Overview of Maternal Health in Nigeria – MDG5

By

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And in Honour of Professor Adetokunbo Lucas

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Introduction

First, let me say how delighted I am to be invited to deliver this lecture on the occasion of the 2nd Public Health Leadership Forum of the Institute of Public Health of the great Obafemi Awolowo University. The event is particularly significant as it coincides with the anniversary of the 80th birth day of our mentor, the father of public health in Nigeria and an indefatigable international icon in women's health and social justice, Professor Adetokunbo Lucas, who is being honoured here today. Being asked to speak at such a momentous occasion is a personal honour, but it also speaks volumes of the high respect and tenacity with which this University holds its alumni. Although I left this University more than 15 years ago, it still feels like yesterday, and some of the best friends I have in this country today are still located within the four walls of this institution.

Professor Adetokunbo O. Lucas has made phenomenal contributions to the growth and evolution of Nigeria's health care delivery system and global health, the essential elements of which were captured in his recent autobiography, *It Was the Best of Times: From Local to Global*, (Ibadan, Bookbuilders Edition Africa). I will encourage everyone present here today to read the book which my *Aburo*, Dr Kemi Rotimi of the Department of History of this University has described as "an exemplary erudition in presentation and content". As a Takemi Fellow in international health in the early 1990s, I had the opportunity and privilege of being tutored and mentored by Professor Lucas at the Harvard School of Public Health, and he has since then remained a guiding spirit in my approach to public health. Between 1986 and 1990 when he was Chair of the Carnegie Corporation's program concerned with strengthening human resources in developing countries, he helped to shape the Foundation's pioneering work in building capacity for research and program implementation for the reduction of maternal mortality, not only in Africa but throughout the developing world. As he enters the golden age of his highly eventful and productive life, I can only wish him many more years of active service to our fatherland.

Today, I have been asked to speak on the subject of maternal and neonatal mortality and to pontificate on the preparedness and prospects of our country attaining the Millennium Development Goals related to the prevention of maternal and neonatal deaths. There can be no doubt that the high rate of maternal and neonatal mortality is currently the most serious public health and development challenge that this country faces. Maternal and child health statistics

remain the most persuasive indicators for measuring the quality of human development worldwide. With recent publications showing that Nigeria and a few other countries lead the rest of the world in maintaining high rates of maternal and child mortality, it belittles any gains this country may have made in other spheres of development. In March 2007, I had the honour and privilege to speak at a Presidential Breakfast meeting after Professor Chukwuma Soludo, the then Central Governor had spoken. Professor Soludo in his lecture outlined the tremendous growth that took place in the nation's economy during the period 1999-2007, including growth in gross domestic product and income per capita and concluded that by 2020, Nigeria will be the financial and economic hub of Africa. I then followed with a paper that summarised relevant statistics relating to maternal and child health[1], which showed that Nigeria was doing very poorly in these indicators as compared to its immediate neighbours. I concluded the paper by reminding President Obasanjo, members of the Federal Executive Council and Captains of Industry present at the occasion, that no one will take Nigeria's achievements in economic recovery seriously if we continue to maintain high rates of maternal and child mortality. It would simply mean that the economic recovery efforts benefit only a few, while neglecting the large majority.

As I write this paper, Nigeria has yet again suffered another humiliation by being rated the country with one of the weakest health systems in Africa. In late September 2011, the highly respected Mo Ibrahim Foundation released its scores on governance performance among 53 African countries[2]. On governance, Nigeria was ranked 41st out of 53 countries, which reflected a decreasing quality of governance as compared to previous years. One indicator that stood out clearly in the assessment was that related to health. In health performance, Nigeria was scored 36 percent and was ranked 51st out of the 53 countries surveyed. The parameters used in assessing health were: rates of maternal and child mortality, HIV prevalence and quality of response to the epidemic, rates of immunisation, access to health services and the overall performance of the health care system. Globally, the World Health Organization had previously rated Nigeria's health system as 187th out of 191 surveyed countries[3], and therefore, this year's rating by Mo Ibrahim indicate that the parlous health situation has remained largely unchanged till this day.

It is within this context that this presentation will attempt an analysis of Nigeria's preparedness to achieve the MDG goals 4 and 5 related to the reduction of maternal and child mortality rates

by 2015. This analysis will be short on the nature and determinants of the problem but will be relatively long in proffering solutions. This is because the problem is very well known and has been very well described over the past two decades. But what has been lacking is a systematic understanding of what needs to be done, and how interventions that have reduced maternal mortality in other countries can be made to work in Nigeria.

Trends in Maternal and neonatal morbidity and mortality

Professor Kelsey Harrison[4] first drew the world's attention to the very high rate of maternal mortality in Nigeria through his seminal publication in the British Journal of Obstetrics and Gynaecology in 1985. At that time, he reported a maternal mortality ratio of 1,050 deaths per 100,000 total births among women delivering at the Ahmadu Bello University Teaching Hospital in Zaria. When disaggregated by socio-demographic characteristics of the women, the results showed a maternal mortality ratio of only 40 per 100,000 among booked-healthy women; 370 deaths among booked women with complications; and a high rate of 2,900 deaths per 100,000 deliveries among women who presented as "unbooked emergencies". Thus, it became clearly apparent that social factors were the root causes of maternal mortality. The scientific world rose in disbelief, because these were then the highest maternal mortality figures ever reported that demonstrated the harmful effects of adverse social factors. However, the data were so convincing and so well presented that no one doubted its authenticity. In response, the World Health Organization in collaboration with various development partners convened the first Safe Motherhood Conference in Nairobi in 1987 in order to identify ways to address the problem. The result was the launching of the global Safe Motherhood Initiative, which resolved to reduce maternal mortality by 50% by the year 2000.

A plethora of activities then followed, including the 1994 International Conference on Population and Development (ICPD) in Cairo, Egypt and the Fourth World Conference on

Women held in Beijing, China in 1995, among others aimed at actualizing this global goal. Surprisingly, by 2000 when the figures were re-counted, maternal mortality had actually increased rather than decrease. Global estimates of the number of women dying each year from pregnancy and related causes rose to 500,000, with Nigeria accounting for 50,000 deaths (about 10 percent of the global estimates). At that time and up till 2000, many Nigerian hospitals reported maternal mortality ratios in excess of 1000 per 100,000 deliveries, which was a significant increase compared to the 1990 estimate of 870 per 100,000 deliveries. The launching of the Millennium Development Goals in 2000 by the United Nations, in which 189 countries (including Nigeria) agreed to a set of eight goals as being critical to achieving global development, provided the much needed political will and international determinism for addressing the problem. Among the eight goals are the prevention of maternal and child deaths as encapsulated by goals 4 and 5. Now that the goals are in the 11th year of existence and only three years to their final assessment, Nigeria is increasingly being cited as one country that is unlikely to meet the targets.

The evidence for this can be found in a recent publication in the Lancet which evaluated progress made in reducing maternal mortality in 181 countries around the world[5]. The report showed that global maternal mortality rate had declined from 422 per 100,000 births in 1980 (526,300 maternal deaths) to 320 per 100,000 births in 2008 (average of 342,900 maternal deaths), with an annual rate of decline of 1.3%. This decrease was due to rapid progress made in reducing maternal mortality in several developing countries including the Maldives, Malaysia, Thailand, Sri Lanka, Honduras, Bangladesh and Egypt. By contrast, the report indicate that 50% of global maternal deaths were accounted for by only six countries – India, Nigeria, Pakistan, Afghanistan, Ethiopia and the Democratic Republic of the Congo. Indeed, Nigeria currently ranks as the number 2 country in the world with the highest absolute numbers of annual maternal deaths. India has a lower maternal mortality ratio as compared to Nigeria and only ranks as number 1 in absolute figures because of its larger population of pregnant women. In terms of maternal mortality rate, Nigeria now ranks worse than our poorer African neighbours such as Benin Republic, Chad and Niger, as well as several war-torn and disaster prone countries such as Haiti, Sierra Leone, Liberia and Iraq.

The Lancet's recent downward revision of Nigeria's maternal mortality rate as well as the 2008 Nigeria Demographic and Health Survey (NDHS)[6] which reported a national maternal mortality rate of 545 per 100,000 live births, are being interpreted by some as indicative of declining maternal mortality rate in the country. Recent statements made by policymakers at the National Primary Health Care Development Agency (NPHCDA) and the Federal Ministry of Health indicate that official response to the report has been self-flattery rather than consisting of a constructive re-appraisal of what needs to be done to realistically achieve the desired goals. Indeed, part of the Lancet report which showed that Nigeria is one of six countries that account for 50 percent of maternal deaths have been completely ignored by Nigerian policymakers. This is worrisome as it is likely to lead to a lull in official response by agencies to address the problem.

In my view, the report on maternal mortality decline in Nigeria needs to be interpreted with caution for a variety of reasons. In the first place, the Lancet review used a newer and more robust method in assessing maternal mortality. It is not therefore known whether the new estimates reflect actual realities and how these estimates compare with previous estimates that were based on use of older methods of assessment. Furthermore, although reviewers conclude that the new report was "well designed ... [and] well explained", and "seeks to make a crucially important contribution to the global monitoring of maternal mortality", concerns about its accuracy are still common[7]. Secondly, the 2008 NDHS is the first attempt to estimate the community prevalence of maternal mortality in the country. Community-based estimates of maternal mortality are expected to be lower than hospital-based statistics as the baseline numbers of normal deliveries are higher in community deliveries as compared to hospital deliveries. Since there has been no previous national community based estimates of maternal mortality to compare with, it is not known whether the estimates are higher or lower than previous estimates.

Thirdly, the method of estimating the community level rate of maternal mortality as reported in the NDHS is likely to be less than accurate. The NDHS used the "sister-hood method" of estimation, whereby respondents were asked if they had sisters who died in the years preceding the survey. If they answered in the affirmative, they were then asked if the death was due to a pregnancy-related cause and the timing of the death in relation to the pregnancy. In a country where people often do not know the cause of death of relatives or are reticent about reporting the

cause of death for social and cultural reasons, it is unlikely that this method will yield the correct information. Abortion is a classic example – many deaths due to complications of abortion are likely to be unknown even to relatives and therefore they are likely to go unreported. The fact that only 398 maternal deaths were reported by the NDHS in the seven years period preceding the survey bears eloquent testimony to this assertion. If this is compared to the 2004 report of the Society of Gynecology and Obstetrics of Nigeria (SOGON)[8], where a total of 1000 maternal deaths were reported from the Aminu Kano Hospital in Kano alone in one year, the degree of under-reporting in the NDHS survey becomes apparent. As shown in Table 1, scientific papers published from various parts of the country between 2008-2011[9-16] have consistently shown higher maternal mortality ratios as compared to the NDHS estimates. These ratios are as high, and some even higher than the pre-2000 estimates.

[Insert Table 1 here]

Maternal mortality: only a tip of the iceberg

Maternal mortality is only a tip of the iceberg for there is greater rot underneath the whole issue of maternal health. Aside from maternal deaths, many more women suffer pregnancy-related morbidity (9.5 million), near-miss obstetric complications (1.4 million) and other devastating consequences after childbirth globally (see figure 1)[7]. The lifetime risk of a woman dying during pregnancy in Nigeria has been estimated to be 1 in 18, compared to only 1 in 4,500 in Sweden. For every maternal death, there are up to 30 women who suffer severe near-miss obstetric complications in Nigeria. A UNFPA report indicates that of the estimated two million women living with obstetric fistula in the world, over 800,000 (40%) are Nigerian women[17].

Additionally, mother and child outcomes are inextricably linked. Of the 136 million babies born worldwide each year, 3.2 million are stillborn, while 4 million are estimated to die during the first month of life[7], 98% of whom live in developing countries. Neonatal deaths account for 38% of under-five mortality, while 58% of neonatal deaths are attributable to complications occurring in pregnancy and delivery. Clearly, improved maternal health can contribute to the attainment of the MDG for child health (MDG-4).

[Insert Figure 1, here]

In the executive summary to the Lancet's stillbirth series of April 14, 2011[18], the editor wrote that "Millions of families experience still births, yet these deaths remain uncounted, unsupported, and the solutions under-studied. Better counting of still births alongside maternal and neonatal deaths and strategic programmatic action will make still births count." This gloomy picture of invisible tragedy of still births was even grimmer when the Lancet publication pointed out that Nigeria and Pakistan have the highest still birth rates in the world (42 and 46 per 1000 birth respectively). In contrast, Finland and Singapore have the lowest rates (2 per 1000 births). India, Pakistan, Nigeria, China, Bangladesh, DR of Congo, Ethiopia, Indonesia, Tanzania, and Afghanistan are ten countries contributing 66% of the World's number of still births.

Clearly, there can be no room for complacency and false hope. If Nigeria intends to be counted as one country where life is worth living and that is committed to human rights, social justice and equity for its people, it must intensify its efforts to reduce this unacceptably high rate of maternal and neonatal morbidity and mortality.

Social and economic vulnerability of pregnant women

National data indicate that the most common medical complications that lead to maternal mortality in Nigeria are: primary post-partum haemorrhage, eclampsia, obstructed labour, puerperal sepsis and unsafe abortion. In my early days as an obstetrician and gynecologist, I focused my attention in trying to see how these conditions can be better treated in order to reduce the chances of a woman with such complications dying during pregnancy. While improved treatment of pregnancy complication is still highly relevant to reducing maternal mortality, it is now evident that a large proportion of pregnant women do not access evidence-based care and therefore, an approach that relies solely on improved treatment in hospitals will not fully address the problem. We must find a way to bring women to health facilities, and to improve the quality of services in health facilities so that women will be promptly treated when they experience severe pregnancy complications. Elsewhere in more advanced countries, pregnant women are

attended to in labour by skilled birth attendants (doctors, midwives and obstetricians), so that when they experience life threatening complications, they are promptly treated thereby averting preventable maternal deaths. In Sweden which currently has the lowest maternal mortality rate in the world, skilled birth attendance is nearly 100%, with all pregnant women receiving supervised and advanced maternity care during labour and delivery.

By contrast, only 36% of Nigerian women deliver with skilled birth attendants; only 64% of pregnant women attend antenatal care during pregnancy; while less than 50% have access to emergency obstetric care (see Table 2). Indeed, more than 60% of Nigerian women deliver at home without any assistance or are attended by unskilled birth attendants. The situation varies by geopolitical zones and by place of residence, the proportion of women using unskilled birth attendants being considerably higher in northeast and northwest zones as compared to other zones and in rural as compared to urban areas[6]. When women experience complications of pregnancy requiring emergency obstetrics care, there is little chance that unskilled birth attendants can offer appropriate evidence-based treatment necessary to prevent mortality. Thus, increasing the proportion of births attended by skilled birth attendants is the most important unmet need for maternal mortality reduction in Nigeria.

[Insert Table 1 here]

With respect to emergency obstetric services, McCarthy and Maine[19]conceptualized the idea of "delay" to explain the social factors that lead to maternal mortality when women experience complications of pregnancy. They argued that complications would normally occur in pregnancy, but that if these are promptly treated, no death would occur, and that it is the delay experienced by women in receiving emergency obstetric care that lead to maternal mortality. They described three types of delay: 1) type I, the delay in women seeking care when they experience pregnancy complications; 2) type II, delay due to difficulties with transportation; and 3) type III, delay after the woman has arrived in hospital as a result of deficiencies in the health care systems.

A growing and contending discourse is the extent to which social, economic, cultural and even religious factors are central to women's increased risks of maternal morbidity and mortality. Obstetric complications occur in all parts of the world, but it is the background adverse social

risk factors prevalent in developing countries that expose women to the increased likelihood of maternal mortality. It is my considered opinion that some of the most important factors that place women at risk of obstetric delays and non-use of skilled birth attendants are the following:

- Inadequate political and financial commitment at both international and country levels;
- The poor alignment of maternal and child health to national development efforts;
- Weak and poorly responsive health care system that is not properly designed to address basic elements of care;
- Pervading poverty, especially the feminization of poverty at household and individual levels;
- Illiteracy and the low level of community education on issues related to maternal and child health; and
- Harmful traditional and religious beliefs and practices

It is now evident that only an approach that attend to these issues in a holistic manner would have a chance of success in achieving MDG-4 and 5 related to the reduction of maternal and child health in Nigeria.

Road Map for Achieving MDG 5 in Nigeria

Nigeria is only three years away to the target date for achieving the Millennium Development Goals, but it is becoming evident that some of the most important goals, including the improvement of maternal health may not be attained. But we must begin to think beyond 2015. We must use the opportunity of the Millennium Declaration to identify a strategy for promoting maternal health for all time and to integrate the promotion of the health and social well-being of women into our development consciousness. Some of the most effective interventions that have proven to be highly effective in reducing maternal and neonatal morbidity in various parts of the world are listed in Table 3. The relevant question is how to implement and sustain these same interventions in Nigeria in order to decrease the inordinately high rate of mortality.

[Insert Table 3 here]

In my view, some of the most urgent and important measures that need to be undertaken to reduce preventable maternal and neonatal morbidity and mortality in this country include the following: 1) leveraging international commitments and support; 2) building political will among the three tiers of government, and fast-tracking the nation's overall development agenda, including the promotion of transparency and anti-corruption in official matters; 3) the improvement of health infrastructure and the nation's health system, especially focussing on better delivery of primary health care; 4) the implementation of poverty alleviating interventions, especially the offering of safety nets to pregnant women on the short term, while pursuing poverty reduction on the long term; 5) massive investment in community health education and the education of women; 6) the elimination of harmful traditional practices, including the prevention of early marriage; and 7) the systematic socioeconomic empowerment of women.

1) *Leveraging international commitments*

Unfortunately, despite the commitment expressed in the Millennium Declaration, maternal and child health have not been given funding priority internationally. Maternal mortality reduction (safe motherhood) programs compete with other priorities such as HIV/AIDS, tuberculosis and malaria. Competition for funds is fierce and since maternal mortality rates appear to be declining in many other parts of the world, it may soon not be recognised as a "global disease" that requires priority funding. Some argue that the number of maternal deaths is small when compared to deaths from other disorders, but that argument ignores the fact that maternal deaths occur only in women. The partitioning of maternal and child health between vertical programs has been recognised as an additional problem[7]. Major donors in Nigeria such as the USAID do not prioritize core safe motherhood funding, while among those who do, only limited parts of programs are funded. Worldwide, only about 10 percent of the US$6.1 billion needed to provide assistance for improving maternal and child health by 2015 has been offered by development partners. As one of the countries with the highest burden of maternal and child mortality, Nigeria must position itself strongly to leverage available international funding through strong advocacy, international lobbying and partnership building.

2) *Building political commitment at country level*

It is now evident that only when countries acknowledge that there is a problem, and all levels of government demonstrate strong political will and commitment, will safe motherhood efforts be given the ascendancy and priority it deserves. In a 2007 publication, Shiffman and Okonofua[20] noted that substantial progress had been made in getting maternal and child health onto the national political agenda in Nigeria. This was epitomized by increased interest shown by President Olusegun Obasanjo, the emergence of local political champions in the national assembly, an increased health budget, and a more proactive civil society working on the issue[21]. During this period, up to 18 Nigerian states offered to provide free or partially free maternal and child health services to ensure that poor women are able to access evidence-based services[22]. Through programs like *Abiye* program in Ondo state[23] and the highly successful free maternal health program in Kano state[24], states are demonstrating that high level political will can be generated and sustained to reduce maternal and child mortality in Nigeria. Even Delta state that started its free maternal health program in 2007 announced recently that it has reduced maternal mortality from 600 per 100,000 to less than 200 per 100,000, which it attributed to its free health care policy[25].

Sadly, there is evidence that commitment to safe motherhood may be waning as political statements made have not been followed up by concrete action[26, 27, 28] in many states. Indeed, the present federal administration is yet to show substantial commitment and a specific policy articulation for addressing maternal and child health. The major problem is the "invisibility" of health and maternal health in political consciousness. As has been pointed out by one commentator[7]: "improvements towards safe motherhood are not as visible to the public as a successfully constructed road". But civil society organizations and advocates must continue to push that indicators of health feature prominently in the assessment of the performance of states, since health, especially maternal and child health indicators have proven to be the "best indicators of human development"[7].

My experience working as a researcher and an advocate for maternal health over the past decade suggests that leaders and policymakers will act if they have sufficient information about the problem. Their failure to act is often a result of inadequate information and lack of awareness of the seriousness of the problem and the fact that other contending issues are equally seeking attention. Thus, a three step process of engaging policymakers is proposed: first, create

awareness among top decision/political leaders about the problem; then explain why it should rank high among the list of issues to be addressed and identify the political benefits that are derivable if action is taken; and then propose simple and cost-effective solutions in a layered rather than complex manner.

Some of the indicators of increased political commitment to maternal and child health which I identified in a previous presentation include the following: 1) the level of awareness of maternal health by top political leaderships, as typified for example by the number of speeches spontaneously made by leaders about the problem; 2) the extent to which states drive their own agenda on maternal and child health rather than waiting to implement externally driven agenda; 4) the number of state policies and programs developed and implemented for addressing maternal health (example: the compulsory registration of maternal deaths by the Ondo state government). Also, the passage of the national Health Bill will be one evidence of Federal Government's commitment to promoting maternal and child health; 3) percent of budget devoted to health and to maternal and child health (example: to what extent is the state complying to the 2001 Abuja Declaration that recommends that African governments should allocate 15% of their budget to health?); 4) the extent to which states re-build infrastructures that impact on maternal health – power, roads, agriculture, etc; and 5) the extent to which governments promote transparent, accountable and effective governance based on the rule of law and anti-corruption that leads to the improvement of the standard of living of their people and the alleviation of the social determinants of maternal mortality.

Improvement of Health infrastructure and national Health System

The re-building and maintenance of health infrastructures, improvement of the nation's health system and the development of human resources are critical in efforts to reduce maternal and neonatal mortality in Nigeria. Only skilled birth attendants can reduce maternal mortality and so, Nigeria must invest in providing adequate numbers of midwives and doctors and provide incentives to enable them work in all locations across the country. Although some have argued for the re-training of unskilled traditional birth attendants (TBAs) especially in contexts where skilled attendants are not available[29, 30], international consensus is now moving towards a recognition that TBA re-training has limited cost-effectiveness and may actually do more harm than good[31, 32]. The establishment of the midwifery scheme by the National Primary Health Care

Development Agency (NPHCDA), whereby retired midwives are recruited and re-trained to work in Primary Health Centres (PHCs) in rural areas, where the highest proportion of maternal deaths occur, is a welcome development. However, adequate funds must be deployed to ensure its sustained implementation, and Local Government Councils must be encouraged to execute appropriate supervisory and oversight functions over PHCs as envisioned in the nation's constitution.

Although the federal government has identified PHC as its strategy for improving women's access to maternal and child health services, it should be recognised that PHC alone cannot reduce maternal mortality. This is because some of the obstetric complications that lead to mortality such as haemorrhage, eclampsia, and severe puerperal infection cannot be treated at the level of primary care. PHC can provide primary prevention services including family planning, antenatal services, normal delivery care and basic reproductive health services, but women experiencing complications who require secondary and tertiary prevention must be referred to secondary and tertiary care facilities. Secondary and tertiary prevention services include operative delivery, emergency obstetrics care, blood transfusion, and specialised obstetrics care normally provided by General and Specialist/Teaching hospitals.

The dilemma that the country currently faces is the lack of effective referral services between PHCs and secondary/tertiary maternity care facilities. Thus, although the government is currently investing heavily on improving PHCs, concomitant attention need to be paid to referral of women who experience severe complications at that level. Professor Olikoye Ransome-Kuti as Minister of Health attempted to find ways to improve referral services between PHCs and secondary/tertiary facilities in the early 1990s, but since then nothing additional has been done. A strong recommendation is being made to policymakers to include the strengthening of referral services in the country in their overall plan for improving maternal health and reducing maternal and neonatal morbidity and mortality.

Furthermore, there is a need to completely overhaul and reform the health sector to enable it respond more effectively to tackle the challenges posed by high rates of maternal mortality. Health sector reform was the major thrust of President Obasanjo's health policy, especially at the time that Professor Eyitayo Lambo took the mantle as Minister of Health in the second half of the administration. The Health Sector Reform Program (HSRP)[33] was designed in 2003 as part

of the National Economic Empowerment and Development Strategy (NEEDS)[34], with an overall goal to prioritize health as an entry point for poverty alleviation, to attain the accelerated achievement of the MDGs especially with respect to reduction in infant, neonatal and maternal mortality rates, and to stimulate national efforts at combating under-development.

The specific objective of the HSRP was to correct all the factors that had led to the poor performance of the Nigerian health sector in previous years, propelling it to greater cost-effectiveness and efficiency so that it can respond to the yearning need for increased access to evidence-based services for all Nigerians and be a catalyst for reducing the burden of maternal morbidity and mortality in the country. The Health Sector Reform Agenda was developed by the Federal Ministry of Health, through a participatory process that involved all stakeholders, including development partners and various implementers/policymakers at the sub-national level.

The overall mission of the HRSP as stated in the policy document[33] was ¨*to undertake a government-led comprehensive reform aimed at strengthening the national health system to enable it deliver effective, efficient, qualitative and affordable health services and thereby improve the health status of Nigerians and the health sector´s contribution to breaking the vicious cycle of ill-health, underdevelopment and poverty*¨.

The seven strategic thrusts of the HRSP were as follows: 1) improvement of the performance of the stewardship role of the government; 2) strengthening the national health system and improvement of its management; 3) improvement of the availability of health resources and their management; 4) the improvement of the physical, financial access to quality health services; 5) the reduction of the burden of disease attributable to priority health problems; 6) the promotion of effective public-private partnerships in health; and 7) increased consumer awareness of their health rights and obligations.

During the period 2004-2007, major progress was made in implementing different components of the health reform agenda. The national health policy was updated, and a national strategic plan for health sector reform was approved by the Federal Executive Council. In addition, several policy documents to guide implementation and action in health care were developed. By the middle of 2007, 18 ancillary policies, eight medium term strategic plans and four guidelines for implementing the reform agenda were either completed or were at various stages of

completion. The legislation processes to enact a health bill that would provide a legal backbone for the operation of Federal Medical Centres, traditional medical practice, teaching hospitals and the NHIS were set in motion in 2007. In particular, a new commission, the National Hospital Services Commission designed to improve the quality and availability of tertiary services was proposed and included as part of the major component of the bill.

The plans and activities of the HSRP were subjected to various reviews by several stakeholders, including the office of the President, the National Health Conference, Civil Society Advocates and Development partners. The consensus reached after these series of reviews is that the HRSP is an important initiative that would improve the health sector in Nigeria if properly implemented. The National Assembly passed the national health bill in April 2011, but we are all now living witnesses to the fact that the health bill is yet to be passed into law by the Presidency. This government needs to demonstrate its commitment to health and to reducing maternal and child mortality by urgently taking action in passing and implementing the national health bill.

Poverty Alleviation and the provision of safety nets

Several reviews have identified poverty as the major reason that pregnant women do not use evidence-based maternity services, and why they frequently resort to traditional and faith-based birth attendants. A Presidential Task Force set up to identify ways to accelerate the attainment of MDGs 4 and 5 in Nigeria[35], reported that inability to pay for services was the major barrier identified by women for not using maternal and child health services.

Thus, the problem of poverty would need to be addressed as part of the overall strategy to achieve MDGs 4 and 5. The short term solution, which has been proposed by the WHO[36], and is currently being implemented by several African countries, including Ghana, Senegal, Mali and Burkina Faso[37, 38], is to eliminate or subsidize antenatal care and delivery costs for pregnant women. Fortunately, this approach is also being implemented by several states in Nigeria[22], but there needs to be greater coherence, better planning and more funding devoted to these efforts.

The long term solution is to reduce the level of poverty and its attendant consequences in the country through well articulated economic development policies. The structural adjustment program that was introduced into the country in the mid-1980s severely impoverished the poor with its policy on currency devaluation, removal of subsidies and payment of user-fees for essential services and worsened the health situation in Nigeria, especially of vulnerable women and children. The proportion of Nigerians living on less than 1.2 dollars a day rose to an all time high of 70 percent as a result of structural adjustment. The present administration would need to be advised that its proposal to remove some subsidy from petroleum products will have more terrible and untoward effects on the health of our women and children and further jeopardise Nigeria's chance of achieving MDGs 4 and 5.

Investing in women and community education

For several years, Professor Kelsey Harrison emphasized the need to promote women's education as a strategy for reducing maternal mortality in this country. This was borne out by the fact that among the cohort of women who suffered maternal deaths in northern Nigeria, the majority were women who had no education or had only a primary level of education[4, 39, 40]. Our 1992 data from Ile-Ife confirmed the same finding[41], and indeed, no woman with a tertiary education suffered a maternal death in our cohort of women. Thus, the education of women remains a powerful but rather under-utilised tool for promoting maternal health in this country. Governments must make long term investment in the education of women, especially in northern Nigeria, where women tend to attend informal education and to be given out in early child marriages. Indeed, the enrolment of girls in school would appear to be the most cost-effective intervention for preventing early marriage in northern Nigeria and reducing maternal mortality in the region.

Aside from formal education, there is also a need for broad-based public health education to counter the harmful traditional and religious beliefs, norms and practices that impact negatively on maternal health. When women and community gate-keepers are made aware of the real issues surrounding maternal and child health, it will increase the use of family planning services for the prevention of unwanted pregnancies; it will increase women's use of evidence-based maternity services for antenatal and delivery care; and it will mitigate the effects of unwholesome beliefs and practices that lead women to unfavourable pregnancy outcomes. It is

my considered opinion that a massive investment in public health education on maternal health targeting various segments can lead to a significant reduction in maternal mortality in Nigeria.

The socio-economic empowerment of women

The fact that maternal mortality affects only women, especially poor, illiterate and under-nourished rural women pose questions of gender equity, human rights and social justice. The political and economic marginalization of women has repeatedly been cited as key factors in the sustenance of the vulnerabilities that expose women to increased risks of maternal morbidity and mortality. The fact that maternal morbidity and mortality is higher in countries with poor performances in gender development indices (e.g. Afghanistan and Nigeria) further confirm the strength of association between the disempowerment of women and higher risks of reproductive mortality. But this is not always so, as some countries such as Saudi Arabia have low rates of maternal mortality despite being low in gender development ranking. Women must have voices of their own and relevant power and authority that is commensurate with their increasing contribution to the informal labor sector. As part of efforts to promote maternal health and reduce maternal mortality, official policies must be tailored to ensure gender parity or a level playing field in such areas as education, employment, political representation and economic opportunities.

Conclusion: A call for Action

In September 2000, 189 countries agreed to support a set of development agenda that were encapsulated in the Millennium Development Goals. The fifth goal anticipates a reduction in the maternal mortality ratio by 75% between 1990 and 2015. A near-term global assessment evaluation has shown that it is possible to reduce maternal mortality by three-quarters within 25 years in some countries. By contrast, due to inadequate demographic, economic, political and socio-cultural circumstances, it is unlikely that Nigeria would achieve the goal in 2015. However, we must not lose faith – we must remain focussed on the MDG target, while thinking beyond 2015 and keeping an eye on the broad picture. High level political will and a strategy that encourages the alignment of our maternal health strategy with the overall development plans of the country are vitally needed. The vision 20:20:20 for example, must not only target the

overall economic growth of the country, it must also focus on ensuring the overall improvement of the living conditions of Nigerians. A significant and sustained reduction in maternal and neonatal morbidity and mortality will provide the best evidence that this has taken place. Concerted effort is required at all levels, from international to in-country efforts and among community stakeholders, health professionals and academicians. A strong political leadership that understands the multi-dimensional nature of the problem and that has an eye for social justice, equity and protection of the rights of its people is needed to drive the mission for the sustained reduction in maternal and neonatal morbidity and mortality in Nigeria.

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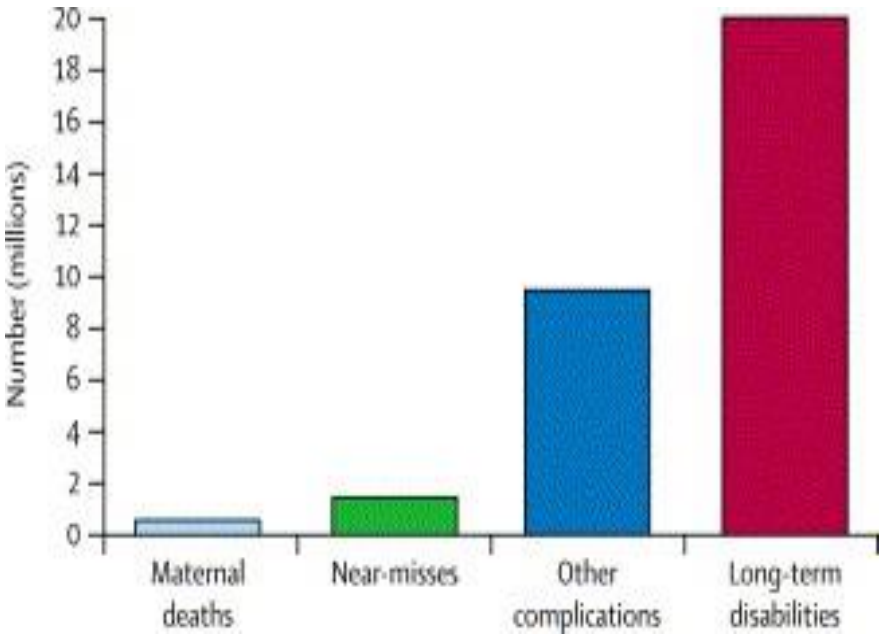
Table 2: Selected publications on rates of maternal mortality in Nigeria, 2008-2011

Ref	Author(s)	Date of Publication	Location	MM ratio/100,000	No of maternal deaths
9	Oye-Adeniran et al	May 2011	Lagos	450	111
10	Agan et al	Aug 2010	Calabar	1,513.4	231
11	Ezugwu et al	Dec 2009	Enugu	840	60
12	Kullima et al	Oct 2009	Yobe	2,849	112
13	Mairiga et al	Jan 2009	Bauchi	1,732	767
14	Onakewhor & Gharoro	June 2008	Benin City	454	32
15	Idris et al	Sep 2010	Zaria	1,400	706
16	Ngwan & Swende	2011	Jos	1,260	56
5	NDHS	2010	National	545	398

Figure 1: Extent of maternal mortality, morbidity, and disabilities



Source: The Lancet, October 28, 2006

Table 2: Types of assistance used by women during delivery in Nigeria

Type of assistance	Percent of Pregnant women
No one	17%
Attended by a relative	26%
Traditional birth attendant	20%
Community health worker	1%
Nurse/Midwife	29%
Doctor	7%

Table 3:

Effective interventions for prevention of maternal and neonatal morbidity and mortality

- Ensure skilled attendance at delivery and improve health systems to increase availability and accessibility of emergency obstetric care
- Encourage delayed marriage and first birth for adolescents
- Address unwanted and poorly timed pregnancies
- Improve coverage and quality of prenatal, intrapartum and postpartum care
- Promote cross-sectoral linkages that:
    - Promote enabling policies and political commitment
    - Enhance community participation
    - Address contextual factors (poverty, access to economic resources, women's education and status, lack of male involvement, violence against women, and the special needs of adolescents)