

## Policy and Programs for Reducing Maternal Mortality in Enugu State, Nigeria

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### Abstract

Using in-depth and key informant interviews, and review of literature on maternal health in Enugu State, this study focused on describing and analyzing the extent to which the State government is committed to reducing maternal mortality ratio (MMR) in the State. The results revealed that the reported MMR of about 1,400/100,000 live-births in the State is attributable to preventable medical causes, and is fueled by socio-cultural factors, including poor access to skilled medical personnel. In response to the challenges of high MMR in the State, the Enugu State government initiated a policy on free maternal and child health (FMCH) care in 2007, as a flagship of its maternal health programmes. The FMCH provides free medical, antenatal, delivery and post-natal care for poor women and children in primary and secondary hospitals, and those referred to tertiary hospitals in the State. However, the ratio of doctors to pregnant women in the State (1:1,581) remains abysmally low. Funding of the FMCH also remains inadequate as Local Government Councils (LGCs) demonstrate weak commitment to making contributions to the FMCH programme. We recommend a series of proactive approaches, including high level advocacy as ways to improve political commitment for reducing maternal mortality in Enugu State (*Afr. J. Reprod. Health* 2010; 14[3]: 19-30).

### Résumé

**Politiques et programmes pour la réduction de la mortalité maternelle dans l'état d'Enugu, Nigéria: Rapport sur l'évaluation des besoins.** A l'aide des interviews en profondeur et des informateurs et de l'analyse de la littérature sur la santé maternelle dans l'état d'Enugu, cette étude a concentré sur la description et l'analyse de jusqu'à quel point le gouvernement de l'état s'engage à réduire le rapport de la mortalité maternelle (RMM) dans l'état. Les résultats ont révélé que ce que le RMM a signalé à l'égard des 1400/100,000 naissances vivantes est attribuable aux causes médicales évitables et encouragés par des facteurs socioculturels y compris le pauvre accès au personnel médical qualifié. Comme réaction aux défis du RMM élevé dans l'état, le gouvernement de l'état d'Enugu a lancé une politique concernant le service de la santé maternelle et infantile gratuit (SSMI) en 2007 comme un produit de ses programmes de santé maternelle. Le SSMI assure les services de soins médicaux, prénatals, d'accouchement et post-natals pour les femmes pauvres et les enfants dans les hôpitaux primaires et secondaires et ceux qui ont été adressés aux hôpitaux tertiaires dans l'état. Pourtant, le rapport médecins-femmes enceintes dans l'état (1:1581) reste atrocement bas. Le financement du SSMI reste inadéquat comme les Administrations Locales (AL) font preuve d'un faible engagement au financement du programme SSMI. Nous préconisons une série d'approches proactives, y compris un haut niveau de plaidoyer comme des façons d'améliorer l'engagement politique pour réduire la mortalité maternelle dans l'état d'Enugu (*Afr. J. Reprod. Health* 2010; 14[3]: 19-30).

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Key words: Maternal Mortality, Enugu State, Needs Assessment Report, Policies and Programs.

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### Introduction

The state of maternal health is one of the key indicators of a society's level of development, as well as an indicator of the performance of the health care delivery system<sup>1</sup>. Consequently, reduction in maternal mortality is a major agenda of many global initiatives such as the Millennium Development Goals (MDGs). However, five years to 2015, the year targeted for achieving a global reduction in maternal mortality, the continuing high rate of maternal morta-

lity ratios in Nigeria remains worrisome. According to the UN and World Bank statistics, an estimated 144 women die each day in Nigeria from pregnancy-related complications, making her one of the worst countries for women to deliver babies in the world<sup>2</sup>.

Available statistics indicate that Nigeria's 59,000 annual maternal deaths ranks second after India's 117,000 maternal deaths, in terms of global hierarchy of the burden of maternal mortality. However, India with a population of over one billion people reduced its maternal mortality from 136,000 to

117,000 between 2000 and 2005. By contrast, Nigeria's maternal deaths rose from 37,000 in 2000 to 59,000 in 2005 with a population of 140 million<sup>3</sup>.

Enugu state is one of the six states in the south-east geopolitical zone of Nigeria. Available data indicate that maternal mortality ratio is high in Enugu State, with figures ranging from 772 to 998 per 100,000<sup>4,5</sup>. This is almost thrice the figure (286 / 100,000) reported for the entire southeast zone<sup>6,7</sup>, and almost double the 545 national average for the seven years period preceding the 2008 National Demographic and Health Survey<sup>8</sup>. Currently, maternal mortality ratio for Enugu State approximates rather closely to the national ratio of 1,100 maternal deaths for every 100,000 live births<sup>9</sup>. The major medical causes of death in the state are largely preventable, and they include severe anaemia, malaria, obstructed labour, unsafe abortion, eclampsia, postpartum haemorrhage and infections<sup>10-14</sup>. Early in 2000, several reports indicated that maternal health in Enugu State was deplorable, and that maternal mortality was more than 3000 deaths per 100,000 live births in the Nsukka senatorial zone of the State<sup>15-17</sup>.

Poor maternal health status in Nigeria, in general and indeed Enugu State is largely attribute-able to poor antenatal care practices, lack of access to and use of skilled attendants at birth and a weak healthcare delivery system. The situation is further aggravated by poverty and ignorance, which account for women's inability to access evidence-based antenatal care and delivery services<sup>18</sup>. In many cases, medical facilities are few and thinly spread. In addition, it has been noted that whilst women in Enugu State tend to delay pregnancy until a later age of 18 years and above, they have very short birth intervals, a median of 27 months<sup>19,20</sup>. Policies and programmes in maternal health are seemingly ineffective in the state. However, reasons for this situation remain unclear. It is becoming increasingly evident that unless national and sub-national levels of government make important contributions to improving maternal health, there will be little hope of achieving a significant reduction in ratios of maternal mortality in the country any time soon. The objective of this study was to investigate and evaluate the nature of existing policies and programs for achieving optimal maternal health and reducing maternal mortality in Enugu state. The belief is that the results will help to identify residual measures that need to be put in place to reduce maternal mortality in the state.

## Methodology

### *Study design*

The study design permitted a description and analysis of government commitment to reduction of ma-

ternal mortality in Enugu State. The study employed in-depth interviews and review of documents in ensuring data on the key issues. Operationally, the study employed a cross sectional design, which focused on the health of women of reproductive ages in the State as the main unit of analysis.

### *Study area and population*

The study was conducted in Enugu State, located between latitude 6° 30' N and longitude 7° 30' E. It is a mainland state in southeastern Nigeria ([http://en.wikipedia.org/wiki/Enugu\\_State](http://en.wikipedia.org/wiki/Enugu_State)). Its capital is Enugu in Enugu North LGA. Carved out of the old Anambra State in 1991, the principal cities in the state are Enugu, Udi, Oji and Nsukka. The state shares borders with Abia and Imo States to the South, Ebonyi State to the East, Benue State to the Northeast, Kogi State to the northwest and Anambra State to the West.

Lying partly within the semi-tropical rain forest belt of the south, the State spreads towards the north through a land area of approximately 8,727.1 square kilometers (3,369.6 sq mi). Its physical features change gradually from tropical rain forest to open woodland and then to Savannah. Apart from a chain of low hills, running through Abakaliki, Ebonyi State in the east to Nsukka in the north-west, and southwards through Enugu and Agwu, the rest of the state is made up of low land separated by numerous streams and rivulets, the major ones of which are the Adada River and the Oji River.

The 2006 population census put Enugu State population at 3, 257, 298<sup>21</sup>. The females constitute 50.1% of the population. Population of women of reproductive age (15-49 years) was put at 716,600 and annual fertility was put at 6 children per woman and contraception is still low. About 50% of women (49.5%) use condom in higher risk intercourse. With respect to use of any modern contraceptive for family planning 21.1% was reported<sup>8</sup>. With an annual growth rate of 2.35%, the 2009 population of Enugu State was put at 3503618 persons.

The University of Nigeria Teaching Hospital (UNTH) is located in Enugu State, as is the Enugu State University Teaching Hospital and College of Medicine. In addition to numerous private hospitals and clinics in the State, there are seven District Hospitals in Enugu Urban, Udi, Agbani, Awgu, Ikem, Enugu-Ezike, and Nsukka and at least one health center or cottage hospital in every one of the seventeen (17) Local Government Areas and thirty-nine (39) Development Centres in the State. There are 46 Government owned health facilities located in seven health districts.

The people are predominantly Igbo with strong attachment to traditionalism. Though highly Christianized and civilized, the people attach great importance to certain acts considered abominable and

sinful against the earth<sup>22</sup>. Some of such acts are premarital sex and pregnancy out of wedlock. Consequently, responsible parenthood in marriage is promoted and acts to prevent childbirth discouraged<sup>23</sup>. Unfortunately, not much seem to be done traditionally to enhance maternal health. This is a pronatalist society like other Igbo societies in the Southeast zone of Nigeria, where childbearing is accorded high priority within marriages<sup>24,25</sup>. Maternal mortality is expectedly high for many reasons. These reasons have been explored in this study through interviews with key government health official and review of documents.

#### *Instruments and methods of data collection*

In-depth interviews with key officials in the Ministry of Health constituted the major source of data for the study. Members of staff of the State Population and the Local Government Service Commissions were also interviewed. Six in-depth interviews were conducted for this study. Four of these interviews were conducted within the Ministry of Health, after approval was received from the Honourable Commissioner as well as the Permanent Secretary for Health. Other interviews were held with officials of the Local Government Service Commission and Enugu State Office of National Population Commission.

Further to the data collected from the in-depth interviews, documentary reviews were undertaken to corroborate information from the in-depth interviews as well as supplying additional information. In doing this, such documents as the Nigeria Demographic and Health Survey report for 2008, policy brief on Free Maternal and Child Health Care, Enugu State Ministry of Health Strategy for Health 2008-2013 as well as budget estimates for Enugu State 2009 were reviewed.

#### *Data management and analysis*

Detailed notes were taken during the interview sessions. In addition, tape-recorders were used to record the entire discussions. These tape recordings were transcribed. In going through the transcriptions, attention was placed on phrases with contextual or special connotations and they were noted. After review and correction, all interviews and transcripts were typed with a standard word processing package. Themes were developed in the form of codes. Responses and comments were put under the appropriate thematic codes / headings. These were organized under topic headings, which formed the framework for the analysis of result in this study and finally pulled as ethnographic summaries with illustrative quotes from the responses of the study subjects.

The documents were reviewed for data relating to maternal health in Enugu State. The content ana-

lysis approach was used, though the focus was not to generate frequencies of mention of information. The relevant information were extracted and employed as corroborative evidence to the information collected during interviews.

## **Results**

### *Current State of Maternal Mortality in Enugu State*

The National Demographic and Health Survey (NDHS, 2003), put the maternal mortality ratio (MMR) for Enugu at 1,400 per 100,000 live births<sup>19</sup>. This compares negatively with the national average of 984 per 100,000 live births<sup>26</sup>. According to Okafor and Rizzuto (1994)<sup>27</sup>, most Nigerian women give birth outside hospitals, making it difficult to get comprehensive list of maternal mortality in Nigeria. Furthermore, the 2008 NDHS did not cover maternal mortality ratio in Enugu State. All the same, available hospital studies, conducted in tertiary hospitals in Enugu, the Capital City of Enugu State reported maternal mortality ratio between 772 and 998 per 100,000 live births in 2005 and 2008 respectively<sup>4,5</sup>. The actual ratio should be much higher if the statistics of all women giving birth in non-tertiary health facilities and deliveries with traditional birth attendants are well kept or recorded.

### *Medical and Social Causes of Maternal Mortality in Enugu State*

Medical causes of maternal deaths include direct and indirect obstetric deaths. Direct obstetric deaths are those arising from obstetric complications of pregnant state (pregnancy, labour and the post partum period), from any interventions, omissions, incorrect treatment, or from a chain of events resulting to any of the above. Indirect obstetric deaths are those resulting from previously existing disease or disease that developed during pregnancy and which was not due to direct obstetric causes, but was aggravated by physiological effects of pregnancy. Both categories of medical causes of maternal mortality are very much evident in Enugu State. According to Onah, et al (2005)<sup>4</sup>, the leading causes of maternal deaths among the women were obstetric haemorrhage (19.1%), sepsis (18.0%), prolonged obstructed labour/ruptured uterus (16.9%) and pre-eclampsia/eclampsia (16.9%). In-depth interview result, from the same study of maternal mortality in health institutions with emergency obstetric care facilities in Enugu State, corroborated the high maternal mortality ratio recorded and the type 3 delays in tackling obstetric emergencies. It also showed some discrepancies between reality and the health providers' perception of the magnitude of maternal mortality situation in the state.

Consequently, the current state of maternal deaths among women during pregnancy, delivery

and/or soon after childbirth is attributable to preventable complications, which result from poor utilization of antenatal care services among others. In a recent doctoral dissertation conducted in rural and urban communities of Nsukka zone of Enugu State, Onah (2009) revealed high rate of pregnancy related complications<sup>28</sup>. In her study, Onah (2009)<sup>28</sup> revealed that childbearing activities are high in Enugu State. About one-fifth (21.8%) of the 1808 women studied indicated that they have had between 1 and 5 pregnancy related complications.

Malaria in pregnancy (MIP) is another major killer of women. The effect of malaria parasitaemia has been documented from different scientific efforts. Despite the tragedy and loss of maternal life due to malaria, the majority of pregnant women in Nigeria do not have access to ITNs. In Enugu State, for instance, the NPC and ICF Macro (2009)<sup>8</sup> reports that only 5.5% of the households surveyed had at least one treated net while only 3.9% of the pregnant women slept under a treated net. Reasons for the low utilization are linked to a number of socio-cultural factors, including ignorance, poverty, beliefs and gender issues. There is also low utilization of antenatal clinic (ANC) services among Nigeria women compared to women in other African countries and also the lack of MIP services existing in antenatal clinic's programme<sup>30</sup>.

The pattern and utilization of ANC services showed that only 58% of women use ANC. Utilization of ANC is influenced by education and locality. According to the NDHS report for 2008, 98% of women in urban localities received ANC services from health professionals. Similarly, 97% of mothers with more than secondary education received ANC services from health professionals. However, over 70% of the population is in the rural setting. One therefore takes more seriously and more correct the report of Enugu State Government<sup>26</sup>, which revealed that only 40% of all deliveries in Enugu State are taken by skilled personnel in public and private facilities. This leaves about 60% of pregnant women relying on alternative sources.

Poor utilization of ANC services in the health facilities in Enugu State is largely attributable to a number of social factors, namely poor access to skilled attendants at birth and weak health system.

In many cases, medical facilities are few and thinly spread (Table 1). The State Government has about 46 health facilities. The NDHS report of 2008 revealed that 68.1% of 261 pregnant women in Enugu State had antenatal care from health professionals. Only 53.6% of 444 births utilized skilled birth attendants.

These situations are exacerbated by poverty and ignorance, which account for women's inability to access critical ANC services and drugs<sup>18</sup>. According to the Director of Public Health Services (DPHS), in an interview, the success of the newly

initiated Free Maternal and Child Health (FMCH) programme of the present administration of his Excellency, Sullivan Chime attests to the critical role of poverty in the utilization of health facilities by pregnant women and of course maternal health in the State. In his words:

*...the free maternal and child health programme has worked well since its introduction. When you go to the hospitals and you find over 100 women at a time. These hospitals were previously deserted. For me it shows that finance has been the problem.*

A skilled health worker (doctor, nurse or midwife) at delivery is critical to reducing maternal deaths<sup>30</sup>. There are approximately 69 medical officers and 260 nurses in the State Government employ (Table 1). On the other hand, there are estimated 716,600 women of reproductive age. This gives a ratio of 10,385 women to one medical officer in the state. The trouble of seeing trained medical personnel discourages mothers from using health facilities.

The rural LGAs constitute 70.6% of the LGAs in the State and has 64.6% of the population of the State (Figure 1). There are five urban/semi urban LGAs namely Enugu East, Enugu South and Enugu North, as well as Nsukka and Oji River. The remaining 12 LGAs are rural. More than sixty four percent (64.1) of the female population aged 15-49 years live in the rural LGAs.

Though the rural LGAs have 76.1% of the PHCs, 60.8% of the Doctors in the State Ministry of Health are posted to the rural LGAs and just above half (59.1%) of the nurses/midwives in the State Ministry of Health are posted to the rural LGAs. On the other hand, the Local Government Service Commission has 70.6% and 70.1% of its Doctor and nurses/midwives respectively in the rural LGAs.

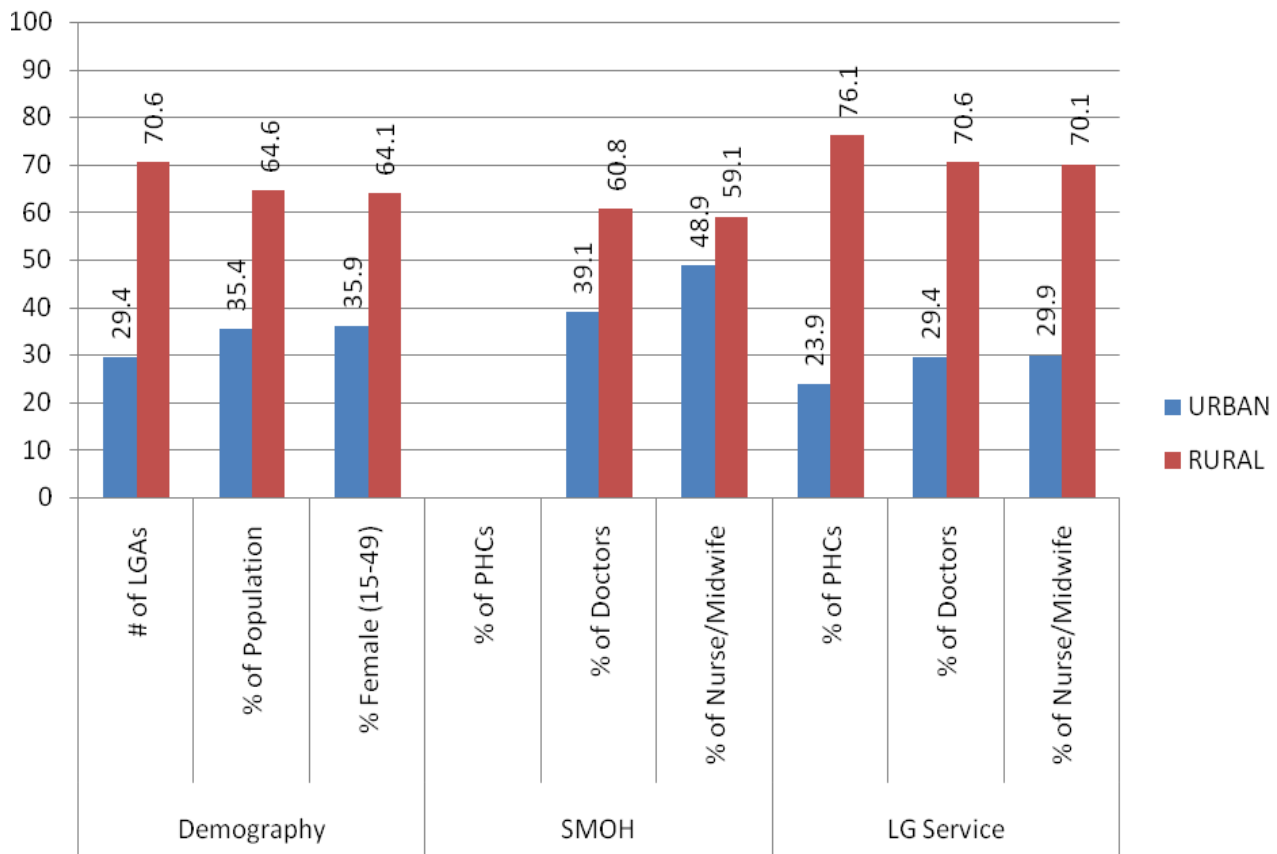
#### *Existence of Policies for Promotion of Maternal Health*

The administration of Governor Sullivan Chime accords maternal health high priority. This is one programme where the government has worked out modality for ensuring sustainable funding by evolving a common purse funding from local and State governments. In the words of the DPRS, which were also typical of the expressions of the DPHS, Permanent Secretary and DFA:

*I think going by his Excellency's interests and what he has done in the area of health I will say that it is top-most in his priority list because as soon as he came into power, the idea of free maternal and child health was hatched....*

**Table 1.** Population, Health Facilities & Personnel within the Local & State Government Service Commission and Contributions to FMCH by LGAs.

LGA	POPULATION					# PHC	Health Personnel in LG Service				Health Personnel in State Civil Service				Contributions to FMCH (N'000)	
	Total 2006	Total 2009	Male	Female	P15-49		# DOCTORS	NURSES/ MIDWIVES	# CHOs	# CHEWs	# DOCTORS	NURSES/ MIDWIVES	# CHOs	# CHEWs	2008	2009
Aninri	136211	146052	71004	75048	35723	14	2	3	4	24	4	11	0	0	412	2,528
Awgu	197292	211531	103070	108461	51627	19	2	4	6	94	2	5	0	0	1,236	902
Enugu East	277119	297119	140684	156435	74463	14	2	3	1	30	4	11	0	0	1,648	1,704
Enugu North	242140	259615	127478	132140	62898	11	2	3	2	59	1	4	0	0	0	1,704
Enugu South	198032	212324	100524	111799	53217	07	2	3	5	81	12	70	0	0	0	3,018
Ezeagu	170603	182913	90562	92353	43960	23	2	15	4	71	4	10	0	0	0	2,606
Igbo Etit	208333	223368	112859	110510	52603	11	2	5	3	74	3	23	0	0	1,648	2,840
Igbo Eze N	258829	277509	135167	142341	67754	17	2	3	1	77	7	16	0	0	842	2,450
Igbo Eze S	147364	157999	77860	80139	38146	06	2	4	1	70	3	14	0	0	824	2,606
Isi-Uzo	148597	159321	77729	81592	38836	12	2	1	0	45	3	4	0	0	2,060	3,430
Nkanu East	153591	164676	81170	84254	40105	19	2	1	1	43	1	11	0	0	2,060	3,018
Nkanu West	147385	158022	77953	80069	38113	15	2	4	8	71	1	4	0	0	0	3,430
Nsukka	309448	331781	160201	171579	81672	14	2	13	4	62	2	10	0	0	824	3,430
Oji River	128687	137974	66173	71859	34205	11	2	4	6	94	8	32	0	0	3,708	3,430
Udenu	178687	191583	94759	96823	46088	23	2	8	7	64	2	14	0	0	1,648	2,606
Udi	238305	255503	126424	129080	61442	15	2	12	2	47	3	5	0	0	1,236	3,430
Uzo-Uwani	127150	136326	68355	67966	32352	08	2	1	2	69	9	16	0	0	1,648	2,038
<b>TOTAL</b>	<b>3267783</b>	<b>3503618</b>	<b>1711971</b>	<b>1792448</b>	<b>853205</b>	<b>239</b>	<b>34</b>	<b>87</b>	<b>57</b>	<b>1066</b>	<b>69</b>	<b>260</b>	<b>0</b>	<b>0</b>	<b>9,064</b>	<b>45,170</b>



**Figure 1.** Equity in Distribution of Health Personnel in Enugu State and LG Service Commission.

Enugu State has policy for the promotion of maternal health. It is called Free Maternal and Child Health (FMCH) policy. The policy ensures availability of and access to quality health care services to women and children. According to the DPHS, the government is executing the policy on all fronts to ensure its success. In his words:

*...we have even made efforts to integrate the private sector. The programme built on the policy is fully operational now in the public sector. All public hospitals give free treatment to mothers from ante natal, delivery and post delivery....*

*Available programme relating to reduction of maternal mortality*

A number of programmes are put in place to promote maternal health in Enugu State. These include:

- Integrated maternal and neonatal child health programme
- Family planning programme
- Safe motherhood programme
- Free maternal and child health programme

The State government is passionately involved in the FMCH programme. Within this programme government funds all pregnancy related costs. These include antenatal, delivery and postnatal fees. What it means is that women get free medical services for ailments, care and services during and after pregnancy and delivery. According to the DPHS this covers antenatal, delivery of all types and postnatal services (Enugu State Strategy for Health, 2008-2013)<sup>7</sup>.

The State University Teaching Hospital Park Lane, serves as a referral hospital for cases that could not be treated in the state primary and secondary health institutions. By these arrangements, the teaching hospital will no longer admit patients on free maternal and child care services directly, except those referred to it. The primary and secondary health institutions in the State like the Enugu Poly Sub-District Hospital were prepared and equipped to take care and accommodate the volume of patients that will be visiting them under the programme. Also, medical doctors and other para-medical staff are put on call services to attend to patients.

On the sustainability of the free medicare programme Commissioner Chukwunweike (<http://enuguppphousing.com/news2008-1.html>, accessed February 18, 2010)<sup>32</sup>, noted that apart from govern-

ment's readiness to sustain it, local government chairmen in the State are now collaborating with government to take the programme to the next level. While commending Governor Chime for the initiative, Commissioner Chukwunweike called on development partners and other stakeholders to support the State government in this direction, noting that the programme is targeted at the poor and those who could not afford their hospital bills.

The State and the 17 Local Government Councils jointly fund the FMCH programme in the State. Within the first one year of the FMCH, the State Government spent over 160 million Naira. According to Dr. Martin Chukwunweike, then Commissioner for Health, Enugu state government has spent the sum of 160 million Naira on the running of its free maternal and child health care services within one year of the operation of the programme.

#### *Impact of the Programmes in the Reduction of Maternal Mortality*

No impact assessment has been conducted. However, the DPHS noted that

*...the programme has worked very well since the introduction of FMCH.... Enugu State was the first to introduce FMCH.... So we suspect that people come from other States. You go to the hospitals and you find over 100 women. I think this is the best programme the present administration has introduced.*

Furthermore, Dr. Martin Chukwunweike (<http://enuguppphousing.com/news2008-1.html>, accessed February 18, 2010)<sup>32</sup>, said that the programme has drastically reduced maternal and infant mortality in the state. He disclosed that the free health care service delivery programme has also reduced the patronage of quacks, traditional birth attendants and also increased the patronage of government health institutions. He further noted with satisfaction the success story of the free health care services, adding that a good number of pregnant and nursing mothers who could not pay their hospital bills have benefited from the programme.

He stated that although government has enough drugs and consumables to take care of the increasing number of patients who visit health institutions in different parts of the State for treatment under the programme, one of their major problems now is adequate medical and paramedical staff to cope with the number of patients. To meet this challenge, the State and Local Government Service Commissions recruited more medical staff and renovated the State School of Midwifery at Awgu to start producing midwives who will work for the State.

It is believed that the quality of medical services has improved greatly in the state since the implementation of the FMCH programme in the State.

According to the DPRS:

*... in terms of quality, I can say that there has been a very remarkable improvement... because the operations of the system and the care providers have been trained on life saving skills and there are good doctors, nurses and all those that take delivery and attend to under 5 year children and the rest of them. There has been a huge amount of capacity building on those people.*

#### *Funds Available from Private, Donor and NGO Sources for Maternal Mortality Reduction*

Various funds are available from various sources for the promotion of maternal health in Enugu State. For instance, the State Government contributed twenty five million and fifty million Naira (₦25,000,000.00 and ₦50,000,000.00) in 2008 and 2009 respectively toward FMCH. In the same periods the UNICEF contributed four hundred and fifty thousand, five hundred Naira and twenty-four million, six hundred and thirty three thousand, one hundred and sixty four Naira (₦450,500.00 and ₦24,633,164.00) for the promotion of safe motherhood programmes in 2008 and 2009 respectively. The GAVI fund contributed a total of two million, one hundred and sixty seven thousand Naira (₦2,167,000.00) for safe motherhood activities in 2008/2009 fiscal year. The 17 LGAs contributed various sums in support of the FMCH programme in 2008 and 2009 (Table 1).

However, the contributions of the LGAs are rather epileptic. As shown in Table 2, the monthly contributions of the LGAs to this fund are irregular. For instance, in 2008, four LGAs made no contributions at all, while others made between one and five months contribution. In 2009, Awgu LGA made only one-month contribution while Nkanu East, Nkanu West and Oji River LGAs made seven months contributions each. The number of months ranged from zero to five, with an outlier that contributed nine times. Fifty percent of the LGAs made an average of 1-4 months contribution, with a median of 3 months in 2008. In 2009, 75% of the LGAs made between 5 and 7 months contributions, on the average, with a median of five months contributions.

Varying degrees of commitment to the FMCH programme was also noticed with respect to the amounts of monies contributed by the different LGAs. A total of 45 million naira was contributed in 2008. This ranged from less than one million naira contributed by Awgu LGA to 3.4 million naira contributed by Isi-Uzo, Nkanu West, Nsukka, Oji River and Udi LGAs. Though the contribution is increasing, the average contribution is still below the required amounts for supporting the programmes.

Figure 2 revealed that 75% of the LGAs contributed less than two million naira in 2008. The median contribution by LGAs in the year 2008 was 1.3

**Table 2.** Budgetary Allocation for Maternal Mortality Reduction compared with other Health Programmes.

Maternal Mortality Reduction			Other Health Programmes		
Programmes	Budget (2009) ₦M	Budget (2010) ₦M	Programmes	Budget (2009) ₦M	Budget (2010) ₦M
Safe Motherhood	5.00	5.00	HIV control	10.00	11.19
Integrated management of maternal & child health	5.00	5.00	School health	5.00	5.00
Reproductive health	5.00	2.00	Baby friendly initiative	2.00	1.00
Women in health dev.	5.00	5.00	NPI	10.00	2.97
Family planning	2.50	0.50	Health education	7.21	0.79
Child and adolescent reproductive health	2.00	2.00	Nutrition	5.00	5.00
Free MCH	100.00	278.67	Bamako initiative	2.70	0.30
			Malaria control	10.00	10.00
			Epidemiology	4.00	1.00
			Environmental health	1.35	0.15
			Guinea worm control	2.00	2.00
			PHC M&E	3.00	1.00
			TB & Leprosy control	10.00	3.00
			International inoculation	1.35	0.15
			Public health lab	5.00	7.00
			Tobacco control	2.00	1.00
			Onchocerciasis control	1.00	0.00

million naira. The contribution rose to a median of 2.5 million naira in 2009. However, one of the LGAs still contributed as low as 1 million naira for 2009.

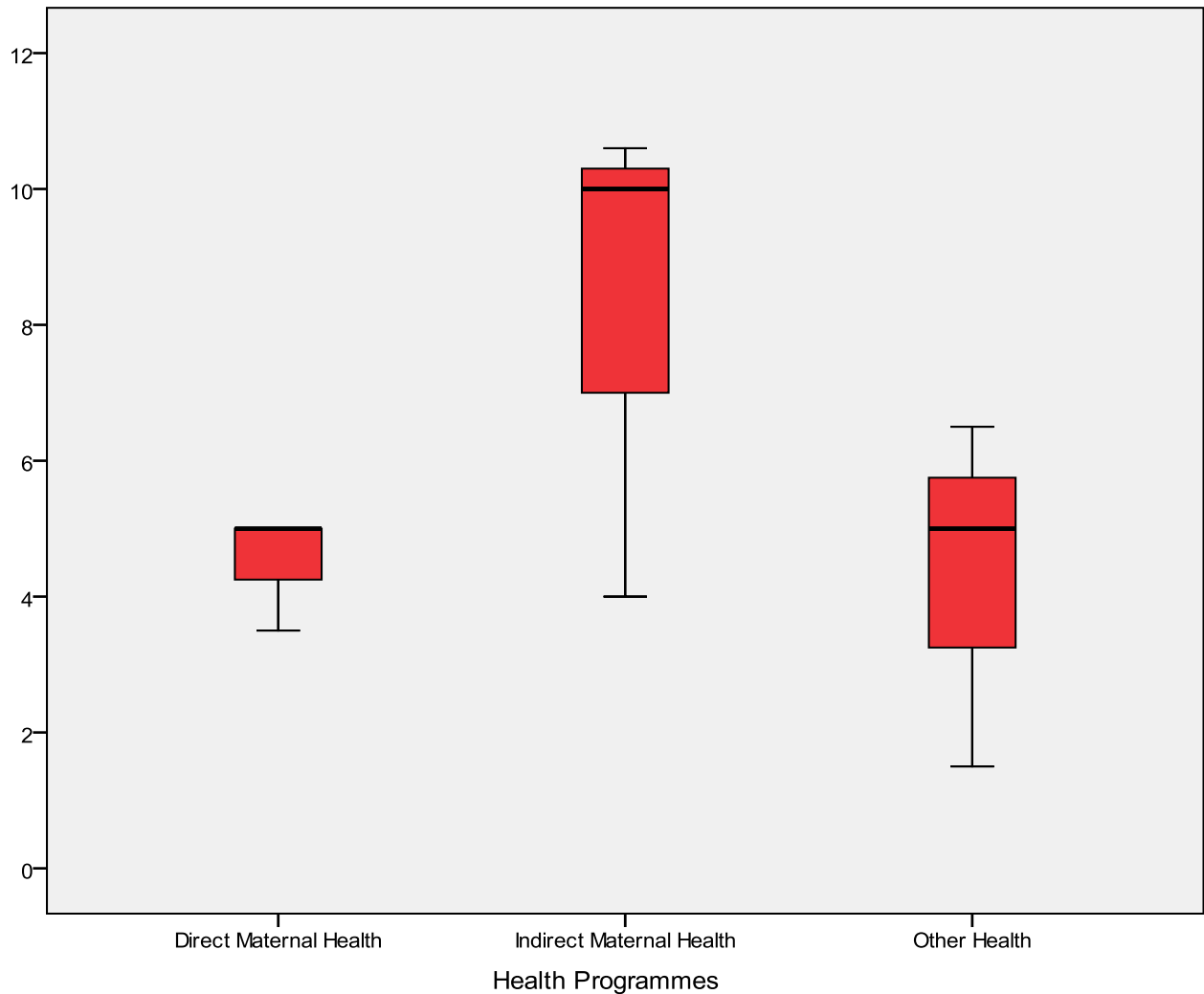
*Funds Available in the State Budget for 2008 and 2009 Maternal Health Activities*

According to the Director of finance and administration, the budgets for 2007 and 2008 were not published. In 2009 government budgeted ₦5,000,000.00 for safe motherhood activities; ₦5,000,000.00 for integrated maternal, new born and child health; ₦5,000,000.00 for reproductive health programme; ₦5,000,000.00 for women health development programme ₦2,500,000.00 for family planning; ₦2,000,000.00 for child and adolescent reproductive health; ₦100,000,000.00 for FMCH. This compares favourably with the bud-get for other health programme (Table 2).

With the exception of HIV/AIDS and malaria, both of which compound maternal health problems, and tuberculosis control, other health programmes had much smaller budgetary allocations, compared to maternal health programme. Table 2 revealed that FMCH is a programme with the highest budgetary allocation.

However, in terms of direct funding for maternal health, one finds that budgetary allocations for maternal health fall below the allocation for other health programmes in the State. This is captured in Figure 2 below. Direct budgetary allocation for maternal health are those for safe motherhood, integrated maternal and child health, reproductive health, women in health development, family planning, child and adolescent reproductive health and FMCH programmes. On the other hand, the indirect maternal health programmes include malaria and HIV/AIDS control as well as health education programmes. Others health programmes include control of neglected tropical diseases like onchocerciasis, guineas worm, TB and leprosy, among others. Comparatively the direct maternal health programmes were allocated smaller amounts of the budget for the health sector in the State. The Indirect maternal health programmes had the highest, followed by other health programmes in the state. The direct maternal health programmes were allocated between 3.5 million and 5 million naira, with a median of 5 million naira in the 2009 and 2010 fiscal years. On the other hand, the indirect maternal health programmes were allocated between 4 and 11 million naira, with a median allocation of 10 million naira in 2009 and





**Figure 2.** Budgetary Allocation (in million Naira) to Health Programmes in 2009 and 2010 in Enugu State.

2010 fiscal years. Other health programmes were allocated between 1 and 4.5 million naira with a median of 5 million in 2009 and 2010 fiscal years.

## Discussion and Recommendations

### Discussion

In this study, policies and programmes on maternal mortality in Enugu State were reviewed against the background of the current status of maternal health in the State. The statistics about maternal health in Enugu State give cause for concern. Maternal mortality ratio remains high in Enugu and is in fact higher than the national average. The current maternal mortality ratio is attributable to a number of medical and socio-cultural factors. While the medical factors include preventable pregnancy complications and obstetric deaths, the socio-cultural factors include poor utilization of ANC services due to poverty and

ignorance as well as inadequate number of health facilities and personnel.

In recognition of the magnitude of this problem in the State, the Government of Sullivan Chime initiated and is currently implementing the Free Maternal and Child Health (FMCH) programme. This adds to such other programmes like safe motherhood, family planning, integrated maternal and child health, among others, which existed previously. The FMCH is targeted at the poor and those who are unable to pay for health care. The FMCH provides free services to mothers in primary and secondary health facilities, as well as those referred to the tertiary hospitals in Enugu.

The government pursues this programme with unprecedented commitment and vigour. With an arrangement of joint funding between the Local Government Authorities and the State Government, the Government plans to set sufficient funds aside every year for the running of the free medical care for mothers and children. The Local and State

governments make monthly contributions to a joint funding for the FMCH programme. Within one year of the inception of the FMCH programme, the State government funded the FMCH to the tune of 160 million naira. Between 2008 and 2009, the Local Governments jointly contributed over 100 million naira in support of the FMCH programme.

The success of the FMCH programmes is manifested in the upsurge in the number of mothers that now patronize the hospital facilities for medical and ANC services. To meet the challenge of the large number of patients in the hospitals, the State and Local Government authorities recently embarked on recruitment of medical personnel to cater for the mothers. Furthermore, the government makes substantial budgetary allocations for the implementation of maternal health programmes in the State. All of these ostensibly mark the level of prioritization of maternal health in the State.

Unfortunately, these efforts seem like a drop in the ocean. Wide gaps still exist in the ratio of medical staff to the number of women needing care and services. For instance, there are only 34 medical doctors and 87 nurse/midwives in the service of the Local Government service commission. Similarly, only 69 medical doctors and 260 nurses/midwives in the state civil service. This is grossly inadequate to respond to the needs of the 162,865 women estimated to be pregnant each year in the state. It gives a ratio of one medical doctor to more than one thousand, five hundred pregnant women (1:1581) in the state. The situation is even worse when one considers the 716,606 population of women of reproductive ages (15-49 years). The average in the member nations of the Organization for Economic Co-operation and Development (OECD), for instance is 3.0 physicians per 1,000 people<sup>33</sup>.

In Nigeria, for every 1000 pregnant population there should be 100 gynaecologists. The situation in Enugu State is very different from local and international standards. This compounds access to services of trained health personnel. This thus re-enacts the situation reported of the perception of health care services in Enugu State<sup>34</sup>, which is that long waiting queues and lack of doctors militated against the utilization of maternal and child health services. Some studies found that consumers' satisfaction with health care services in Africa was one of the most important factors determining the utilization of services<sup>35-37</sup>. Determinants of perceptions of quality of services found in Tanzania include; perceived time spent at the facility, availability of immunizations, availability of MCH services and the staff strength of the health facilities<sup>38</sup>.

There is an unfair allocation of medical personnel in the urban LGAs, against the rural LGAs with almost two third (64.1%) of females aged 15-49 years in the State. Worse still, proportionately fewer medical personnel were allocated to the rural LGA,

where most of the pregnancy complications and the realities of inaccessible communities are located. When juxtaposed on the fact that many more medical personnel in the private sectors and tertiary health institutions are found in the urban areas than the rural areas, the inequity becomes more glaring and palpable. The rural areas are predominated by poor, less educated and less knowledgeable people who are confronted with the pains of childbirth. This amounts to an entrenchment of the much talked about inequity in health care in the rural and urban settings in most developing countries<sup>39-41</sup>. "Difficulties recruiting and retaining health care providers have resulted in longstanding disparities in rural and urban physician supply. This combination of factors suggests that rural residents may face greater barriers to accessing health care than their urban counterparts"<sup>40</sup>.

Furthermore, government expenditure for maternal health leaves more to be desired. The contributions of the LGs to the FMCH are epileptic. While some of the LGs demonstrate significant political will by making the monthly contributions religiously, others exhibit lackadaisical attitudes towards the programme. It is also observed that budgetary allocations for direct maternal health programmes fall below budgetary allocation for other programmes within the ministry of health.

It is not clear what the access to health facility is in the rural areas. However, anecdotal evidence revealed that access to medical personnel is poor. Many rural women are not even aware of the FMCH programme. Ignorance still persists among the rural women about their health needs and available solutions.

It has been noted that malaria is a major killer of pregnant women in Nigeria. Unfortunately, statistics show poor awareness and use of technologies for preventing malaria in pregnancy in Enugu State. The 2008 NDHS revealed that only 5.5% of household own at least one treated bed net and only 3.9% of pregnant women sleep under ITNs. This is worrisome considering the series of campaigns to increase utilization of ITN among pregnant women in Nigeria.

## Recommendations

For Enugu State government to realize the goal of reducing maternal mortality to a manageable ratio, it needs to attract and retain skilled medical personnel and reduce the ratio of medical personnel to pregnant women to 1:10 within the shortest possible time. Secondly, government should endeavour to increase ANC and ITN utilization among pregnant women in Enugu State. Thirdly, there is need to increase budgetary allocation to maternal health.

The question, now, is how to increase the num-

ber of highly motivated medical personnel, increase ANC and ITN utilization among pregnant women in the State, among other changes, with a minimum of new public resources. Government resources are confronted with a myriad of competing needs, be it health care, infrastructure, education and environment upgrade, among others. Thus to attain the change for improved maternal health with rational government financial allocations, the following reforms are suggested.

The LGs should be sensitized to show more political will and commitment to maternal health programmes in the State. The Local Government should be mandated to support maternal health and if possible there could be a legislation to make funds available for maternal health care in the State.

Employ innovative approaches in the delivery of free ITNs to pregnant women in the State and promote ANC utilization in the State. The community directed intervention (CDI) strategy, where communities play major roles in provision of health care for community members come in handy here. Under the strategy, millions of communities, previously hard to reach with health care, have been treated every year with Mectizan in Africa<sup>42,43</sup>. Similarly, JHPIEGO has demonstrated increase in ITN and ANC utilization among pregnant women in Akwa Ibom using the CDI strategy. In the Jhpiego prevention of malaria in pregnancy programme, community members are trained to distribute ITNs to pregnant women, administer IPT1 and IPT2, while educating the women on the need to go to the health facilities for other ANC services. This strategy combines economy with effectiveness because the communities are treated by fellow community members, who are not remunerated by the government.

Increase health education to improve knowledge of reproductive health issues among mothers and improve ANC utilization using the CDI strategy.

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