

UNIVERSITY OF PORT HARCOURT

***CHILD SURVIVAL IN RESOURCE-
LIMITED SETTINGS: THE ISSUES,
CHALLENGES AND WAY FORWARD***

An Inaugural Lecture

By

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DEDICATION

First, this work is dedicated to my Lord and Saviour, Jesus Christ, who has made this lecture possible.

Second, this lecture is dedicated to my late parents-Mr. Bertram and Mrs. Margaret Robert Ikuru and my late grandparents- Chief Jonas and Mrs. Zilpha Minini Oyo whose unwavering commitments to my survival, growth and development have brought me this far.

Third, this lecture is dedicated to my children-Abraham, Deborah, Emmanuel and Daniel and several Nigerian children that provided me the opportunities to prove that the interventions I have presented in this document are effective in ensuring child survival.

Lastly, this lecture is dedicated to the memories of the several children who died as under-fives and their parents who endured the agonies of these largely preventable child deaths.

ACKNOWLEDGEMENTS

I wish to express my gratitude to the Almighty God who has led me this far and, I am sure, will sustain me to the end.

I am indebted to my late parents-Mr. Bertram and Mrs. Margaret Robert Ikuru, and my late grandparents-Chief Jonas and Mrs. Zilpha Minini Oyo for their unwavering commitments to our survival. I also appreciate my uncles and aunties [Late (Mr. Owen Tobiah, Mrs. Comfort S. Mark, Mrs. Marion Brown and Karina Minini), Chief Jonas Gogo Minini Oyo, Mr. David D. Minini and Sir Blessing B. Minini], cousins and other close family relations for their roles in ensuring my survival, growth and development and their continued support. My sibs (Sir (Eng.) Emiyarei B. Ikuru, Mrs. Edith Ijente, Osake, Chief (Bar) Metong Urombo, Sir Belejit Ikuru, Dr. Amaijaan Ikuru, Kachei, Esther, Tele, Robert, Titus, Mary, Ijok, Nteonyiro and Margaret), their spouses and children have continued to ensure we lived as a loving united family. I appreciate all your contributions to my existence. My paternal uncles- Late Papa Julius Urombo, Late Papa Justus Hebron, Late Papa Levi Charles Arawo and Mr. Obediah Ijije and their children are highly appreciated for their supportive roles in my life.

My husband, Dr. Augustus Romokek Nte, and our children-Abraham Awaji- Inwon, Deborah Atata-Nwon, Emmanuel Awaji-owa and Daniel Awaji –Itong who have been of tremendous support to me are highly appreciated. My parents in-law- Late Sir Fortunatus and Mrs. Joyce Nte and my in-laws

(Mrs. G. Nwadike, Madam Theresa Owo, Sir Dan Gogo Ukoikpoko, Dr. Felix Nte, Mrs. Comfort Iragunima, Vincent, Kate, Dr. Timothy Nte, Eng. Peter Nte and Lucy are also acknowledged with their spouses and children. My wonderful relations who have lived with me and supported me through different periods of my development- *the girls*- Flora, Faith, Esther and Gold are appreciated for their dedicated services.

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My colleagues in the Department of Paediatrics at the University of Port Harcourt Teaching Hospital and the University of Port Harcourt, the Faculties and College of Health Sciences, the Institute of Maternal and Child Health, the University and the West African College of Physicians and Paediatricians in general deserve special thanks for their various roles in my life.

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I cannot complete this acknowledgement without thanking my bosses- the Vice Chancellor, Prof. Joseph Ajenka and the University Management, the past Vice Chancellors and Registrars of the University, the past and current Provosts of the College of Health Sciences, Deans and Heads of Departments in the College, the current (Prof Aaron Ojule) and past Chief Medical Directors of the University of Port Harcourt Teaching Hospital and the Hospital Management. The opportunities for service they gave me contributed to the story I am telling today.

Alice Nte

ACRONYMS

%	Percent
ACSDP	Accelerated Child Survival and Development Programmme
AIDS	Acquired Immunodeficiency Syndrome
ARI	Acute Respiratory Infection
C-IMCI	Community Integrated Management of Childhood Illness
GNI	Gross National Income
Hib	Haemophilus influenza type b vaccine
HIV	Human Immunodeficiency Virus
IMCI	Integrated Management of Childhood Illness
IMNCH	Integrated Maternal, Newborn and Child Health
IMR	Infant Mortality Rate
LGA	Local Government Area
MDG	Millennium Development Goal

MSS	Midwives Service Scheme
NMR	Neonatal Mortality Rate
SSA	sub-Saharan Africa
UHC	Universal Health Coverage
U5	Under-five
U5MR	Under 5 Mortality Rate
UNICEF	United Nations Children’s Fund
US\$	United States of America’s Dollar
WAHO	West African Health Organisation
WHO	World Health Organisation

Preamble

The Vice Chancellor, Sir, it is with gratitude to God, you and your Management team that I stand here to present a lecture on a topic so dear to my heart- Child Survival. Psalms 127: 3 says- *Children are an heritage of the Lord and the fruit of the womb is his reward* (King James Version of the Bible). This highlights the value God attaches to these precious jewels and why we must do everything possible to keep them alive. This, Mr. Vice Chancellor Sir, is one of the driving forces for the choice of this inaugural lecture's topic-

CHILD SURVIVAL IN RESOURCE-LIMITED SETTINGS: THE ISSUES, CHALLENGES AND WAY FORWARD

1. Introduction

Child survival is not only of global concern but it is of concern in all cultures, races, religion, tribes and peoples. Thus, at the 1990 World Summit for Children, World leaders, in their Plan of Action identified the following specific actions for child survival, protection and development-the Convention on the Rights of the Child, Child health, Food and nutrition, Role of women, maternal health and family planning, Role of the family, Basic education and literacy, Children in especially difficult circumstances, Protection of children during armed conflicts, Children and the environment, Alleviation of poverty

and revitalization of economic growth. They also identified Follow-up and Monitoring Actions at the national and international levels.

Probably because of the uncertainty of the survival of the child in the most risky first few days of life, many cultures do not name the newborn till a few days to months after birth; and, in spite of the Convention on the Rights of the Child and related States, National and Regional documents reiterating the right of the child *to a name from birth*, this practice has persisted. Bearing in mind that "the child, by reason of his physical and mental immaturity, needs special safeguards and care, including appropriate legal protection, before as well as after birth", and that the under-five mortality rate reflects the functional state of various services in a country and not just health, there is need for all stakeholders to pay attention to the issue of Child Survival. However, because under-five mortality rate is not readily influenced by values obtained from the well-to-do settings, to ensure child survival, the leadership in resource-limited settings must be more accountable and utilize available resources to the maximal benefit of all children and their mothers and not just the privileged few. They must ensure that the means to realise these rights are accessible (socially, economically, geographically, culturally, etc), of good quality and provided on a sustainable basis. Can leaders at all levels in resource-limited settings such as Nigeria prescribe, legalise and implement punishments for themselves if by their acts of omission or commission, a child's right to survival is threatened? Can the governed in such settings demand for good governance bearing in mind that at least 60% of the total

7.6 million under-five deaths estimated for 2010 could have been prevented since their common causes pneumonia, diarrhoeal diseases, preterm birth complications and birth asphyxia are preventable or treatable using currently available, evidence-based, effective and low cost interventions which do not require the development of elaborate or expensive new technologies but can be and have been successfully implemented even in the poorest of settings? I do hope that at the end of this lecture, we shall be committed to ensuring we do our best to promote child survival, growth and development in Nigeria specifically and in resource-limited settings in general. In deed as indicated by the WHO Regional Director in his *Report on Child Survival: A strategy for the African Region*, the key to making progress towards attaining Millennium Development Goal(MDG) 4 by 2015 is *reaching every newborn and child in every district with a limited set of priority interventions*. This is the reason for *my* focus on resource-limited setting- *every child in every district must be reached*.

2. Explanations/Definitions of terms

To fully understand the topic of our discussion, I shall explain some of the key terms:

a. **Child:** *every human being below the age of eighteen years unless under the law applicable to the child, majority is attained earlier* (Convention on the Rights of the Child).

b. **Survival:** Ensuring the realization of the child's *inherent right to life*.

c. **Child survival:** All children have the right to life and governments are expected to protect this right, but the term *child survival* refers to the *survival of children aged 0-5 years, commonly called "Under-fives"*.

d. **Child Survival Programmes:-** Child Survival programmes are those that address the major causes of under-five mortality, especially diarrhoea, acute respiratory infection (ARI) and malaria with an integrated set of interventions related to child health, nutrition, water and sanitation.

e. **Resource-limited settings/countries:** This is a term used to describe low income (gross national income [GNI] per capita of US\$1,005 or less) and lower middle income countries (GNI between US\$1,006 and US\$3,975) as classified by the World Bank. They are also called *developing countries* a term used for convenience and not intended to imply that they have reached their terminal points in development. This is in contrast to *developed countries* defined by Kofi Annan, former Secretary General of the United Nations, as countries that allow *all* their "citizens to enjoy a free and healthy life in a safe environment." There are currently 157 developing countries by the April 2012 listing of the International Monetary Fund (155 countries) and 2 others. Nigeria, still a developing country, was recently reclassified from being low income to low middle income. My discussion therefore addresses what obtains in the majority of the 157 *resource-limited/low resource/developing countries* with focus on Nigeria, one of the largest of such countries. I have deliberately chosen to use *resource-limited or low resource*

settings so that each of us can promote child survival wherever we are-our settings!

f. Universal Health Coverage: Universal health coverage (UHC) is the provision of all people with access to promotive, preventive, curative and rehabilitative health services; i.e. 99% coverage rates for all interventions except exclusive breastfeeding among children under- 6 months of age, for which the target is at least 90%. Such services should be of sufficient quality and effective, while ensuring that they don't cause financial hardship to beneficiaries.

In this lecture I shall discuss, Child Survival Issues, the Challenges to Child Survival, My contributions to child survival and the Way forward in resource-limited settings with focus on Nigeria.

3. Child Survival: The Issues

The following issues of relevance to child survival will be discussed:

- a. Why should child survival focus on under-fives?
- b. What are the causes of under-five deaths?
- c. Where do the deaths occur?
- d. How can child survival be ensured?
- e. Why focus on resource-limited settings with Nigeria as a case in point?

3.1. Why should child survival focus on under-fives?

Why should under-fives be the focus for child survival? The answer is obvious! Analyses of several child morbidity and mortality data from community and facility based surveys in developed and developing nations indicate that the under-fives constitute the most at-risk group being the majority among ill and dead children with newborns and post-neonatal infants being most represented (Fig. 1a-b). It is therefore sensible to focus on this group if development targets are to be attained. Consequently the Integrated Management of Childhood Illness (IMCI) which seeks to improve child survival targets disease conditions and interventions that impact most on this age group. Furthermore, Millennium Development Goal (MDG) 4 specifically seeks to reduce child (under-five) deaths by two-thirds by 2015 and all its related monitoring indicators are in under-fives.

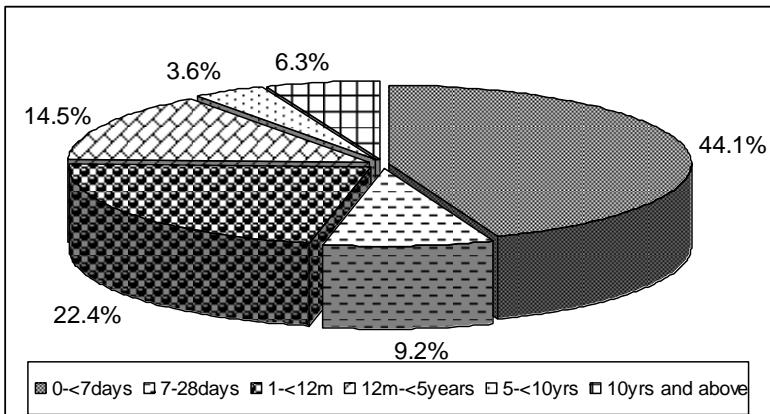


Fig. 1a. Age distribution of deceased patients in the Paediatric Department of the University of Port Harcourt Teaching Hospital-2003-2005

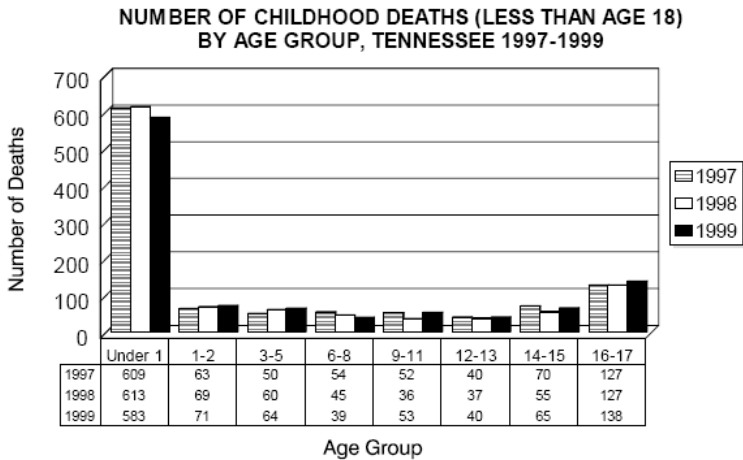


Fig. 1b. Overview of Tennessee Childhood Deaths 1997-1999: Analysis of Child Fatality Review Data Prepared by: Tennessee Department of Health; Bureau of Health Informatics June 2002

But why are the under-fives the highest risk group during a childhood that spans a period of 18 years? The reasons include the obvious immaturity of all the baby's systems and their inability to effectively handle the challenges associated with extra-uterine life especially in resource-limited settings where many of them may be delivered without skilled birth attendants and in places as terrible as on the ground in the farm or the floor of a boat in one of the creeks in the Niger Delta! Specifically their immature immune system cannot immediately produce antibodies and other protective factors to fight the common infections in such environments. Additionally, small babies who are low weight at birth (weight less than 2500grammes) have low body fat and this increases their susceptibility to death from cold hence the need for

newborn thermal care especially in resource-limited settings exemplified by the 65 Countdown Countries where 84% of the 14.9 million preterm births take place and where, if the *simple* Kangaroo Mother Care technique for keeping newborns warm is applied, 450,000 preterms could be saved annually! It is also important in such settings e.g. Nigeria where 12% newborns weigh less than 2500grammes and cannot keep warm! Furthermore, their immature digestive system cannot handle the usual adult foods- no teeth for chewing and the skill for swallowing semisolids and solids develops with time hence the need for appropriate Infant and Young Child Feeding practices to protect them from malnutrition and related nutritional deficiencies and diseases. The immature neurological and other systems cannot inform them about the risks in the environment and the methods to avoid them. Additionally, they can neither take themselves for preventive health interventions nor give histories of their illnesses for appropriate therapeutic interventions to be applied. They therefore depend on adults (caregivers and health workers) for their protection, feeding, health and other cares and if these are neglected, delayed or provided inappropriately, their survival is threatened.

3.2. What are the causes of under-five deaths?

The causes of child deaths, e.g. malnutrition, are multisectoral; and, as was proposed by the UNICEF's conceptual framework on the causes of malnutrition developed in 1990, the causes

include food, health and caring practices (Fig. 2a). The causes are also classified as immediate (individual level), underlying (household or family level) and basic (societal level), whereby factors at one level influence other levels. This framework is used, at national, district and local levels, to help plan effective actions to improve nutrition and, in addition to guiding the assessment and analysis of the causes of the nutrition problems it helps in identifying the most appropriate mixture of actions for managing the situation. The use of such frameworks for other causes and determinants of under-five deaths can lead to the application of appropriate interventions as was proposed by the Lancet Series on Child Survival which classified the determinants of under-five deaths as operating at the distant/remote level (socioeconomic factors, such as income, social status, and education), which work through an intermediate level of environmental and behavioural risk factors and these in turn lead to the proximal causes of death (nearer in time to the terminal event), such as undernutrition, infectious diseases, and injury. The Series additionally defined the proximal/proximate/immediate cause of a child's death as the "disease or injury which initiated the train of morbid events leading directly to death".

Globally, the immediate causes of under-five deaths have remained infections (64%), malnutrition (down from 54% to about one third) and newborn deaths (percentage contribution, now increasing) both from hospital and community level data in developed and developing countries. The distant and intermediate determinants of under-five (U5) deaths may explain their greater risks in resource-limited settings

compared to their counterparts in industrialized nations. A 2010 analysis of the immediate causes of U5 deaths highlighted the decline in the total number of deaths from 12 million in 1990 to 7.6 million in 2010 but noted that the major killers remained pneumonia (18%), diarrhoeal diseases (15%), preterm birth complications (12%) and birth asphyxia (9%) and that despite these reductions, pneumonia and diarrhoea still caused more than two million deaths a year that could have been prevented by available preventive and prompt treatment measures. Malaria was noted to still be a major killer in sub-Saharan Africa (SSA), contributing about 16% of under-five deaths (Fig. 2b). The *Countdown to 2015*, 2012 Report also noted the slow improvement in newborn survival as 40% of U5 deaths occurred in newborns making apparent the urgent need to address still births (especially intrapartum stillbirths) and preterm births. The leading causes of neonatal deaths were complications of preterm birth, intrapartum-related events (birth asphyxia), sepsis and meningitis. Preterm birth complications, the leading cause of newborn deaths and the second leading cause of under-five deaths (14%) accounting for about 1.1 million deaths, are only recently receiving global attention.

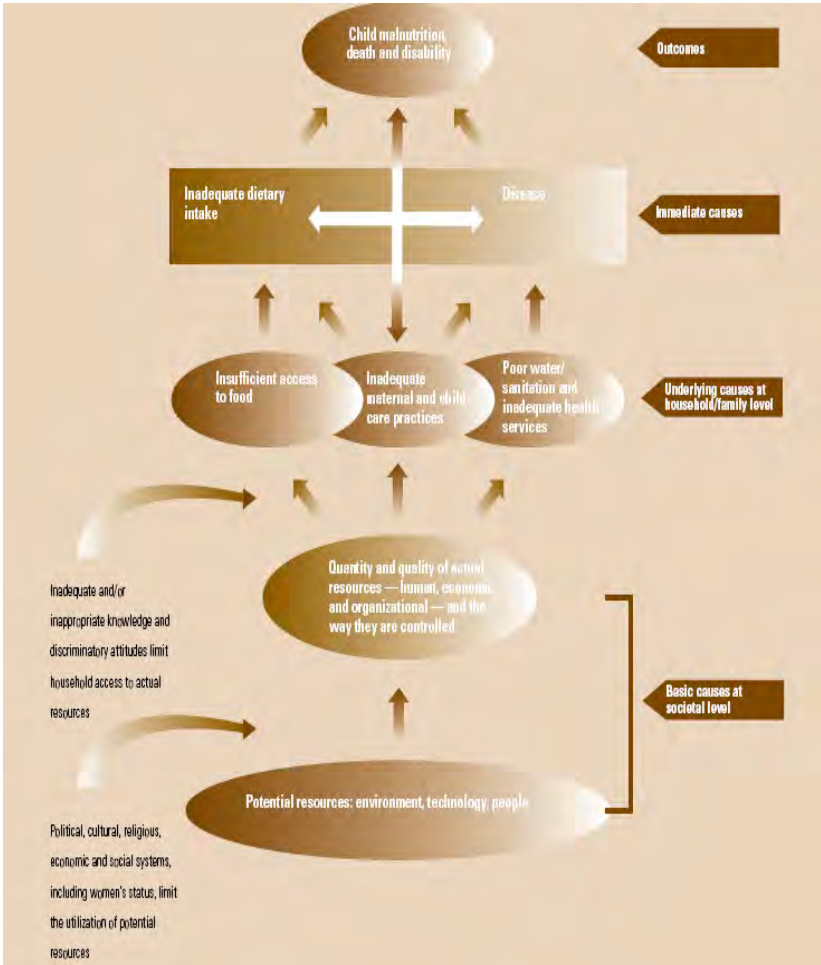


Fig. 2a. Causes of child malnutrition (The State of the World's Children 1998-page 24)

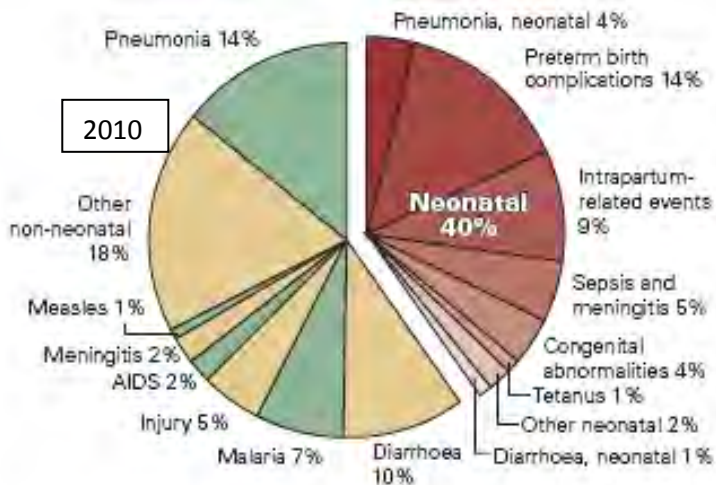
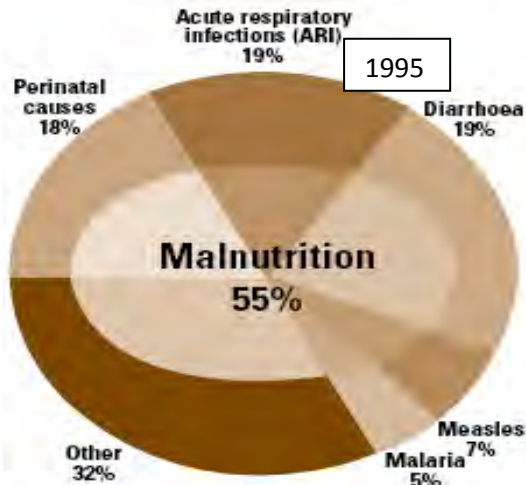


Fig.2b. Causes of Under-five deaths in 1995 and in 2010 (The State of the World's Children 1998, page 14) and 2010 (Countdown to 2015, 2012 Report)

3.3. Where do the child deaths occur?

The knowledge of where these highly preventable under-five deaths occur is important for targeting child survival interventions especially in resource-limited settings. The situations in which these deaths occur are as follows:

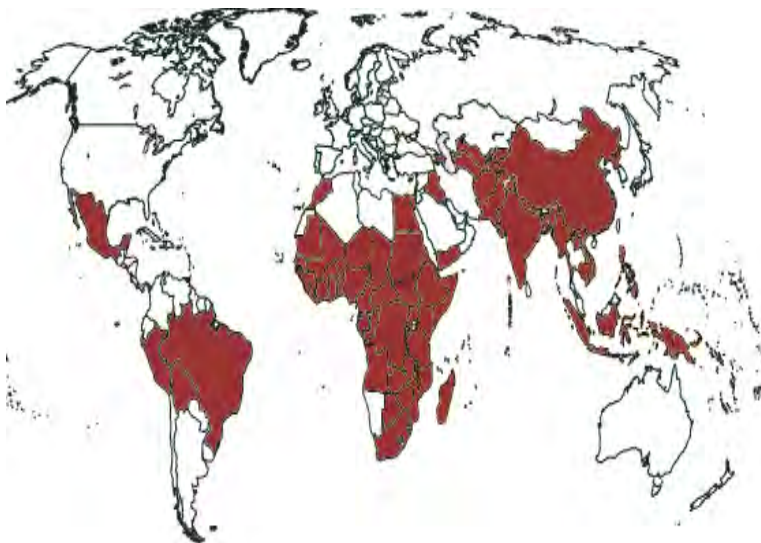
a. Resource-limited(low resource) settings: Under-five deaths occur worldwide but the rates are unacceptably high in resource-limited/low resource settings, 75 of which were selected and prioritised for tracking of the progress towards the attainment of MDGs 4 and 5 because more than 95% of all maternal and child deaths occur in them (Map 1). Data from the *Countdown to 2015, 2012 Report* and *The Levels & Trends in Child Mortality Report 2011* indicate insufficient progress in child survival in these countries in spite of the dramatic decline of child deaths and highlighted the need for a faster progress as only 23 *Countdown* countries were on track to achieve MDG 4 and 13, including Nigeria, had made little or no progress (Map 2). It reported that about 70% of the world's U5 deaths in 2010 occurred in only 15 countries with about 82% of them in SSA and South East Asia (Fig. 3). Additionally, 50% of the U5 deaths occurred in five countries-India, Nigeria, Democratic Republic of the Congo, Pakistan and China with India (22%) and Nigeria (11%) together accounting for a third of these deaths. Furthermore, the Report showed that of the 26 countries with under-five mortality rates (U5MR) above 100 deaths/1,000 live births in 2010, 24 were in SSA. Indeed, in SSA, 1 in 8 children died before age 5, more than 17 times the average for developed regions

(1 in 143) and Southern Asia(1 in 15) (Map 3). The high risk for U5 deaths in Nigeria is further demonstrated by the fact that in 2010, an estimated 134,754, 000 live births and 7,614,000 U5 deaths (5.65% total births) occurred globally compared with 6,332,000 live births and 861,000 U5 deaths estimated for Nigeria indicating that Nigeria's U5 deaths to total live births ratio (13.6%) was about 2.5 times the global figure (5.6%)! Indeed Nigeria, with an estimated total population of 158,423,000(2.3%) compared with the global estimated population of 6,856,797,000 bore a proportionally higher U5 death burden than even India! India contributed 17.9% global population, lost 6.2% of its total live births as U5 deaths. In addition to this international gap in child deaths, Nigeria Demographic and Health Survey, 2008 demonstrated regional gaps in U5MR with the rates ranging from 89 deaths per 1,000 live births in South West to 222 deaths per 1,000 live births in North East and the North East also had the highest child death indices compared with other zones (Map 4).

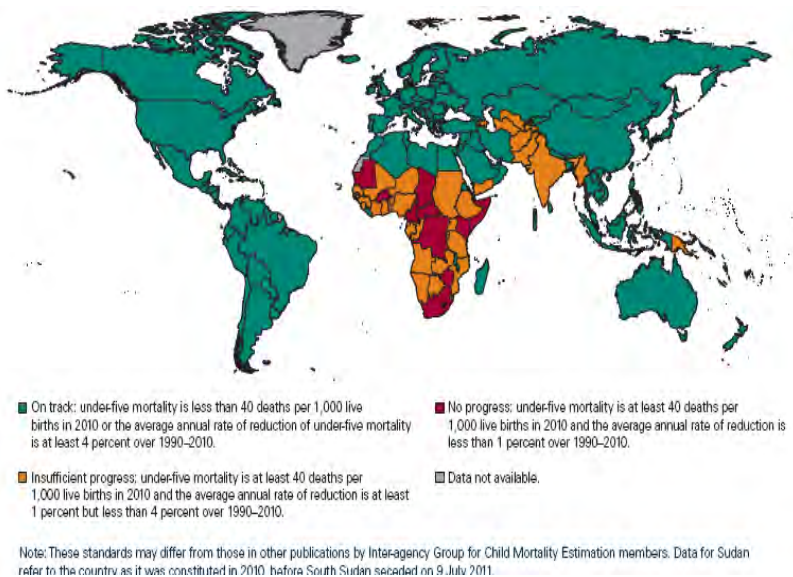
b. Most deaths occur in rural areas and urban slums:

Anthony Lake, the Executive Director of the United Nations Children's Fund (UNICEF) aptly presented the dilemma faced by children in rural areas and urban slums in the *Fore Word* to the *2012 State of the World's Children* as he observed that *when many of us think of the world's poorest children, the image that comes readily to mind is that of a child going hungry in a remote rural community in sub-Saharan Africa – as so many are today...In fact, hundreds of millions of children today live in urban slums, many without access to basic services. They are vulnerable to dangers ranging from*

violence and exploitation to the injuries, illnesses and death that result from living in crowded settlements atop hazardous rubbish dumps or alongside railroad tracks.... scarcity and dispossession afflict the poorest and most marginalized children and families disproportionately. It shows that this is so in urban centres just as in the remote rural places we commonly associate with deprivation and vulnerability. The Nigerian Demographic and Health Survey (NDHS) 2008 also showed this disparity between rural and urban areas with rural areas having poorer health indices than urban ones-e.g. U5MR 121/1,000 live births (urban) and 191/1,000 live births(rural).



Map 1: The Countdown Priority Countries (Source-Countdown to 2015-2012 Report) page 7)

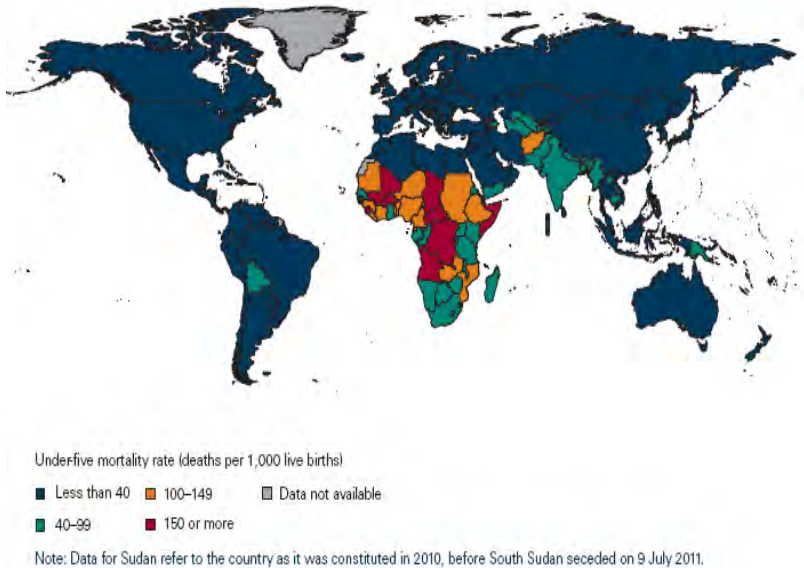


Map 2: Status of countries with regards to their progress towards the attainment of MDG 4((Levels & Trends in Child Mortality Report 2011- page 9)

The increasing rate of urbanization and its associated increase in the number of persons living in slums should stimulate the implementation of interventions that will improve child survival in such settings and prevent further worsening of our indices.

c. Most under-five deaths occur at home: The delays in care-seeking due to late/non recognition of danger signs in ill children, women’s lack of power to make decisions to take the children to health facilities for care, lack of access to health facilities for quality care and the resources to provide the care

result in a high proportion of U5 deaths occurring at home. Some review data indicate that 46% (Republic of Benin), 50% (Kenya) and 80% (Tanzania) U5 deaths occurred at home.



Map 3: Global distribution of Under-five mortality rates (Levels & Trends in Child Mortality Report 2011-page 8)

Furthermore, Nte et al in the review of Paediatric deaths at the University of Port Harcourt Teaching Hospital (2003-2005) showed that 40.8% of the deaths occurred within 24 hours of admission indicating the moribund state of the children at presentation. This supports the need for universal coverage with Community Integrated Management of Childhood Illness (C-IMCI) with the integration of home based treatment of malaria, pneumonia and diarrhoeal diseases, the Home Based

Newborn care and other strategies aimed at improving child survival within the community.

Number of under-five deaths, by Millennium Development Goal region, 2010 (thousands)

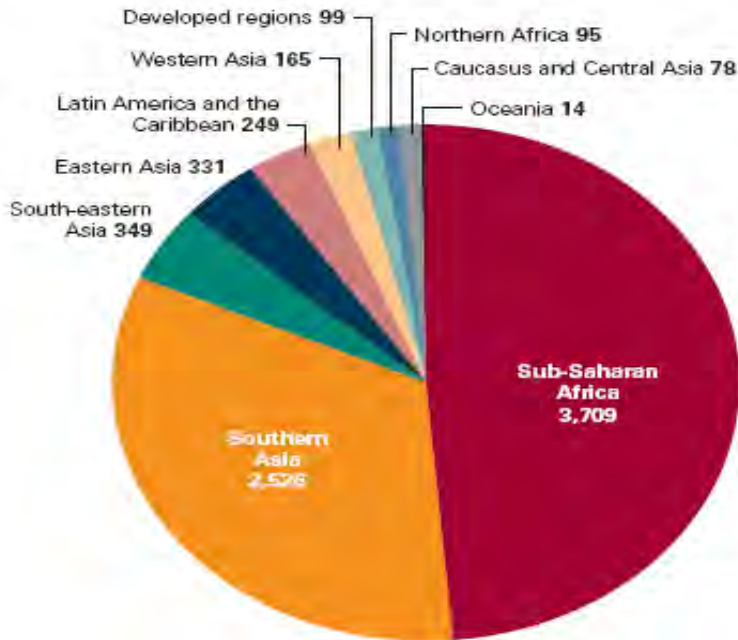
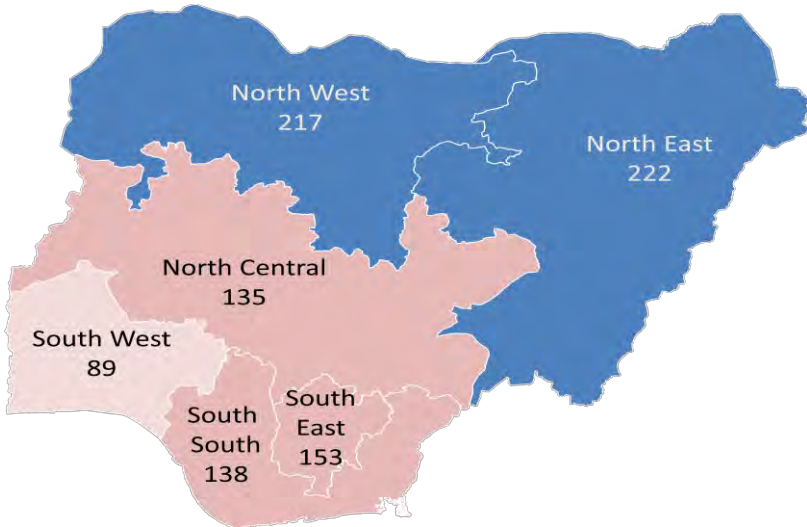


Fig. 3: Millennium Development Goal Regional distribution of the number of Under-five deaths (in thousands) for 2010



Rates are per 1000 live births in the 10 years that preceded the survey

Map 4: Zonal distribution of under-five deaths in Nigeria (Power point slides on Infant, Child and Adult Mortality rates from NDHS 2008 Slide 10)

d. Most deaths occur among children in poor households:

Studies have shown that the children of the poor are more likely to die than those of the rich for many reasons including increased exposure to risks for disease through inadequate water and sanitation, indoor air pollution, crowding, poor housing conditions, and high exposure to disease vectors. They are also more likely to have lower resistance to infectious diseases; malnutrition caused by diets deficient in one or more essential micronutrients (e.g. vitamin A, iron, zinc); low birth weight as a result of poor maternal nutrition, infections during pregnancy, and short birth intervals; and to have recurrent disease episodes. Poverty thus increases exposure and reduces

resistance to diseases, a synergy that contributes to wide inequities in child survival and makes poor children more likely to become sick and die. Furthermore, the children of the rich are more likely to access preventive interventions such as vaccination, vitamin A supplementation, and insecticide-treated mosquito nets (Fig.4). Additionally, when poor children are ill, they are less likely to access appropriate and quality health care early. Consequently, in Nigeria and other countries, these disparities result in higher mortality rates among the poor with the Nigerian U5MR in households in the highest wealth quintile being 87deaths/1,000 live births compared with 219 deaths per 1,000 live births for children in the lowest wealth quintile. This is further highlighted by the comparison of the situation in Nigeria and Sweden-Nigeria[GNI per capita(US\$)-1,180; 64% live below the US \$1.25/day poverty level; U5MR 213 deaths /1000 live births(1990) and 143 deaths /1000 live births (2010); Infant Mortality Rate (IMR) 126 deaths/1000 live births and 88 deaths/1000 live births(1990 and 2010), Neonatal Mortality Rate(NMR) 40 deaths/1000 live births(2010)] and Sweden[GNI US\$=49,930 and none living below the US\$ 1.25/per poverty level; U5MR -7/1000 (1990) and 3/1000(2010); IMR-6 and 2/1000 live births for 1990 and 2010 respectively; NMR-2/1000 live births; annual total births 112,000 and annual U5 deaths for 2010=0;]. Are these differences just attributable to the case of *money answereth all things* that pertain to child survival (Ecclesiastes 10:19) or there are other issues which, if properly addressed can make us realize our hope for child survival as indicated in MDG4?

Indeed ...yet now there is hope... concerning this thing (Ezra 10: 2) and this has prompted this presentation!

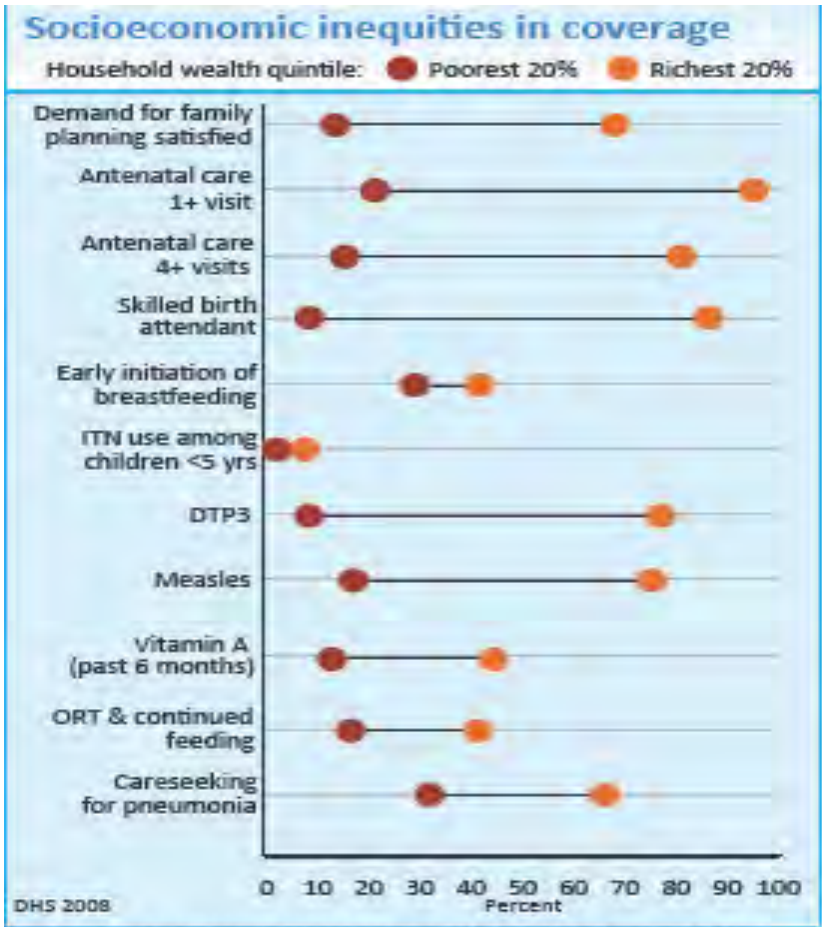


Fig. 4. Socio-economic inequities in the coverage of interventions in Nigeria

e. Most deaths occur among children of young, elderly or uneducated mothers: The Save the Children Publication, *the State of the World's Mothers 2004* and the Nigeria Demographic and Health Survey all attest to the poor health indices in children of young or elderly mothers and those with little or no education. Thus, the Nigerian NDHS 2008 demonstrated that higher levels of maternal educational attainment were generally associated with lower mortality rates-U5MR for children of mothers with no education 209 deaths/1000 live births compared to 68 deaths/1000 live births for children of mothers who had post secondary education. This may be partly responsible for the zonal disparities in child mortality indices in Nigeria- for example, in the North East where 68.1% mothers had no education, the U5MR was 222 deaths /1000 live births and in the North West where 74.2% had no education, it was 217 deaths/1000 live births. However, in the South West and South South where 12% and 6% women had no education, the rates were 89 deaths/1000 live births and 138 deaths/1000 live births respectively probably because in the South West, 16.2% mothers had post secondary education compared with 12.2% in the South South. The NDHS also showed that childhood mortality rates were higher among younger women (less than age 20) (U5MR=209 deaths /1000 live births) and older women (age 40-49 years)(U5MR=218 deaths /1000 live births) than among women aged 20-39 years (U5MR=156 deaths /1000 live births).

3.4. How can child survival be ensured?

Child survival is affected by multiple factors ranging from remote/distant contributors to child deaths to intermediate and proximal/immediate causes that can be largely addressed through the health sector. The survival of children requires the implementation of strategies that can reduce the impact of these factors. There is need for strong intersectoral and multisectoral collaborations in the implementation of strategies for their synergistic effects to be harnessed. Some of the strategies include:

a. The Child Survival Revolution: In 1982, the late Jim Grant, then Executive Director of UNICEF launched the Child Survival Revolution which gained widespread international support and contributed to the reduction in U5 deaths from 117 per 1000 in 1980 to 93 per 1000 live births in 1990. The concept is being implemented by UNICEF as the West African Accelerated Child Survival Programme. The UNICEF programme is targeted at accelerating the coverage of interventions in selected districts with 16 million people in 11 countries. Similarly, in 1985, the United States of America's government signed into law the Child Survival Initiative and through funding by the United States Agency for International Development, provided funds for child survival activities in poorer nations.

b. The Interventions identified in the Lancet Child Survival Series: The interventions identified were preventive (reducing the exposure to the infection or condition or reducing the

likelihood of exposure that leads to disease) or therapeutic (treating the condition to reduce its likelihood of causing death). These preventive and therapeutic interventions were noted not to require the development of elaborate or expensive new technologies for implementation but were said to have been successfully implemented, even in some of the poorest countries. The Lancet Series classified the interventions, based on the evidences of their effectiveness, as *Level 1*—sufficient evidence of effect existed for their effectiveness in reducing cause-specific mortality among children younger than 5 years in developing countries. *Level 2*—limited evidence of effect but some data showed that they had possible positive effects. The evidences were conflicting and low-income countries were poorly represented in the data. *Level 3*—inadequate evidence of effect as available data could not confirm their impact on under-5 mortality because of major qualitative or quantitative limitations. Based on these classifications, the impact of the interventions on specific diseases is shown in Fig. 5. The interventions with the greatest impact (levels 1 and 2) were:

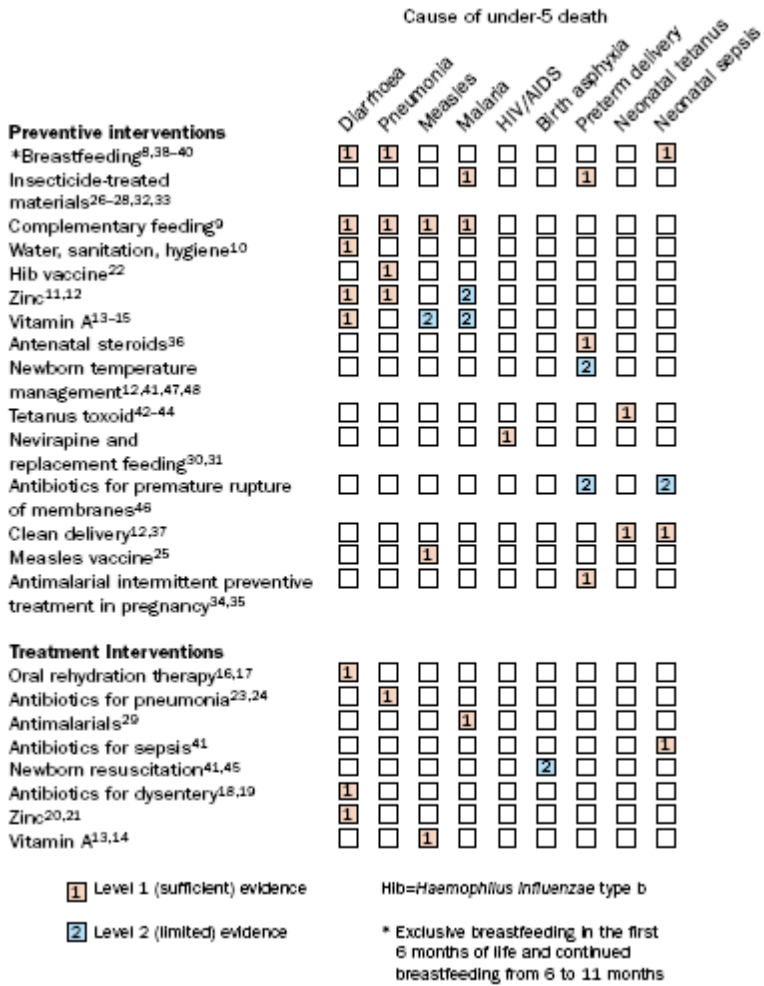


Fig. 5. Child survival interventions with sufficient or limited evidence of effect on reducing mortality from the major causes of under-5 deaths (Lancet Series on Child Survival- How many Child Deaths Gareth Jones, Richard W Steketee, Robert E Black, Zulfiqar A Bhutta, Saul S Morris, and the Bellagio Child Survival Study Group (The Lancet 2003; 362:65-71 (www.thelancet.com)

(i) Preventive interventions of greatest potential impact:

- Continued breastfeeding through the first year of life;
- Insecticide-treated bed nets for malaria;
- Micronutrient supplements (vitamin A, zinc).
- Complementary feeding;
- Immunization (especially Hib, measles and tetanus) and neonatal care (clean delivery and newborn temperature management);
- Sanitation (clean water, waste disposal);
- Prevent mother-to-child transmission of HIV in countries with a high prevalence of HIV through administration of an antiretroviral drug.

(ii) Therapeutic interventions of greatest impact:

- Oral rehydration therapy for diarrhoea;
- Antibiotics for neonatal sepsis, pneumonia and dysentery;
- Anti-malarial drug treatment;
- Zinc therapy for diarrhoea

c. Child Survival Strategy for the African Region:

Although the member States of the African Union committed themselves to the attainment of MDG 4, the persisting poor child survival indices in the region led the WHO, UNICEF and World Bank to develop the Child Survival Strategy for the African Region. This was adopted by the 56th WHO Regional Committee in 2006. The guiding principles of the Strategy are

(a) *Life-course approach*: promotes optimal growth and development of the foetus and across the 0 to 5 age group to prepare each individual for a healthy, well adjusted, productive adult life, through coordinated implementation with other strategies aimed at achieving the MDGs and promoting health.

(b) *Equity*: Emphasis on ensuring equal access to child survival interventions for all children.

(c) *Child rights*: Rights-based planning to be incorporated in child health interventions to ensure protection of the most vulnerable.

(d) *Integration*: All efforts to be made to implement the proposed priority interventions at various levels of the health system in a coherent and effective manner that will be responsive to the needs of the child.

(e) *Multisectoral collaboration*: Considering that health issues are development issues, achieving health outcomes requires contributions from other sectors.

(f) *Partnerships*: Emphasis will be put on developing new partnerships and strengthening existing ones to ensure that child survival interventions are fully integrated in national and district health systems in a sustainable way.

These principles should guide other resource limited settings in the implementation of Strategies for ensuring the survival of children.

The Strategic approaches adopted are: (a) *Advocating for harmonization of child survival goals and agendas* in order to promote, implement, scale up and allocate resources to achieve the internationally-agreed goals and targets; (b) *Strengthening health systems* by building capacity at all levels of the health sector and ensuring quality service delivery to achieve high

population coverage of child survival interventions in an integrated manner; (c) *Empowering families and communities*, especially the poor and marginalized, to improve key child-care practices and to make the treatment of malaria, pneumonia, diarrhoea and HIV/AIDS available within the community; (d) *Forming operational partnerships* to implement promising interventions with government in the lead, and donors, Non Governmental Organizations(NGOs), the private sector and other stakeholders engaged in joint programming and co-funding of activities and technical reviews; (e) *Mobilizing resources* at international, regional and government levels for child survival to scale up proven interventions. The Strategy defines a set of effective child survival interventions which includes Antenatal Care, Newborn care, appropriate infant feeding, immunization, management of common childhood illnesses and the use of insecticide treated mosquito nets. The member states were urged to develop policies for effective intervention scale-up, strengthen capacity for planning, implementation and monitoring child survival activities; develop communication strategies and effective partnerships; conduct operations research, document experiences and develop frameworks for monitoring and evaluation. The WHO and partners' roles included country support for scaling up, documentation, operations research and facilitation of coordination and collaboration. As part of this strategy, member states developed their country Road Map based on the African Road Map and Nigeria subsequently developed the Integrated Maternal, Newborn and Child Health (IMNCH) Strategy.

The IMNCH Strategy adopted the strategy of providing care along life cycle approach as shown in Fig. 6a-c. One of the activities promoted by the Strategy is the celebration of the bi-annual Maternal, Newborn and Child Health Week. The Week promotes and substantially contributes to improving maternal, newborn and child health indicators in Nigeria through the delivery of a package of high impact interventions using existing routine and/or expanded outreach services. The interventions delivered include, among others, vitamin A supplementation, routine and catch up immunization for children and tetanus toxoid for pregnant women, de-worming, screening of severely malnourished children, distribution of long lasting insecticide treated bed nets, ante-natal care and promotion of selected key household care practices such as breastfeeding, complementary feeding and hygiene. This approach to reach mothers and children supplements the health sector's day-to-day work with a free package of these high-impact services to ensure optimal maternal health and prevent common diseases and malnutrition in children under the age of five.

3.5. Why focus on resource-limited settings with emphasis on Nigeria?

Previous sections discussed where and why U5 deaths occurred. They highlighted the threats to child survival in resource-limited settings which unfortunately are not making sufficient progress towards the attainment of MDG4 and

improving the survival of children beyond the MDG target of 2015. For example, from 19% U5 deaths in 1970, SSA's contribution to the global U5 death toll increased to 49% (4.4million U5 deaths) in 2008. Furthermore, because the

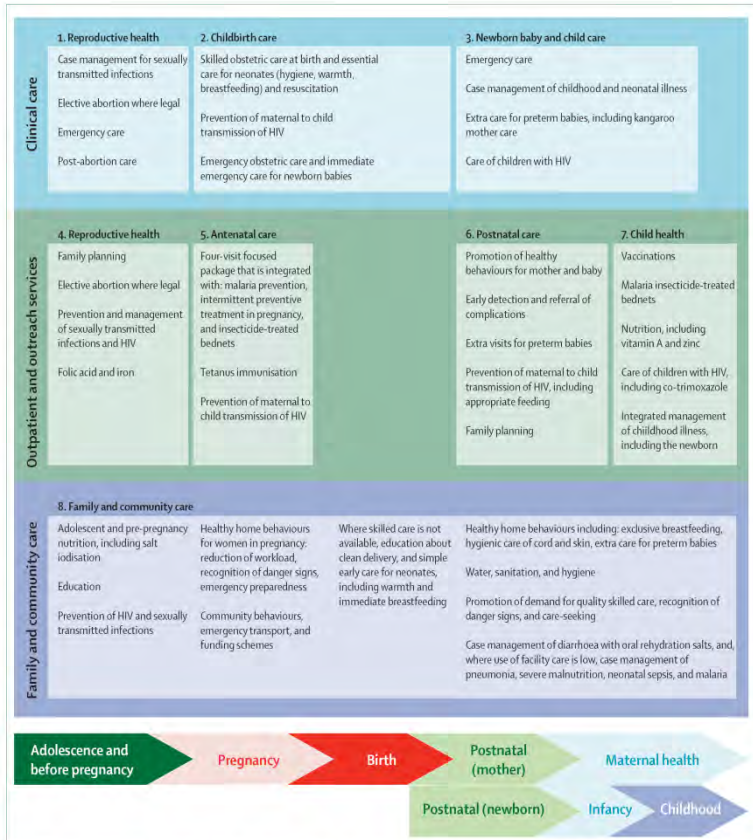
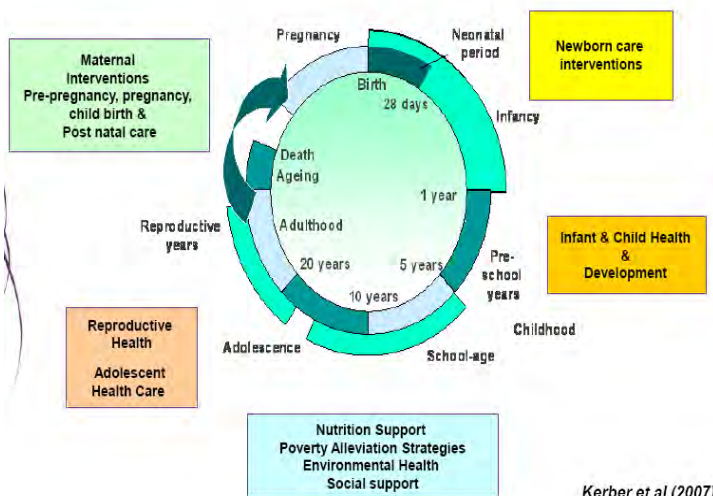


Figure 2: Integrated packages for health of mothers, newborn babies, and children, with evidence-based interventions along the continuum of care, organised by lifecycles and place of service-delivery
Adapted from references 5,32, and 33, with permission.

Fig. 6a. Integrated packages for the health of mothers, Newborn babies and children with evidence-based interventions along the continuum of care organized by life cycles and place of service-delivery.



Kerber et al (2007)

Fig.6b. Continuum of care across the life cycle(From Priority Action 2: Core Packages Report by *Bhutta ZA, Mason EM(Co-Chairs)* - presented at the PMNCH Board Meeting- Dec 2-4, 2009, Canada)

Continuum of care across service delivery pathways



Fig. 6c. Continuum of care across service delivery pathways. (From Priority Action 2: Core Packages Report by *Bhutta ZA, Mason EM (Co-Chairs)* - presented at the PMNCH Board Meeting- Dec 2-4, 2009, Canada)

available interventions can be successfully implemented even in the poorest of countries it was important to identify why and where child survival was most threatened so that interventions can be targeted at them.

Nigeria is my focus for this presentation not only because as a resource-limited country the issues raised above are applicable, but also because:

- **We are Nigerians and can impact most on the situation in Nigeria:** Nigeria is our country and any impact we make in our little settings will contribute to the overall improvement in child survival in the country. The section on the Way Forward proposed a number of activities we can implement in the University, Teaching Hospital and wherever we find ourselves to contribute to improvement in child survival.

- **Nigeria's contribution to the overall child (U5) deaths:** Although Nigeria contributes 2.3% of the global population its U5 death burden is 11.3% the global total. Consequently unless child survival improves in Nigeria the global efforts will not yield the desired result.

- **Many of the factors that contribute to U5 deaths are worse in Nigeria:** The low coverage of interventions, factors related to service delivery and its quality and several obstacles to successful programme implementation are worse in Nigeria and imply that unless specific attention is paid to Nigeria, MDG 4 will not be attained. Furthermore, the politicization of health and relevant sectors, misapplication and poor utilization of resources, and insecurity pose additional challenges to child survival in Nigeria.

- **Nigeria has the resources to improve child health, growth and development and attain the MDGs:** Poorer countries have successfully improved on their child health indices. The continued poor child health indices in Nigeria can be reversed through multifaceted actions.- e.g. increasing access to funds for programme implementation by redirecting some of the funds currently being *wrongly* utilised to ensure that the 15% national budget targeted for health is realized. Some of the areas from which to re-channel funds are the sponsorships for pilgrimages, medical treatments abroad and international scholarships. Others are the returns from fuel subsidy, several abandoned projects and overinflated contracts awarded without recourse to due process. My suggestions are premised on the need to benefit the generality of Nigerians rather than continue to increase inequities between the rich (who have continued to benefit from the government's largesse) and the poor (who are being further impoverished by the lack of public utilities and the negative impacts of the corrupt practices and lack of accountability among those in authority).

- **Most of my contributions to child survival have been in Nigeria and therefore Nigeria must be the focus of my talk:** Although I have served in various capacities in child health interventions in other countries, I have always lived and worked in Nigeria and therefore have gained more experiences from Nigeria. This therefore has informed my choice of Nigeria as the case in point for my presentation.

4. Child survival: The challenges in resource-limited settings with focus on Nigeria

In spite of significant global achievements in the areas of policy, strategy and plan development; capacity building; partnerships and communication strategies; operations research, documentation and monitoring and evaluation; child survival in resource-limited settings especially Nigeria, has been affected by a number of challenges which have continued to contribute to their high U5 deaths. The Regional Director for WHO in his *Report on Child Survival Strategy for the African Region* noted that there are *multiple constraints in health systems that hamper effective scaling up of interventions. Insufficient human, financial and material resources coupled with limited managerial capability, out-of-pocket payments and inadequate mechanisms for families to access health care are just some of the factors that lead to poor service delivery and low coverage of interventions. Insufficient availability of essential drugs and supplies, and inadequate supervision of health-care providers are among the persistent problems of the health systems in many countries. Financial resources for child survival programmes are far from adequate for reaching every community in every district with low-cost interventions.* This report has aptly presented the challenges but for clarity I will reiterate them as follows:

a. Poor coverage with known interventions: Known interventions that can reduce U5 deaths and improve their survival exist but the children have continued to die because

the coverage with most interventions is less than 100% (Fig. 7a-b). It has been suggested that if all the world's children were covered by available effective interventions, the risk of death in childhood would fall to about one-third of the current level. These interventions could eliminate 88% diarrhoeal deaths, 65% pneumonia deaths, 91% malaria deaths and 55% (1.7 million) neonatal deaths. Indeed simply ensuring that pregnant women received tetanus immunization would save 180,000 neonates each year (Fig 7c)! The situation is poorer in Nigeria where the coverage rates are lower as a result of inequities in access to care due to place of residence, maternal education/age, family's wealth, and other sociocultural factors. Nigeria is one of the countries implementing the Integrated Management of Childhood Illness Strategy in less 25% of its districts with Rivers State not implementing it at all because only the Midwives in the Midwives Service Scheme (MSS) have been trained in the programme. Furthermore, the IMNCH is expected to contribute to the attainment of the MDGs and yet it is not being implemented in all States and as at February, 2012 the initial meetings had been held only in 25 States. Rivers State has had the initial visit and a successful conduct of the *Situation Analysis for MNCH* but is yet to roll out the Strategy. Additionally, in spite of the development and launching of the School Health Policy and programme and several others, their implementations have remained far from achieving UHC.

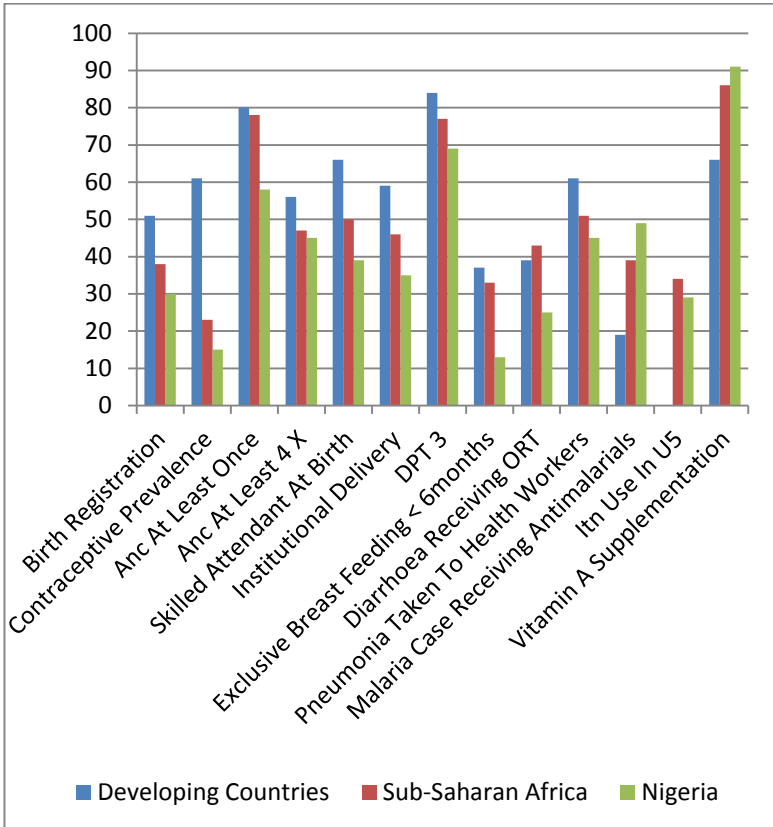


Fig. 7a. Coverage rates of essential interventions in Developing nations, sub-Saharan Africa and Nigeria (Data from the State of the World’s Children 2012)

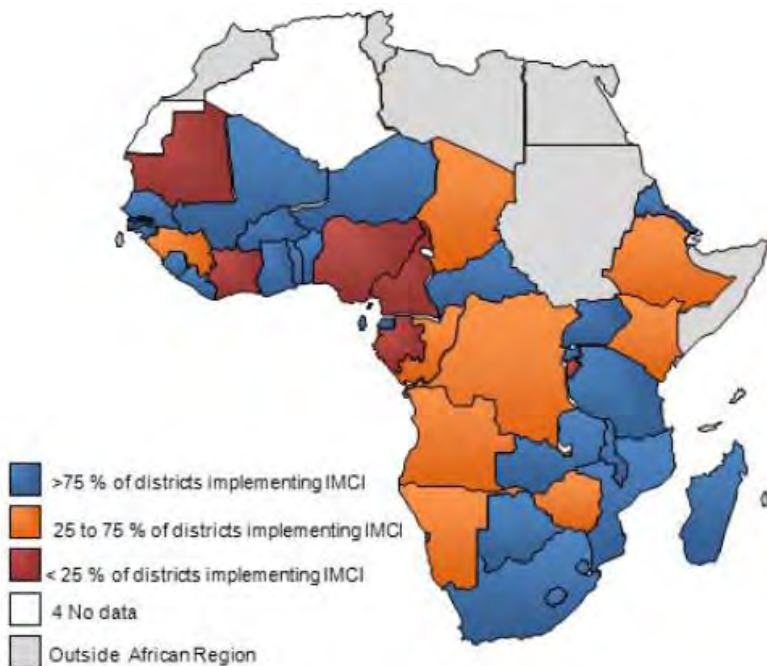


Fig. 7b. Map of status of implementation of the Integrated Management of Childhood Illness Strategy in the African Region, December 2010(The work of the WHO in the African Region 2010 page 26)

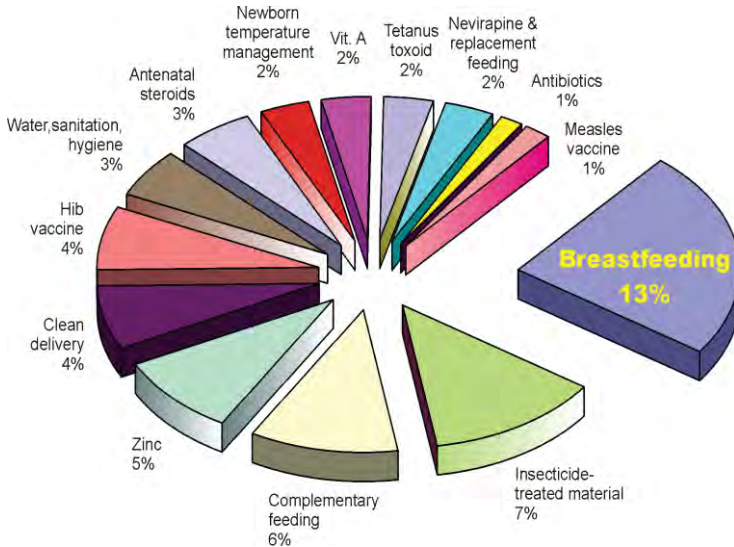


Fig. 7c: Proportion of Under-five deaths that can be prevented with the universal coverage of known interventions

b. The presence of obstacles to quality care: The obstacles to quality care have been aptly described in the *Reduce Alive Package* developed by the West African Health Organisation (WAHO) as an advocacy tool for the reduction of perinatal, maternal and new born deaths in the sub-region. The three delays identified in the package are:

- 1st Delay: Delay in decision making: caused by lack of knowledge of danger signs, delay in decision making and lack of decision-making power among women
- 2nd Delay: Delay in accessing health facilities: caused by long distances, poor state of roads, inadequate referral and feedback systems and low household income

- 3rd Delay: Delay in receiving health care: Inadequacies in the numbers of skilled staff, equipment, drugs and consumables and low motivation of staff or their lack of commitment.

These obstacles may explain the zonal differences in under-five deaths in Nigeria (Map 4).

c. Economic factors: Poverty and the need to pay user fees negatively impact on the utilization of health services by ill children and their mothers. Additionally a number of developing countries have not been able to commit the required resources for the delivery of health interventions. They have depended on donor funds with their challenges including lack of ownership, inability of the government to plan for, monitor and evaluate the programme, non-sustainability, non prioritization, etc. Examples include the several pilot programmes implemented in different sites in Nigeria without the government taking over ownership and scaling them up to ensure universal coverage. Specifically the implementation of the IMCI, especially Community IMCI, the training of health workers on several health interventions have largely depended on the availability of donor funds and with dwindling donor support many programmes have either died or remained at the pilot sites. Donors have different areas of interest, reasons for actions and monitoring indicators. There is therefore need for resource limited-settings to carefully prioritise their strategies and implement them. In Nigeria, in spite of the commitment to allocate at least 15% of the national

budget to health in 2000, it was only in 2011 that the Federal government approved a marginal increase in the budgetary allocation to health to 7%. Several States, including Rivers State, are still allocating less than 15% of their budgets to health and many are yet to commence the implementation of their costed Strategic Health Development Plan developed since 2009 and expected to end in 2015 and contribute to the attainment of the MDGs!

d. Health manpower crisis: As reported in the World Health Report 2006 and the World Health Statistics 2012, there is global health manpower crisis (Fig. 7d-e). Some of the reasons for the crisis are insufficient numbers of trained health workers, brain drain within and outside the country, lack of staff motivation/commitment, unwillingness of health workers to work in certain areas- e.g. rural areas and ineffective/lack of supportive supervision, monitoring and evaluation of health workers' services. Thus, even in the recently adopted Midwives Services Scheme (MSS) in Nigeria, retired midwives had to be recalled to provide services and since they were not enough, the scheme is being amended to allow Community Health Extension Workers (not considered as skilled health workers) to join the implementation team. Although several studies have demonstrated the impact of skilled health workers on maternal and child survival, governments in resource-limited countries have failed to commit resources to their training hence the perennial shortage of health workers in these settings. Many resource-limited countries do not have the critical number of health personnel for universal coverage. There are also rural-urban and zonal

dichotomies in health manpower distribution even in Nigeria hence the adoption of the MSS to improve access to skilled delivery in rural areas and thereby contribute to the attainment of MDGs 4 and 5. However, because of shortage of midwives for deployment, the scale up of the scheme in several States has been slow; e.g. in Rivers State, the scheme has only been scaled up from the initial 4 LGAs in 2009 to 6 in 2012. This is sad because there are many young school leavers seeking admission to study Nursing/Midwifery but there are no schools to train them!

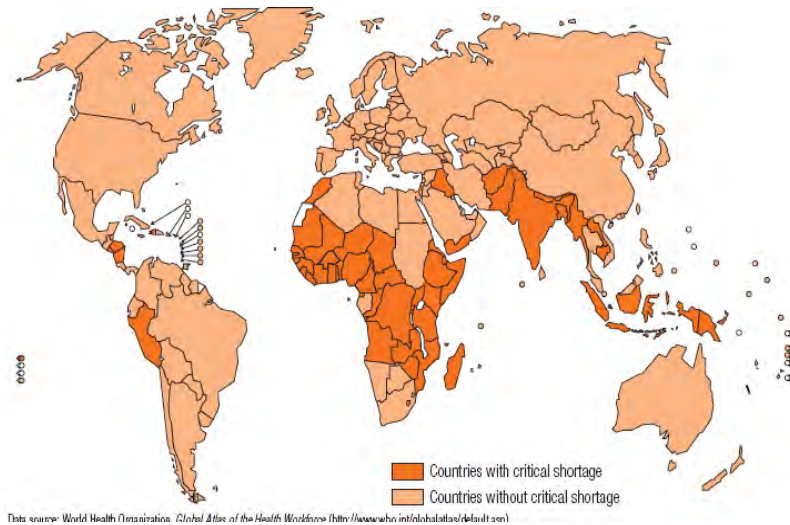


Fig 7d. Countries with critical shortage of health workforce (World Health Report 2006)

Density of doctors, nurses and midwives in the 49 priority countries

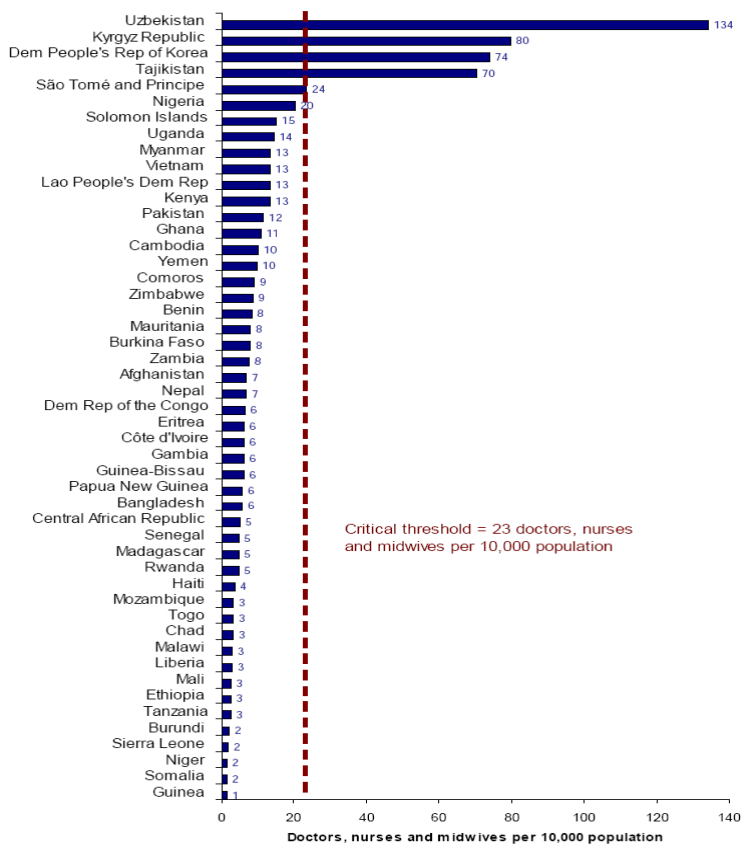


Fig. 7e. Distribution of health workers in 49 Priority Countries (WHO Global Atlas of Health Workforce (August 2010))

e. Other health system related challenges: These include fragmented implementation of Child survival programmes, weak and poorly functional health system, inequity in service

distribution and multiplicity of single interventions-e.g. HIV/AIDS, Malaria Control Programme, Lassa Fever Control Programme etc which detract from the major issues related to child survival. There is also the politicization of health care in the country with leaders being ever ready to endorse programmes and policies that remain unimplemented for several years e.g. the Costed Strategic State Health Development Plans! Additionally the lack of effective linkage between the different levels of the health system impacts negatively on referral care. Other challenges include sociocultural and religious factors, poor planning (including failure to use research findings in the country), implementation and utilization of resources; lack of community participation and ownership and poor stakeholders' engagement. Furthermore, while the global focus of Primary Health Care has changed to improve investment for a better quality of care in industrialized nations, the situation has remained largely unchanged in developing countries including Nigeria.

f. Other challenges: Some sad developments have further negatively impacted on child survival in resource limited-settings. They include the increasing incidence of drug resistance by infectious agents especially malaria, fake and substandard drugs, emergence of new diseases such as the human immunodeficiency virus (HIV) which not only affects the child but also kills the parents leaving many HIV orphans in difficult circumstances with reduced opportunity for survival, growth and development; global environmental challenges; lifestyle-related diseases and increasing

urbanization/slums. Indeed many developing countries now face a double burden of diseases- that of communicable and non-communicable diseases/accidents and injuries. Furthermore, in Nigeria, the recent security challenges have negatively impacted on access to health care in some parts of the country, for example, in the Niger Delta during the period of militancy development partners rejected hosting programmes in affected states for fear of militants. Currently the MSS and other programmes in the Northern parts of Nigeria, a region that has had the worse child health indices are being hampered by the Boko Haram Terrorism: many National Youth Corpers and MSS midwives have had to be redeployed for their safety thereby further increasing the zonal inequity in access to quality health care.

5. My contributions to Child Survival with focus on Nigeria

This is probably the climax of this lecture. I suppose you have been expecting to hear what my contributions to child survival have been. Choosing to talk on this topic is a major contribution as I believe that having stimulated your minds through the course of this lecture you are already considering what you can do to promote child survival and by the time I propose the way forward, you would have identified possible activities you can undertake. My contributions have been in diverse areas but because I have chosen to focus on child survival in the Nigerian context, I shall only highlight

activities in this regard. They cover my services as a paediatrician and lecturer, capacity development, research and publications, advocacy, community mobilization and programme implementation. They shall be discussed briefly.

a. Provision of quality paediatric services: The realization of the importance of health workers in the successful delivery of interventions and their utilization motivated me to provide dedicated services in all areas I have served. My Part II Project for the West African College of Physician's Fellowship studied immunization coverage in Ikuru Town because I wanted to know why the children were not getting immunized and how they could be assisted to improve the coverage rates. That study helped me identify a number of obstacles such as lack of access to and information about immunisation and the fear of adverse reactions to vaccines. Some determinants of the coverage rates for the different vaccines included proximity to the health facility, maternal education, marital status and maternal employment. These factors made me ensure that in all areas of service delivery, equitable access to all persons especially the *at-risk* groups was provided. Specifically, I participated in the development of the *Women and Children Friendly Health Services Initiative* and attended training programmes on the Integrated Management of Childhood Illness; Emergency Triage, Assessment and Treatment; Paediatric Advanced Life Support Course; Home Based Care for Newborns, Infant and Young Child Feeding Counselling, Breastfeeding Counselling and HIV and Infant feeding Counselling, Diarrhoea Case Management and Outpatient Management of Acute Respiratory Infections, among others.

The skills acquired through these courses are applied during my services to patients to ensure they get optimal care in spite of the several challenges they may face. Furthermore, during my membership of the *Hospital Patient Friendly Committee* I contributed to the development of guidelines for improving the accessibility (friendliness) of the hospital to patients. Some of the obstacles to the utilization of services at the tertiary setting include poor access to services for various reasons which I addressed through different interventions and made the Department one of the best rated in the hospital. Similarly, as the Acting Director and Director of the Institute of Maternal and Child Health, I motivated the health workers in our project communities to ensure they attended to patients in a more professional way. As in the Department of Paediatrics, I ensured that simple materials and equipment for service delivery were provided to give the health workers job satisfaction. I led by example: providing supportive supervision to and motivating the staff in different ways. Additionally, staff and clients who needed redress had access to my office. These activities made the workers serious and committed to patient care. They also contributed to the success of residents in their training programmes and attracted more residents to the Department.

b. Implementation of Child Survival Programmes: Having attended several courses to build my capacity in different child survival interventions, I ensured their implementation in the Department and other places. The areas of implementation include operating the Diarrhoeal Training and Acute Respiratory Infections Unit which provides residents and

students opportunities to manage these conditions using approved guidelines- e.g. not using cough syrup for acute respiratory infections; using oral rehydration therapy and zinc for diarrhoeal diseases; promoting exclusive breastfeeding for 6 months and appropriate complementary feeding with breastfeeding until the child is aged at least 2 years. I also promoted immunization of children through the establishment of linkages with the Preventive and Social Medicine Department. As the Coordinator of the Baby Friendly Hospital Initiative I organized a number of trainings on Breastfeeding and Lactation Management, the Code of Marketing of Breastmilk Substitutes and HIV and Infant Feeding Counselling. Through these programmes, I ensured the implementation of the WHO Global Infant and Young Child Feeding Strategy. I opened the UPTH Creche where lactating members of staff and students can leave their babies while at work so that they can breastfeed. I printed and distributed posters and booklets on Infant and Young Child Feeding and facilitated the annual World Breastfeeding Week Celebration in the hospital from 1998 till date. Additionally, I monitor compliance with the International Code of Marketing of Breastmilk Substitutes and the Nigerian Regulations 2005.

c. Capacity development: My contributions in this regard include:

i. Self development: My concern for improved child care made me participate in different workshops, training programmes and conferences to improve my capacity for service delivery.

ii. Development of training manuals, guidelines and protocols: I have participated in the development of different materials for the training of health workers on the Integrated Management of Childhood Illness, *HIV and Infant Feeding Counselling: the Handbook for Health workers* and the Counselling Chart; the Manuals for *training on the Code of Marketing of Breastmilk Substitutes* and *Home Based Care for Newborns: a training Course for Community Health Workers in Nigeria*; *the Paediatric HIV/AIDS Guidelines and Standard Operating Procedures*, *the Women and Children Friendly Health Services Initiative*, *the Manual on Optimal Care Practices*, etc. These materials are in use for training programmes to improve the skills of health workers in support of child survival.

iii. Direction/Facilitation of courses: I have directed Training of Trainers' Courses on Breastfeeding Counselling and HIV and Infant Feeding Counselling, Code of Marketing of Breastmilk Substitutes, Home Based Care for Newborns at the national, zonal and state levels. I have also directed or facilitated courses on IMCI, Breastfeeding and Lactation Management, HIV Complementary Course on IMCI, Breastfeeding Counselling and HIV and Infant Feeding Counselling, the Code of Marketing of Breastmilk Substitutes, Home Based Care for Mothers and Newborns; Diarrhoeal Case Management and the Outpatient Management of Acute Respiratory infections, among others.

iv. Training of undergraduate and postgraduate medical and other health care workers: I have facilitated the learning of these cadres of health workers in the areas that concern child survival in particular and child health in general through

lectures, tutorials, bedside teachings, teachings at other fora, presentation of papers, supervision of projects, etc.

v. Mentoring of other health workers: This has been done through provision of different technical materials, reviews of their works and encouraging their participation in different training programmes and meetings.

vi. Coordination of the Paediatric Association of Nigeria's Continuing Medical Education Programme at the University of Port Harcourt Teaching Hospital. The programme provided fora for capacity development in child health for public and private health care providers in Rivers State.

d. Participation at Review and other meetings on Child Health: I have attended several meetings for the review of activities on health including child health. These meetings have led to the adoptions/revisions of programmes/policies related to maternal, newborn and child health at the State, Zonal and National levels-e.g. Zonal and National Review Meetings organized by the Federal Ministry of Health, UNICEF and WHO. During several of these meetings, I served as a consultant or presented some of the theme papers for decision making. Some examples include; the Nigerian Academy of Science Meeting where I presented a paper titled-*Strategies for increasing the immunisation coverage of mothers and babies in Nigeria*". Other papers include: *Experiences in Newborn Care in a Rural Community in Rivers State; Practical Approaches to Reducing Infant Mortality in Rural Communities; Home Based Care for Mothers and Newborns- experience of preliminary implementation in Gokana LGA-a WAHO Demonstration Project site;*

Community based newborn interventions: A South-South Demonstration Project Experience-Symposium paper. The details of these meetings and several other papers are shown in the Reference section of this lecture. These papers contributed to the adoption of the Home Based Newborn Care for wider scale implementation and led to my being awarded the contract by UNICEF to lead the adaptation of the training materials for use in Nigeria- a task which I completed on schedule.

e. Research and Conference attendances: I have conducted researches in areas related to child health and survival:

They include researches into the common causes of child deaths (diarrhoea, vaccine preventable diseases, acute respiratory infections, etc) and the interventions to prevent/treat them-(Family planning, Oral Rehydration Therapy, Breastfeeding, immunization, etc). These resulted in my presenting at least 75 papers in local and international conferences and publishing in journals and text books. My regularity and participation in the Paediatric Association of Nigeria's conferences made me to be admitted as a Life Fellow of the Association. I served in the Ethics Committee of the University of Port Harcourt Teaching Hospital from 1997-2011 during which period I assisted several residents in their research works, published two papers to assist researchers and contributed a chapter in a text book on Law and Ethics of Medical Practice in Nigeria.

f. Advocacy for Child Health: These were and are being carried out at community-, state- and national- levels alone or during participation in related meetings. The sessions have contributed to the adoption and or implementation of some policies and guidelines at different levels –for example the

WAHO Demonstration Project and the subsequent adoption of the Home Based Care for Newborn training package for Rivers State level implementation; provision of free airtime for child health programmes by the Rivers State Television Authority and the Africa Independent Television.

g. **Creation of awareness on child health issues:** To address the impact of ignorance on child survival and, in realization of the limited access of caregivers to appropriate health information, I have spoken at different fora on child health-churches, men's, women's and youths' programmes and in the television/radio. I have at delivered least 20 public lectures on child health issues. I also wrote in several volumes of QualiHealth Magazine on different child health topics including *Useful hints for successful breastfeeding (parts I and II)*; *Tackling Diarrhoea*; *Childhood malnutrition: The Invisible but deadly enemy-Parts I and II*; *Cough and catarrh; and Curbing Infant mortality*. I have spoken at LGA immunization flag off ceremonies in Andoni and Emuoha LGA.

h. **Implementation of the West African Health Organisation's Demonstration Project:** The successful pilot implementation of this Project in Gokana LGA resulted in community mobilization for maternal, newborn and child health; increased utilization of health services; establishment of linkages between the different levels of the health system and identification and mitigation of obstacles to maternal, newborn and child health in the site. The experiences have been documented in several volumes of reports and shared in different fora.

i. As Director of the Institute of Maternal and Child Health:

In this capacity, I got the Research Fellows from the Departments of Obstetrics and Gynaecology, Paediatrics and Preventive and Social Medicine to develop interest and skills in community level works such as community mobilization, use of effective communication skills with community members, community diagnosis, etc; developed their technical skills in writing of proposals, project reports, scientific papers and conduct of community level researches. Through the Stakeholders' Forum on School Health Programme, interest in School Health Programme implementation was rejuvenated in different States within the catchment area of the Institute e.g. Delta, Edo, Abia, Imo and Bayelsa States. We also developed and distributed for use, draft medical examination forms for staff and students in different schools in the catchment area. A field testing of the form in Delta State showed its appropriateness in obtaining baseline data on students and staff. Our proposal to publish the Niger Delta Journal or Bulletin of Maternal, Newborn and Child Health through which health information will be disseminated to stakeholders in the Niger Delta especially health workers, though stalled by lack of funds, will see the light of day some day. Additionally, the information brochure we developed to help care givers improve their care practices is ready for printing.

j. Other activities: I helped to establish and sustain partnerships for child health with different development partners and NGOs. These include UNICEF, WHO, West African Health Organisation, Bill Clinton Foundation, etc. Through these partnerships, supports have been obtained for child health in the State/zone.

5. The Way forward especially in Nigeria

From the foregoing, my choice of the topic for today's lecture with focus on Nigeria has been justified. What I believe still remains to be done is for me to proffer solutions to the challenges to child survival in the Nigerian setting. This will form the subject of the remaining part of this lecture. I believe we have all realized some basic facts about what can be done to improve child survival in Nigeria. They include: (i) the need for integrated/ multisectoral programme implementation to address the different factors that impact directly or indirectly on child survival. (ii) Vertical programme implementation often detracts from the focus on overall improvement efforts required for child survival. (iii) Nigeria, though a resource-limited setting by international definition, has the human, financial, material and other resources to ensure child survival. (iv) You are an important stakeholder in the crusade for child survival and beginning with your *Jerusalem*- your home and immediate environment, to your community, LGA, State, Nigeria and the world at large, you can make significant contributions that will impact on child survival. Because of the need for multisectoral activities, in whatever field you are working, you can impact on child survival directly or indirectly. We have to change our behaviours to turn things around- the leadership at different levels must be more accountable and hold in high esteem the lives of our children. They must live true to their electoral promises and the several commitments they made in regards to health. The governed must demand for good governance, accountability and quality health service delivery to ensure they attain the goal of health

for all. We should ensure that the eras of *carry go and what do you have for the boys* are over as we demand for prioritization and effective use of our scarce resources! However, to be specific so as not to leave the audience in doubt and wondering- like the crowd that listened to John the Baptist and later asked him- *What shall we do then?* (Lu. 3:10 KJV), I will proffer the following specific solutions targeted at different groups:

a. The Governments (Federal, State and Local Governments), the Ministries and Parastatals:

i. Ensure equitable access to quality health care service:

The governments at all levels must ensure equitable access of all Nigerians to quality health care through the implementation of the National Health Policy, and other policies, guidelines and strategies adopted at different international and national meetings. These include the Child Health, School Health, Infant and Young Child Feeding and Nutrition Policies, IMNCH Strategy, etc. The revitalization of health services at the primary, secondary and tertiary levels should be urgently implemented to ensure the attainment of the National Health Policy's target of Health for All Nigerians.

- ii. Provision of good governance and leadership:** There must be good governance and accountability at all levels of the government. At different levels of the government, there must be clearly defined needs assessment and prioritization so that our scarce resources can be channelled to critical areas such as implementation of child survival interventions-e.g. vaccines should never be in short supply at any vaccination point; facilities for skilled delivery and resuscitation of newborns

should be provided at all levels of care and the free maternal, newborn and child health services promised by different state governments should be implemented fully.

iii. **Intersectoral/multisectoral collaboration:** Different levels of government and sectors must collaborate to improve service delivery and address the distant, intermediate and proximate causes of child deaths-e.g. the Ministries of Environment and Water Resources must ensure there is safe environment- no environmental pollution, flooding, etc. Those that are members of the IMNCH Committee at the different levels should ensure implementation of their responsibilities in the Strategy. The collaboration will also bring researchers from different fields to support health programmes through the provision of evidences from their research works for policy formulation. Commissioned researches can be conducted by people from different sectors of the economy to improve child health-e.g. research into why girl- children in certain parts of Nigeria drop out of school and the strategies to reverse the trend. Why do children of post secondary educated mothers in Nigeria not have as a high a child survival rate as their counterparts in industrialized countries?

iv. **Establishment of National, State and LGA Health Data Bank:** This bank should collect, collate, analyse, store and facilitate retrieval of data from all researches, reports and publications. Linkages with other Ministries e.g. Education, Educational Institutions and professional bodies to ensure access to research and conference papers should be established. The Monitoring and Evaluation Officers, Health Planning, Research and Statistics Departments at the Federal and State levels, National Bureau of Statistics, National

Population Commission and their counterparts at the State and LGA levels should be strengthened. The government at the different levels and their parastatals should commission and fund operation and other researches required for policy formulation.

- v. **Funding of health programmes:** Funds can be rechanneled from some areas that do not benefit the generality of Nigerians to support health programme implementation-e.g. pilgrimage, foreign medical treatments and scholarships for a few privileged people, fuel subsidy, etc.
- vi. **Improvement of social services:** The government at all levels should ensure access to quality health services with skilled and motivated staff; potable water and environmental sanitation and protection; housing, food, good roads, electricity, transport, education, employment, health insurance scheme and other social supports especially for the less privileged.
- vii. **Local manufacture, production and maintenance of equipment and supplies for health such as vaccines, syringes, complementary foods, etc:** This will require capacity development for appropriate technical staff, construction and equipment of factories for such production services. International politics must not be allowed to discourage indigenous technology development.
- viii. **Legislations:** At the different levels of government, appropriate legislations to protect child health should be made-e.g. creation of a budget line for reproductive health and the allocation of at least 5% of the health budget to reproductive health including(25% for Emergency Obstetric and Newborn Care, 5% for Reproductive Commodity Security); integration

of different child survival packages into the curriculum at all levels of education, not only for health workers; and the minimum age at marriage for girls to be 18 years (in 2010 , it was estimated that 29% Nigerian females compared with 1% males aged 15-19 were either married or in union).

b. University of Port Harcourt, College of Health Sciences, its Faculties and Departments and the Faculty of Pharmacy

In addition to the several contributions of the University, the College and its Faculties/ departments and the Faculty of Pharmacy to child survival, they still need to do more. The University should:

i. **Improve funding:** The College of Health Science and its Faculties, the Faculty of Pharmacy, the Institute of Maternal and Child Health, Centre for Health and Development, Centre for Medical Research and Training and the Centre for Malaria Research and Phytomedicine should be adequately funded and positioned to implement their mandates as these will contribute to child survival in the region. These mandates include training of health manpower to address the crises in this sector, research and development of technical materials to provide evidences for policy formulation, quality service delivery; etc.

ii. **Promote intersectoral/multisectoral collaboration:** This will harness the resources of other departments and faculties to promote child health. Areas of such collaboration include research, development of information, education and communication materials, integration of health information into the curriculum of the different departments; creation of a column for child health in the University of Port Harcourt

Weekly News. An example of such collaboration is operational at the Centre for Children Developmental and Communication Disorders hosted by the Faculty of Linguistics which is collaborating with the Department of Paediatrics and Child Health and the Institute of Maternal and Child Health.

iii. Establish linkages with the Rivers State Ministry of Health, development partners and other stakeholders: This will allow staff from the University to provide technical support and other services where the needs arise. It can also allow the University to access funds and other support from such partners in programme implementation-e.g. The WHO, UNICEF, WAHO, etc have supported different programmes in the University and hospital through such linkages.

iv. Promote the implementation of child survival interventions: Since the University accommodates families and students, in addition to the health centre and crèche, the University must provide a *Women and Children Friendly* environment through the implementation of several of the Child Survival Strategies-e.g. Can a non-fee paying crèche be operated to allow mothers of young children bring them for breastfeeding while at work? Can pregnant students and those with young infants be taken into consideration when implementing policies-e.g. a student who requires maternity leave getting an official waiver from examination? Can we celebrate the different Weeks for the promotion of child survival programmes in the University community-after all the students form the pool of the next generation of parents and need appropriate information to succeed in their future parenting roles! The protection of student population against HIV infection should be pursued with vigour to protect the

next generation from HIV through Mother-to-child transmission. What of the adoption of a policy of immunizing all female staff and students against tetanus as they register at the Medical Centre?

The Departments and Faculties in the University must identify where they can best promote child survival and act. Together, we can save our children!

c) The health sector

The proximate causes of child deaths can best be addressed through an effective implementation of services and strategies in the health sector. The roles of this sector include:

i. Implementation of Child Survival Interventions: The different programmes, policies and guidelines that have been developed have to be disseminated and implemented. The capacities of the health workers have to be developed for successful implementation of child survival interventions. The staff should ensure quality service delivery on a 24/7 basis with patient and *Women and Children Friendliness* ensured.

ii. Community mobilization for the support and utilization of health services-Care seeking, use of Insecticide treated bed nets, complementary feeding and food fortification programmes all require a community with behaviour change for their utilisation. Community health workers should promote the use of the Key Household and community practices, Home Based Care for Newborns, Growth Monitoring and Promotion and Community based management of different conditions-Malnutrition, Pneumonia, Diarrhoea, Malaria, etc. The Communities should be mobilized to develop

self reliance and participate actively in sustainable delivery of the interventions.

iii. **Creation of awareness about Child survival Interventions:** This can be achieved through the different celebrations-Maternal, Newborn and Child Health Week, Immunisation Plus Days, World Breastfeeding Week, World AIDS Day, Africa Malaria Day, etc; development, distribution and use of Information, Education and Communication Materials and the use of other fora to disseminate information on child health.

iv. **Advocacy on different issues related to child health-**e.g. improved funding of health services, immunisation, antenatal care, delivery by skilled attendant, free service delivery for under-fives and their mothers, 6 months' paid maternity leave, child abuse and trafficking, etc.

d). The University of Port Harcourt Teaching Hospital

As a parastatal of the government it should live up to its mandate in service delivery. It was established to provide health service, research and training and the enabling environment to provide these services should be guaranteed. The expectations listed under the governments and the health sector also apply to the Teaching Hospital.

e). Development partners and Nongovernmental Organisations, Professional associations and the private sector

Several services are being rendered by this category of stakeholders. They must ensure that their mandates in Nigeria are implemented and must seek collaboration with the different

sectors of government to ensure they implement the programmes that have been prioritized by government otherwise the challenges posed by lack of government counterpart funding and non programme sustainability will remain. Vertical programme implementation should be minimized as it impacts negatively on the health system.

f) You

You are an important stakeholder in ensuring child survival. You must clearly define your role-no matter how small. Can you talk to a mother about child survival? Can you ensure your own children utilize all services and interventions for their survival? Can you promote child survival activities in your neighbourhood? The list is endless- just think and do something nice to that unknown child. You are contributing to his/her survival! The UNICEF *Facts for Life* and other handy documents can be of assistance.

6. Conclusion

As I end this lecture, I do hope I have been able to clearly show that children under the age of 5, residing in resource-limited settings, rural areas and slums, born by poor, uneducated or young/elderly mothers are particularly at risk of death. They die mainly from pneumonia, diarrhoea, malnutrition, complications of preterm delivery and birth asphyxia which are either largely preventable or treatable using available, effective and evidence-based low cost interventions.

These deaths occur because of several obstacles to accessing quality care, low coverage of effective evidence-based interventions, poverty, lack of maternal education and women's low socioeconomic status, etc. At current rate, we cannot attain MDG 4! But that goal is feasible if we determine to attain it! I have highlighted my contributions to child survival and proffered solutions to the challenges to their survival in Nigeria. Thus, as *The State of the World's Children 2008* noted *It is now a question of will and of action — for there is no enterprise more noble, or reward more precious than saving the life of a child,* " therefore, let us leave this hall fully committed to save the lives of our children!

REFERENCES

1. **UNICEF.** World Declaration on the Survival, Protection and Development of Children: agreed to at the World Summit for Children on 30 September 1990 (downloaded from <http://www.unicef.org/wsc/declare.htm>.)
2. UNICEF. Plan of Action for Implementing the World Declaration on the Survival, Protection and Development of Children in the 1990s(downloaded from <http://www.unicef.org/infores/>).
3. Convention on the Rights of the Child-Office of the United Nations High Commissioner for Human Rights-<http://www.ohchr.org/EN/HRBodies>.
4. The United Nations Convention on the Rights of the Child and the OAU Charter on the Rights of the Child reproduced by UNICEF Nigeria Office in collaboration with the United Nations Information Centre, Lagos-the Federal Republic of Nigeria: Instrument for the Ratification of the United Nations Convention on the Rights of the Child (ratified 1991, 21st March).
5. WHO: Child Survival: A Strategy For The African Region- Report of the Regional Director AFR/RC56/13-17 June 2006.
6. African Charter on The Rights And Welfare Of The Child OAU Doc. CAB/LEG/24.9/49 (1990), *entered into force* Nov. 29, 1999.
7. UNICEF: Accelerated Child Survival and Development
8. Wikipedia: Developing Country
9. Nyamtema AS, Urassa DP and Jos van R. Maternal health interventions in resource limited countries: a systematic

review of packages, impacts and factors for change. BMC Pregnancy and Childbirth 2011, 11:30. (<http://www.biomedcentral.com/1471-2393/11/30>)

10. Black RE, Morris, SS, Bryce J. Where and why are 10 million children dying every year? Lancet 2003; 361: 2226–34.
11. Jones G, Steketee RW, Black RE, Bhutta ZA, Morris SS, and the Bellagio Child Survival Study Group. How many child deaths can we prevent this year? Lancet 2003; 362: 65–71.
12. Nte AR, Yarhere I, Fiebai P. Paediatric Mortality: a Review of the Causes among Admissions at the University of Port Harcourt Teaching Hospital (January 2003-December 2005): Nig. Jor. Paed. 2006; 33(3&4):90-98.
13. Adeyokunnu, AA, Taiwo O, Antia AU: Childhood mortality among 22255 consecutive admissions in the University College Hospital, Ibadan. Nig. Jor. Paed. 1980:7- 15.
14. Fagbule D and Joiner KT. Pattern of childhood mortality at the University of Ilorin Teaching Hospital, Ilorin: Nig. Jor. Paed. 1987; 14(1): 1-5.
15. *Analysis of Child Fatality Review Data Prepared by: Tennessee Department of Health; Bureau of Health Informatics June 2002*
16. Ibeziako SN, Ibekwe RC. Pattern and Outcome of admissions in the Children’s Emergency Room of the University of Nigeria Teaching Hospital, Enugu. Nig. Jor. Paed. 2002; 29(4): 103-107.

17. Oyedeji GA, Oyedeji AO, Ajibola AJ. The Association between Social Disadvantage and Morbidity in hospitalized Children. *Nig. Jor. Paed.* 2002; 29(1): 5-10.
18. Yaguo Ide L.E, Nte AR. Childhood pneumonia and under five morbidity and mortality at the University of Port Harcourt Teaching Hospital-a situational analysis. *The Nigerian Health Journal.* 2011; 11(3):93-96.
19. The Bellagio Study Group on Child Survival. Knowledge into action for child survival. *Lancet* 2003; 362: 323–27.
20. FMOH. IMCI. Assess and Classify the sick child 2 months up to 5 years. Nigerian Adaptation, March 2011.
21. WHO: Toward reaching the Health-related Millennium Development Goals: Progress and the Way Forward. WHO African Region 2010.
22. UN: The Millennium Development Goals Report, 2010.
23. Levels & Trends in Child Mortality Report 2011 (Estimates Developed by the UN Inter-agency Group for Child Mortality Estimation).
24. UNICEF. The State of the World’s Children 1998.
25. WHO. The Work Of WHO In The African Region 2010; Annual Report Of The Regional Director To The Sixty-First Session Of The Regional Committee For Africa, Yamoussoukro, Côte d’Ivoire, 29 August–2 September 2011.
26. WHO AFRO: Child and Adolescent Health Annual Report 1 January – 31 December 2010.
27. WHO and UNICEF. Countdown to 2015. Building a Future for Women and Children, The 2012 Report.

28. Nigeria Demographic and Health Survey 2008; National Population Commission (Nigeria), ICF Macro (Calverton, Maryland, USA) November, 2009.
29. UNICEF. The State of the World's Children, 2012.
30. UNICEF. Integrated Management Of Childhood Illness (IMCI) Baseline Studies On Key Family And Community Practices. Nigeria Country Report. 2003
31. FMOH. The Integrated Maternal, Newborn and Child Health Strategy, Nigeria. 2007
32. FMOH. The training manual for bi-annual Child Health Week in Nigeria
33. Habimana P, Mwinga K, Sagoe-Moses C, Ketsela T. Progress In Implementing The Child Survival Strategy In The African Region. The African Health Monitor, 2010; 11: 18-23.
34. Priority Action 2: Core Packages Report by *Bhutta ZA, Mason EM (Co-Chairs)* - presented at the PMNCH Board Meeting- Dec 2-4, 2009, Canada.
35. UNICEF. The State of the African Child (Child Survival) 2008.
36. Eke G: Federal Ministry Of Health; Situation Analysis For The Roll Out Of The Integrated Maternal, Newborn And Child Health Strategy In Rivers State. March 2011
37. Rivers State Strategic Health Development Plan 2010 – 2015.
38. Bayelsa State Strategic Health Development Plan, (2010-2015).
39. WHO. World Health Report 2006(Working together for Health).

40. WHO. Density of doctors, nurses and midwives in the 49 priority countries. Global Atlas of Health Workforce, August 2010.
41. WHO. World Health Statistics, 2012.
42. Save the Children. The State of the World's Mothers 2004
43. WHO. The World Health Report 2005.
44. WHO. The World Health Report 2008. Primary Health Care: Now more than Ever.
45. WHO Regional Office for Africa: Report on the Review of Primary Health Care in the African Region. WHO Regional Office for Africa 2008.
46. Nte AR. Expanded Programme on Immunization: Immunization Coverage Survey in Ikuru Town, April 1991. A dissertation submitted to the West African College of Physicians in part fulfilment of the requirements of the College for the award of the Fellowship in Paediatrics. April, 1993
47. Women and Children Friendly Hospital Initiative- the Working papers- the Self Appraisal Tool, National Appraisal Tool and other related documents developed at the Zonal and national levels-2001
48. National Guidelines for Paediatric HIV and AIDS Treatment and Care. Federal Ministry of Health, Nigeria. Started in 2003 and published in 2007(ISBN Number 978-978-48611-0-6)
49. Standard Operating Procedures on Antiretroviral therapy for Paediatric patients. Federal Ministry of Health 2007(ISBN Number 978-978-48611-1-3)

50. HIV and Infant Feeding Counselling: A Handbook For Counsellors In Nigeria-2005
51. HIV and Infant Feeding Counselling Cards in Nigeria- Federal Ministry of Health -2005
52. Training Manual on the Code of Marketing of Breastmilk Substitutes in Nigeria-2006
53. Documentation of the process and use of Community-Based Information System (CBIS) and Essential Tools in Community Integrated Management of Childhood Illness in Akwa Ibom and Imo States. UNICEF HEALTH ZONE A-December 2007
54. Nte AR. HIV Infection and Infant Feeding: the challenges and way forward-presented at the Symposium on HIV and Infant feeding sponsored by UNICEF at the 39th Annual General and Scientific Conference of the Paediatric Association of Nigeria- January 2008, Planet One, Lagos.
55. Briggs ND, Nte AR. Child Development and Developmental Disorders in Nigeria: Challenges and Prospects for the 21st Century. A key note address delivered at the Congress of the Association of Child Development and Communication Disorders, Nigeria-organised by the Exchange and Linkage Programme Unit, University of Port Harcourt-at Ebitimi Banigo Hall; 23-26th June 2008.
56. Nte AR. Strategies for increasing the immunisation coverage of mothers and babies in Nigeria” Presented at the Nigerian Academy of Science Meeting; Reiz Intercontinental Hotel, Abuja. March 25th 2009
57. Nte A: Experiences in Newborn Care in a Rural Community in Rivers State- presented at the 2nd Workshop

and Annual General Meeting on Mobilising for Community Maternal and Neonatal Health organised by the Neonatal Society of Nigeria at the Chida International Hotel, Abuja- July 1, 2009

58. Nte A. From UCH to Port-Harcourt: What I learnt and what I do: Community Based Newborn Care at the Demonstration Site of the Institute of Maternal and Child Health presented at the Re-union Meeting of the 1984 MBBS graduates of the University of Ibadan at the University of Ibadan College Auditorium- July 14th, 2009.
59. Nte A. Practical Approaches to Reducing Infant Mortality in Rural Communities presented at the 16th Biennial Conference of the Medical Women's Association, Nigerian Chapter held at the Nikon Luxury Hotel, Abuja- 23rd September 2009
60. Nte AR: Home Based Care for Mothers and Newborns- experience of preliminary implementation in Gokana LGA-a WAHO Demonstration Project site- presented at the 2009 Federal Government of Nigeria/UNICEF Annual Review Meeting held on 2-3 December 2009 at the Rockview Hotel, Abuja.
61. Nte A: Community based newborn interventions: A South-South Demonstration Project Experience-Symposium paper presented at the 41st Annual General and Scientific Conference of the Paediatric Association of Nigeria (PANCONF 2010) 20-23rd January 2010 at the Kwara State Banquet Hall, Ilorin
62. Nte, AR: Useful hints for successful breastfeeding. Quali Health 2003; 1(2):9-11

63. Nte, AR: Tackling Diarrhoea: Quali Health 2004; 1(3):7-10
64. Nte, AR: Childhood malnutrition: The Invisible but deadly enemy-PART 1. Quali Health-2004; 1(4): 8-10
65. Nte, AR: Childhood malnutrition: The Invisible but deadly enemy-PART 2. Quali Health-2004; 2(1): 10-13
66. Nte, AR: Cough and catarrh. Quali Health-2004; 2(3): 10-14
67. Nte, AR: Curbing Infant mortality. Quali Health-2005; 2(5): 10-15.
68. Report Of The WAHO Demonstration Project At Gokana LGA In Rivers State Presented by The Institute of Maternal And Child Health, University of Port Harcourt, Port Harcourt-at The Reduction of Maternal and Perinatal Mortalities Steering Committee's Consideration of Mid Term Review Report. WAHO Conference Centre, Bobo Dioulasso, Burkina Faso, 1st-4th July 2008
69. Report-The West African Health Organisation's (WAHO) Demonstration Project Implementation In Gokana LGA, Rivers State, Nigeria- Presented by The Institute of Maternal and Child Health, University of Port Harcourt, Port Harcourt, Nigeria-Period of Report-September 2008-August, 2009
70. Report-Demonstration Project at Gokana LGA, Rivers State, Nigeria-September 2009-February 2010-Presented by The Institute of Maternal and Child Health College of Health Sciences, University of Port Harcourt, Port Harcourt- February 2010
71. Report -WAHO-IMCH Demonstration Project Gokana LGA, Rivers State, Nigeria-March-November, 2010-

Presented by The Institute of Maternal and Child Health, College of Health Sciences, University of Port Harcourt, Port Harcourt, Nigeria. November, 2010

72. Financial Report Of The Activities Of The West African Health Organisation's Demonstration Project At Gokana Local Government Area, Rivers State, Nigeria. Period Of Report- January, 2008 - March, 2011 -Report Presented By Institute Of Maternal And Child Health, College Of Health Sciences, University Of Port Harcourt, Port Harcourt, Nigeria-April, 2011
73. Report of the Training of Trainers' Course On Community Based Newborn Care jointly organised by the Institute of Maternal and Child Health, University Of Port Harcourt and the University Of Port Harcourt Teaching Hospital in Collaboration with the United Nations Children's Fund at the Grand Montecito Hotels And Resorts, GRA Phase III, Sani Abacha Road, Port Harcourt; 10-20th August 2008
74. Report Of The Training Of Trainers' Course On Combined Breastfeeding Counselling And HIV And Infant Feeding Counselling Held At The Royal Garden Hotel, Port Harcourt-12-19th August 2007
75. Report Of The Training Of Trainers' Course On Combined Breastfeeding Counselling And HIV And Infant Feeding Counselling Held At The Crystal Springs Hotel, Enugu. 26th August-2nd September-2007
76. The Revised National Health Policy, Federal Ministry of Health, September 2004.
77. Paediatric Association of Nigeria. Proceedings of a National Workshop on Pre-service Training and Child Survival Strategies(EPI/ORT) in Medical Schools towards

Primary Health Care Delivery in Nigeria by the Paediatric Association of Nigeria and UNICEF on 5-8th October 1986 in Jos, Plateau State of Nigeria

78. UNICEF. Facts for Life-4th Edition UNICEF 2010

GLOSSARY

% of households with at least one ITN – Percentage of households with at least one insecticide-treated mosquito net.

% of population below international poverty line of US\$1.25 per day – Percentage of the population living on less than US\$1.25 per day at 2005 prices, adjusted for purchasing power parity.

% of population urbanized – Percentage of population living in urban areas as defined according to the national definition used in the most recent population census.

% of population using improved drinking water sources – Percentage of the population using any of the following as their main drinking water source: drinking water supply piped into dwelling, plot, yard or neighbour's yard; public tap or standpipe; tube well or borehole; protected dug well; protected spring; rainwater; bottled water plus one of the previous sources as their secondary source.

% of population using improved sanitation facilities – Percentage of the population using any of the following sanitation facilities, not shared with other households: flush or pour-flush latrine connected to a piped sewerage system, septic tank or pit latrine; ventilated improved pit latrine; pit latrine with a slab; covered pit; composting toilet.

% under-fives sleeping under ITNs – Percentage of children (aged 0–4 years) who slept under an insecticide-treated mosquito net the night prior to the survey.

% under-fives with diarrhoea receiving oral rehydration and continued feeding – Percentage of children (aged 0–4 years) who had diarrhoea in the two weeks preceding the

survey and who received oral rehydration therapy (a packet of oral rehydration salts, recommended home-made fluids or increased fluids) and continued feeding.

% under-fives with fever receiving antimalarial drugs – Percentage of children (aged 0–4 years) who were ill with fever in the two weeks preceding the survey and received any antimalarial medicine. This indicator refers to antimalarial treatment among all febrile children, rather than among confirmed malaria cases

% under-fives with suspected pneumonia receiving antibiotics – Percentage of children (aged 0–4 years) who were suspected of having pneumonia in the two weeks preceding the survey and who were receiving antibiotics.

% under-fives with suspected pneumonia taken to an appropriate health care provider – Percentage of children (aged 0–4 years) who were suspected of having pneumonia in the two weeks preceding the survey and who were taken to an appropriate health care provider.

Antenatal care coverage – Percentage of women (aged 15–49) attended at least once during pregnancy by skilled health personnel (doctors, nurses or midwives) and the percentage attended by any provider at least four times.

BCG – Percentage of live births who received bacille Calmette-Guérin (vaccine against tuberculosis).

Birth registration – Percentage of children less than 5 years old who were registered at the moment of the survey.

Contraceptive prevalence – Percentage of women (aged 15–49) in union currently using contraception.

DPT3 – Percentage of surviving infants who received three doses of diphtheria, pertussis and tetanus vaccine.

EPI/NPI – Expanded (National) programme on immunization: The immunizations in this programme include those against tuberculosis (TB); diphtheria, pertussis (whooping cough) and tetanus (DPT); polio; and measles, as well as vaccination of pregnant women to protect babies against neonatal tetanus. Vaccines against hepatitis B (HepB), Haemophilus influenzae type b (Hib) and yellow fever, are included in Nigeria

Exclusive breastfeeding (<6 months) – Percentage of children aged 0–5 months who were fed exclusively with breastmilk in the past 24 hours.

GDP per capita – Gross domestic product (GDP) is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output. GDP per capita is gross domestic product divided by midyear population. Growth is calculated from constant price GDP data in local currency.

GNI per capita – Gross national income (GNI) is the sum of value added by all resident producers, plus any product taxes (less subsidies) not included in the valuation of output, plus net receipts of primary income (compensation of employees and property income) from abroad. GNI per capita is gross national income divided by midyear population. GNI per capita in US dollars is converted using the World Bank Atlas method.

GNI per capita (PPP US\$) – GNI per capita converted to international dollars taking into account differences in price levels (purchasing power) between countries. Based on data from the International Comparison Program (ICP).

Infant mortality rate – Probability of dying between birth and exactly 1 year of age, expressed per 1,000 live births.

Institutional delivery – Percentage of women (aged 15–49) who gave birth during the two years preceding the survey and delivered in a health facility.

Low birth weight – Percentage of infants weighing less than 2,500 grammes at birth.

Neonatal mortality rate – Probability of dying during the first 28 completed days of life, expressed per 1,000 live births.

Skilled attendant at birth – Percentage of births attended by skilled health personnel (doctors, nurses or midwives).

Under-five mortality rate – Probability of dying between birth and exactly 5 years of age, expressed per 1,000 live births.

Vitamin A supplementation (full coverage) – The estimated percentage of children aged 6–59 months reached with two doses of vitamin A supplements.

CITATION ON

PROFESSOR ALICE ROMOKEK NTE *MB.BS (Ibadan), FWACP*



Early beginning: Prof. Alice Nte's journey to the professorial chair started as a young child's dream when she told her father- *I will be a Medical Doctor* and after her graduation and National Youth Service, when she opted to go for residency training, in response to her aunt's concerns, she informed her that *MBBS was not the end of the road for her- the best was yet to come* and even today, in spite of the achievements, the best is still yet to come for her.

Family life: Born on July 7th 1959 to the family of Late Mr. Bertram and Mrs. Margaret Robert Ikuru of Ikuru Town (Andoni LGA, Rivers State) as the second child and the first daughter, Prof Alice Nte (nee Ikuru) is happily married to Dr. Augustus Nte and has 4 children- Abraham, Deborah and her twin boys- Emmanuel and Daniel. Her home has continued to

provide sound moral and Christian upbringing to the several people who have had cause to stay with her.

Education: Prof. Alice Nte attended St Simon's Primary School Ikuru Town, Cornelia Connelly College, Uyo and the University of Ibadan and graduated with distinctions at all levels, She won the South Eastern State, Rivers State and Federal Governments' Scholarships; the Vono Prize of Excellence as the best graduating Class five student, the Surgery Departmental prize for the best student in Surgery and the Latunde Odeku Prize in Neurosurgery. She started the Residency Training in Paediatrics in February 1987 and completed in April, 1993, a period of six years, in spite of the several challenges the programme faced at that time. She has continued to improve her skills in her field of Community and Preventive Paediatrics through several short term local and international courses.

Professional/Academic Career: Prof Alice Nte was appointed on merit to do her housemanship at the University College Hospital, Ibadan. Concerned about the wellbeing of others, she gladly accepted a posting to the Primary Health Care Centre, Odeda in the then Ogun State as a Youth Corper. There she developed a strong passion for community work and the dedication with which she worked made her open and run the NYSC Clinic in Port Harcourt after her re-deployment on grounds of marriage. Her outstanding services during the NYSC earned her an award of excellence by the Rivers State Governor in July 1986.

As an academic, Prof. Alice Nte's dedication and zeal in the training of medical students and residents endeared her to them and made her not only a role model and referee to many of them but also made them give her several awards of excellence and recognition. Her commitment to research works and publication saw her rise from the rank of Lecturer I in 1993 December to Senior Lecturer in October, 1997, Reader in March, 2004 (due to several bureaucratic bottlenecks) and Professor in October, 2007.

Administrative and other services:

In the University: The great administrative potentials in Prof Alice Nte became quickly noticed as she was assigned different administrative responsibilities as an academic staff. In March 1996, she was appointed Coordinator of the Department of Paediatrics and Child Health and in 1997, on becoming a senior lecturer, she was reappointed Acting Head of Department. She served till October 2000 when she was replaced but was reappointed acting head in October 2003-2006 January. At the end of this tenure, in November, 2006, she was posted to cover the services of Prof Oruamabo, the then Director of the Institute of Maternal and Child Health who was on pre-retirement leave. When the Director retired, she was appointed, first as an Acting Director from April 2007-May 2009 and then Director from May 2009-January 2012.

In the Hospital: For the several selfless services Prof Alice Nte rendered in the Department to ensure its smooth running, she rose to be recognized as an important stakeholder in

Department which she led for a total period of about 7 years (March 1996-Jan 2001 and 2003-Jan 2006). During these tenures as head, she developed the Baby Friendly Hospital Initiative (BFH) and ensured the hospital became one of the foremost in the promotion, protection and support of breastfeeding. The crèche she opened as the Coordinator of the BFHI has remained functional till date.

In both the University and the hospital, she served in many Committees and panels of investigation because of her forthrightness, outspokenness and commitment. She served in the Hospital's Ethical Committee from 1997 to 2011, the College of Health Science's Ethics Committee and currently the University's Ethics Committee. She is a member (now head) of the Anticorruption and Transparency Unit (ACTU). She is also currently in the Senate Committee on Prizes and had served in the Senate Committee on Academic Programmes and Policies.

Research and publications: Prof Alice Nte is an astute researcher and has published widely and contributed to chapters in many reference textbooks. She has presented over 70 conference papers and spoken in several symposia, seminars and meetings. Her eloquence and in-depth knowledge of several issues made her a much sought-after speaker. It is therefore not surprising she was appointed to deliver the first Convocation lecture of the Rivers State College of Health Science and Technology. She has also spoken at the several immunization flag off ceremonies and recently at the Bayelsa

State Maternal, Newborn and Child Health Week. She is a regular presenter on television programmes on child health.

Christian life: Prof Alice Nte is a committed Christian, a Deaconess who has served the Church in various capacities and was awarded a plaque of honour by the Glorious Covenant Ministry in July, 2010.

Professional Activities: Prof Alice Nte has worked hard as a medical practitioner and supported several professional associations. It is no wonder she became a life member of the Paediatric Association of Nigeria and one of the two female medical practitioners to be given the Nigerian Medical Association's Roll of Honours Award. She has also won several prizes from the Association of Resident Doctors, UPTH Chapter. She has also served in many Committees within Rivers State, Nigeria and in the West African sub-region, including being a member of the West African Steering Committee on Maternal, Newborn and Perinatal Mortality Reduction.

Conclusion: Mr. Vice Chancellor, Sir, distinguished ladies and gentlemen, I present to you Prof Alice Nte, simple, richly endowed, disciplined, intelligent, highly esteemed, an academic giant and achiever who has served this University and indeed humanity well to deliver the 91st Inaugural Lecture of the University of Port Harcourt-UNIQUE UNIPORT

Prof. (Mrs.) N. A. Akani