102(100.0) |
| Instrument trays | 6(5.88) | 6(5.88) | 90(88.24) | 102(100.0) |
| Hot air oven or autoclave | 30(29.41) | 12(11.76) | 60(58.82) | 102(100.0) |
| IUD Insertion/removal Kits | 30(29.41) | 18(17.65) | 54(52.94) | 102(100.0) |
| Norplant insertion/removal kits | 84(82.35) | 12(11.76) | 24(23.53) | 102(100.0) |
| Mini Lap/Vas ectomy Kits | 72(94.12) | 6(5.88) | ----- | 102(100.0) |
| Operating Room Light | ------ | -------- | 102(100.0) | 102(100.0) |
| Goose Neck Lamp | 30(29.41) | 24(23.53) | 48(47.06) | 102(100.0) |
| Revolving stool | 12(11.76) | 30(29.41) | 60(58.82) | 102(100.0) |

Note; Not Available (NA), Inadequate (IAQ), Adequate (AQ)

Table 3: Infrastructure –Consumables

| Parameters | NP | IAQ (N %) | AQ (N %) | Total |
|---|---|---|---|---|
| Items for decontamination | 0(0.00) | 24(23.53) | 72(70.59) | 102 (100.0) |
| Supply of Cleaning Instruments | 6(5.88) | 18(17.65) | 78(76.47) | 102(100.0) |
| Gloves | ------ | 18(17.65) | 84(82.35) | 102(100.0) |
| Needles/syringes | ---- | 18(17.65) | 84(82.35) | 102(100.0) |
| Linen | 6(5.88) | 18(17.65) | 78(76.47) | 102(100.0) |
| Drapes | 6(5.88) | 30(29.41) | 66(64.71) | 102(100.0) |

Note; Not Available (NA), Inadequate (IAQ), Adequate (AQ)

Table 4: Commodities –Stock out in Last three months

| Parameters | NA | IAQ (N %) | AQ (N %) | Total (%) |
|---|---|---|---|---|
| Combined Oral Pills | 12(11.76) | 12(11.76) | 78(76.47) | 102(100.0) |
| Male Condoms | 6(5.88) | 12(11.76) | 84(82.35) | 102(100.0) |
| Female Condoms | 90(88.24) | 6(5.88) | 6(5.88) | 102(100.0) |
| IUCD | 24(23.53) | 12(11.76) | 66(64.71) | 102(100.0) |
| Injectables | ------ | 12(11.76) | 90(88.24) | 102(100.0) |
| Implants | 84(82.35) | 6(5.88) | 12(11.76) | 102(100.0) |
| Progesterone Only Pills | 12(11.76) | 12(11.76) | 78(76.47) | 102(100.0) |
| ECPS | 66(64.7) | 12(11.76) | 24(23.53) | 102(100.0) |

Note; Not Available (NA), Inadequate (IAQ), Adequate (AQ)

Table 5: Storage and maintenance systems

| Parameters | NA | IAQ (N %) | AQ (N %) | Total |
|---|---|---|---|---|
| Inventory of equipment and commodities | 18(17.65) | 12(11.76) | 72(70.59) | 102(100.0) |
| Storage according to expiring dates | ------ | 24(23.53) | 78(76.47) | 102(100.0) |
| Supplies maintained in Good conditions | ------ | 24(23.53) | 78(76.47) | 102(100.0) |
| Expired Commodities destroyed | ------ | 24(23.53) | 78(76.47) | 102(100.0) |
| System for ordering supplies | ----- | 30(29.41) | 72(71.59) | 102(100.0) |

Note; Not Available (NA), Inadequate (IAQ), Adequate (AQ)

manual vacuum aspiration (MVA) to complete abortion process, antibiotics and vacuum pump for assisted vaginal delivery. Important items in PHC service to prevent maternal morbidity and mortality. This is slightly higher than the National primary health care development agency (NPHCDA) health facility survey with overall result of less than 25% of health facilities had more than half of the equipment package[3]. These findings were reinforced by data from a 2010 survey of facilities in Lagos and Kogi states which indicate that a third of the available blood pressure gauges, antiseptics and sterile gloves were supplied by health personal themselves[3,4]. In another development, a survey of obstetric care in 4,503 health facilities in 12 states in 2011 collected data on basic obstetric care instrument. It was reported that only about 66% of public sector PHC facilities had basic instrument such as fetal stethoscope and sphygmomanometer[4]. However, t***he status of the medical equipment was reasonable, as up to 80% are functional.***

***A worrying development was the inadequate equipment to ensure an adequate re-usable supply of sterile surgical instruments that are required for all kind of medical procedures. There is implication in hospital infection prevention caution / procedure.***

Thou this study recorded significant number of essential commodities with most vital and important commodities lacking in the facilities the situation that can affect the effectiveness of maternal and child health services in the study area and in Nigeria as documented in previous study[7], the service delivery will be severely hampered by the shortages of essential commodities in the health facilities. Besides compromising most therapies, the shortage of commodities has caused a major decline in the utilization of reproductive health services, a concomitant increase in self medication, and loss of public confidence in health services.

The systems for managing these commodities however, fared better. About 70% of the clinics assessed had adequate to good systems put in place for handling these commodities. Nevertheless, the percentages of facilities that need Inventory of equipment and commodities management systems put in place is a cause for concern – at an average of about 25%. Table 5. This is similar to National Logistics Gap analysis with result of supply chain follows a “pull” forced-ordering maximum-minimum inventory control system[10] in addition to evidence from survey on logistics data management responsibilities between development organizations in Nigeria neither clear nor documented[10, 11].

## Conclusion

It is clear from the study that the state of the physical health infrastructural facilities of the private sector hospital is generally adequate with significant absence of systemic approach to quantification of health commodities and availability of essential commodities requiring urgent intervention by the government

## Recommendations

*There is a need to optimize procurement to ensure that the right equipment is procured in private facilities by establishing a model based on the basic package of services and a procurement prioritization list.*

Federal government and private nonprofit organization should support the private sector commodity consumption and family planning programme for reduction of Maternal and child health morbidity/ mortality rate.

And finally it is recommended that ongoing review of the National Reproductive Health and Infant, Neonatal, Maternal and Child Health Policy should include private sector health facilities.

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