

# Challenges of Neonatal Care in Nigeria: What Solutions for Child Survival

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## Acknowledgements

It is traditional to keep this section to the end of a paper or presentation.

I have decided to bring it forward for a good reason.

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- In preparing this paper, I drew extensively from two 2009 publications
  1. Saving Newborn Lives in Nigeria: Newborn health in the context of the Integrated Maternal, Newborn and Child Strategy. Abuja Federal Ministry of Health of Health, Save the Children, ACCESS;2009.
  2. Nigerian Academy of Science titled, "*Reducing Maternal and Infant Mortality in Nigeria*" edited by Nwosu J, Odubanjo MO and Osinusi BO.
- I wish to express that acknowledgement at the outset.

# INTRODUCTION

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- Nigeria is the **most populous country in Africa** with 148 million people (2007 UNICEF MICS).
- Despite her oil wealth, **poverty** is widespread with more than 70 percent of her people living on less than US \$ 1 per day (World Development Indicator 2007).
- This impairs the **affordability of healthcare**. With a total fertility rate of 5.4, about 6 million births were recorded in 2007. Among this number are those requiring hospital care. (UNICEF 2007 A strategy to reduce maternal and neonatal deaths in Nigeria)

# INTRODUCTION (2)

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- In Nigeria, competent newborn care is almost exclusively available in tertiary institutions and a few private hospitals. Considering that care for the sick newborn is expensive, it is obvious that Nigeria faces **enormous challenges** even in the centres where facilities are available for neonatal care.
- Also importantly, **the quality of care** is rather rudimentary as there is generally insufficient Government investment in public healthcare.
- To make matters worse, the majority of births do occur in **unorthodox facilities** and babies only get to hospital after irreparable damage may have occurred.

# THE PROBLEM

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- Nigeria accommodates the **highest number of neonatal deaths in Africa** and third in the world after India and China. A combination of adverse factors culminate in unacceptably high morbidity and mortality statistics of neonates in the country.
  - Our **neonatal mortality rate is 48/1000** live births.
  - An absolute number of **284,000 newborns die annually** at an average rate of **700 per day**
  - Neonatal deaths in Nigeria account for **a quarter of under-five deaths**

(Nigerian Academy of Science and Saving Newborn Lives in Nigeria)

# GLOBAL NEONATAL MORTALITY RANKING

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RANK	COUNTRY	NEONATAL MORTALITY RATE	NUMBER OF NEWBORN DEATHS ANNUALLY	PERCENTAGE OF GLOBAL NEONATAL DEATHS
1	India	39	1,004,100	27%
2	China	18	317,000	9%
3	Nigeria	48	284,000	8%
4	Pakistan	54	255,000	7%
5	Bangladesh	36	136,000	4%
6	DR Congo	47	131,000	4%
7	Ethiopia	39	119,000	3%
8	Afghanistan	60	84,000	2%
9	Indonesia	17	75,000	2%
10	Iraq	63	61,000	2%

Ref: Saving Newborn Lives in Nigeria(Lawn and Kerber, 2006.)

# NEONATAL CARE IN NIGERIA (1)

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- Institutional Neonatal care **started in Nigeria in the late 60s** and use of incubators was introduced and Special Care Baby Units were set up in a few tertiary centres.
- An **attempt to improve to NICU standards with ventilatory support** was short lived and currently virtually no public health institution has facilities for automated ventilation or total perenteral nutrition.
- Even in the context of SCBU, there are still deficiencies as monitoring care is **hampered by lack of equipment** such as infant monitors, pulse oximeters, arterial blood gas monitoring, **epileptic power supply** and unstable supplies of oxygen.

# NEONATAL CARE IN NIGERIA (2)

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- This explains **the marginal improvement in neonatal mortality statistics** in the country from 58 in 2000 to 48/1000 in 2007.
- Just as babies are dying so are their mothers. **Maternal mortality rate is 800/100,000** and this reflects on neonatal survival as there is a high risk of a child dying if the mother does not survive.



# The Issues

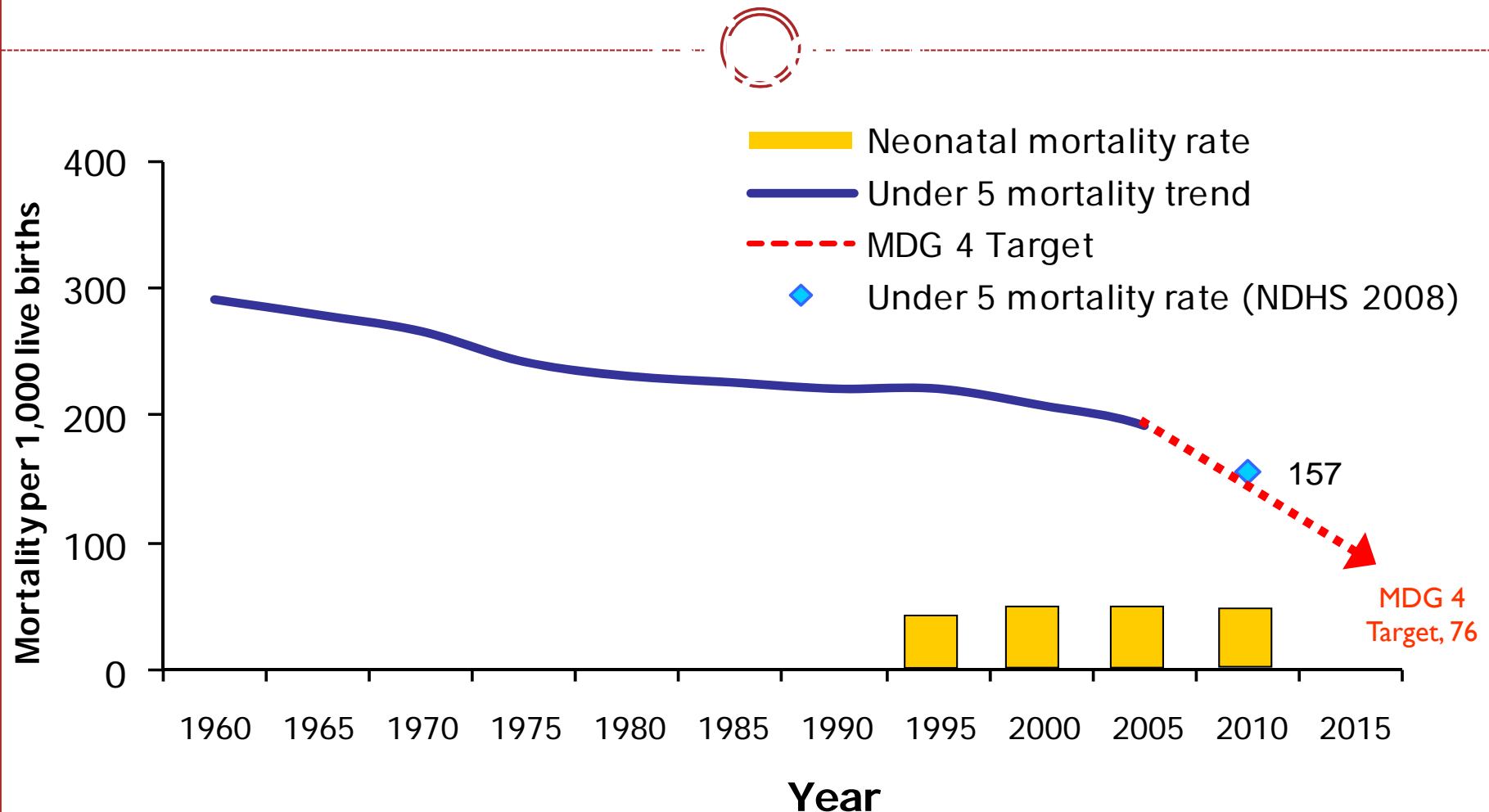


- Unacceptably high maternal, newborn and child mortality rates in Nigeria
  - A woman's chance of dying from pregnancy and childbirth in Nigeria is 1 in 13
  - IMR is 75 deaths per 1,000 live births
  - Neonatal mortality is 40 deaths per 1000live births
  - Overall under-five mortality rate is 157 deaths per 1,000 live births.

***This is a 20% decline from 201 in the 2003 NDHS but this indicates that the annual rate of progress made to date is insufficient to realize the health related MDGs.***



# Progress to MDG 4 in Nigeria



Nigeria is not making enough progress and needs to reduce U5MR by at least 10% per year to meet MDG 4

# NEONATAL CARE IN NIGERIA (3)

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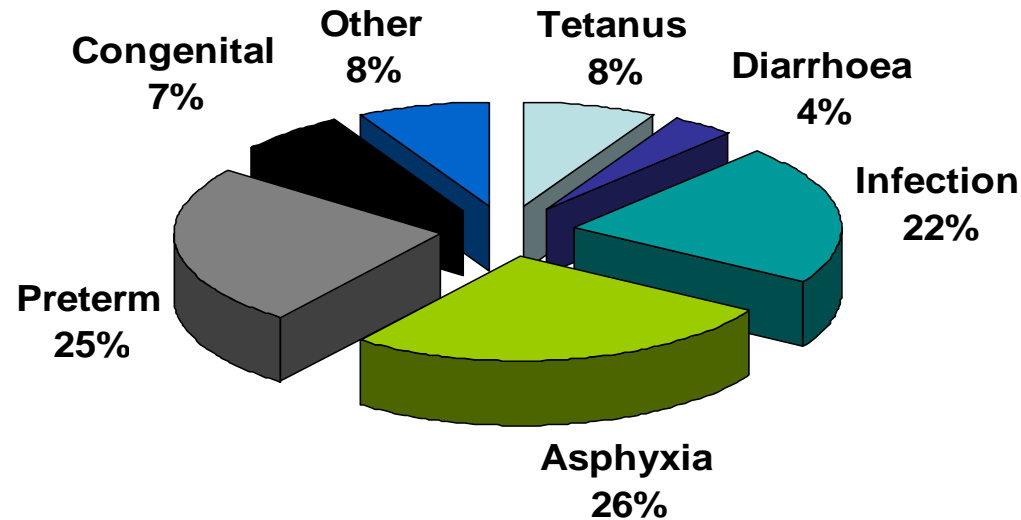
- The factors contributing to high maternal and infant mortality in Nigeria are:
  - lack of antenatal care
  - low proportion of deliveries attended by skilled persons
  - delays in treatment of complications of pregnancy
- Other indirect factors are:
  - low maternal educational level
  - adverse cultural practices
  - poverty

(Nigerian Academy of Science 2009)

# WHAT ARE THE NEONATES DYING OF?

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## Estimated causes of newborn deaths in Nigeria

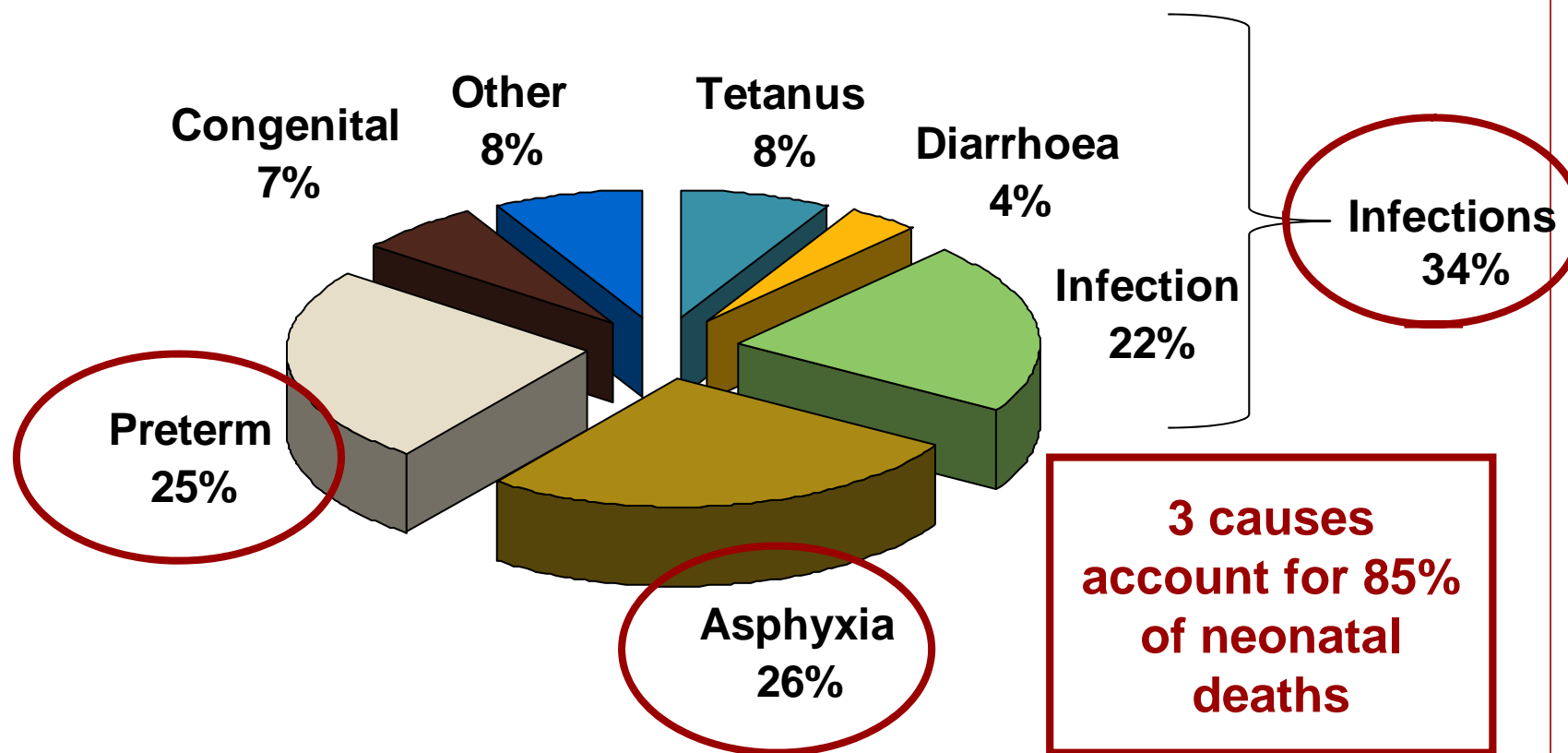


Source: Lawn JE et al, IJE 2006, updated in Opportunities for Africa's Newborns, 2006

# Nigerian newborns are dying in huge numbers --- WHY?



## Estimated causes of newborn deaths in Nigeria



# CARE IN THE TERTIARY CENTRE (1)

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- A look at the tertiary referral centres, using Lagos State University Teaching Hospital (LASUTH) as an example shows similar trends.
- LASUTH is a 741 bed tertiary institution with about a 110 Paediatric beds of which nearly half of the bed space is for neonates.
- There are two SCBUs – one for inborn babies with 20 cots including 7 incubators and another for referred babies with 26 cots including 12 incubators.

# CARE IN THE TERTIARY CENTRE (2)

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- Analysis of the inpatient returns of the Department of Paediatrics in LASUTH from January to December 2009 revealed that neonatal admissions constituted 27.8% of all CHER admissions which had a crude death rate of 10.8 %. (See the next slide).
- This reveals the high demand for neonatal care and the severity of the cases that often present late as well as the quality of care received. Most of these severely ill neonate present late to the hospital requiring intensive care which is not available or insufficient.

## MORBIDITY AND MORTALITY OF NEONATES IN LASUTH (1)

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### Morbidity and Mortality in Children Emergency Room (Jan – Dec 2009)

•Total no of Admissions	3458	
•Total no of Discharges	2126	
•Total no of Deaths	356	<i>CDR – 10.3%</i>
•Transfers	935	
•Voluntary discharges	32	
•Discharge Against Medical Advice (DAMA)	11	
•Neonatal	961	<i>27.8% of total</i>
•Total Number of Neonatal Mortality in Cher	231	<i>65% of total deaths in CHER.</i>



## MORBIDITY AND MORTALITY OF NEONATES IN LASUTH (2)

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- While neonates constitute about 27.8 % of the total admissions into CHER, they accounted for as much as 65% of deaths. These deaths generally occur within the first 24hours of admission.
- For the same period of time, the out-born SCBU had 552 admissions, and recorded 100 deaths giving a CDR of 18% while the inborn SCBU had 651 admissions and 42 deaths with a CDR of 6.5%. Total live birth over the same period was 4110. Still births 222.

## MORBIDITY AND MORTALITY OF NEONATES IN LASUTH (3)

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**The leading causes of neonatal death in LASUTH Jan - Dec '09 (showing percentage of death per admissions into the various units)**

CAUSES	CHER	SCBU INBORN	SCBU OUTBORN
PREMATURITY	NIL	10.2	43.6
BIRTH ASPHYXIA	<b>30.0</b>	<b>13.6</b>	<b>11.0</b>
NEONATAL SEPSIS	19.2	2.4	3.7
NEONATAL JAUNDICE	15.4	0.7	2.5

# MORBIDITY AND MORTALITY

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## Neonatal Mortality in Various Nigerian Institutions over Time

AUTHOR	INSTITUTION	PERIOD	NEONATAL MORTALITY	MAJOR CAUSES
<i>C.E. Effiong</i>	UCH	1992	21.2%	NNJ, infections (Tetanus); Congenital Malformations
<i>Okolo and Omene</i>	UBTH	1974 -1981	49.5/1000 live births – (1974) 16.4/1000 live births – (1981)	LBW, NNJ, NNS Congenital Malformations
<i>Owa</i>	OAUTH	1981 – 1990	13.0 %	NNJ, LBW, Infections Birth Asphyxia
<i>Njokanma and Olanrewaju</i>	OSUTH	1989 - 1991	400/1000 referred cases	Birth Asphyxia NNJ, LBW, NNS

# CHALLENGES

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- The burden of neonatal mortality in ill-equipped tertiary centres is enormous. The huge demand and **need for NICU** cannot be over emphasised.
- The **challenges of Neonatal Care** in these facilities are as follows:
  - **Poor facilities** for neonatal intensive care
  - Late presentations from **poor public health education**
  - Every month in 2009, of neonates admitted at LASUTH, between 13% – 52% of patients died **within the first 24 hours of admission** with an average of 30%.
  - For every neonate admitted at least two others are turned away for **lack of bed space**:
    - Inadequate staffing – doctors, nurses, facilitators
    - Inadequate facilities and admission space to meet demand.
    - Poorly remunerated and poorly motivated staff



## INTERVENTIONS AT TERTIARY CENTRES

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- In spite of the enormous challenges and constraints some progress recorded in the tertiary centre with some ELBW and a good number of VLBW infants are making it home.
- The outcome for Ibadan compared with that in Scotland in the late 70s and 80s.
- Vigorous and thorough PG programmes to international standard.
- Use of appropriate technology e.g Oxy concentrators, indigenous phototherapy units and overhead warmers.

## **Digitally recycled incubators: better economic alternatives to modern systems in low-income countries**

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# INTERVENTIONS AT STATE LEVEL (1)

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- The Lagos State Government is foremost among the Nigerian states to make meaningful investment in Health
- LASUTH, a state owned teaching hospital, has experienced remarkable improvement in the last 5 years.
- It has invested in new infrastructure and supplied modern laboratory and diagnostic equipment.
- It has also recently built and commissioned three of six other Mother and Child Centres in key areas of Lagos metropolis as secondary centres.
- Others States with good example are Kwara, Delta.





## INTERVENTIONS AT STATE LEVEL (2)

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- Example of good practice in collaboration.
- In 2006, it is the Lagos State Government collaborated with LDS Charities for Neonatal Resuscitation Trainings NRT
- LDS Charities donates free of charge training equipment and technical and administrative support in a number of trainings in tertiary and secondary hospitals since 2002 to date.
- A number of these hospitals have since conducted Neonatal Resuscitation Trainings. In LASUTH it is twice yearly and over 600 trainees around Lagos.
- Surveys reveal that these country-wide trainings have been step down to over 11,000 doctors and nurses and still on going.

**Latter-day Saint Charities**

**Summary of Neonatal Resuscitation Training in Nigeria 2002 - 2010**

Year	Partner(s)	Locations	Target Training of Trainers	Training Outcomes (After 6 Months)
2002	Lagos University Teaching Hospital	Lagos	50+ Drs 27 Nrs/MdWvs	No documented Post-Trainings
2004	Lagos University Teaching Hospital	Lagos	50 + Dr and nurses	No documented Post-Trainings
2006	Lagos State Univ Tchng Hosp (LUTH) –Feb.'06 Lagos State Ministry of Health—Feb.'06 Abia State –September '06 Rivers State-September '06	Lagos Lagos Aba Port Harct	50+ Drs 50+ Nurse/Midwives 50+ Drs. 50+ Nurse/Midwives  <b>200+ Trained</b> 47 Drs 64 Nurse/Midwives 39 Drs 64 Nurse/Midwives  <b>214 Trained</b>	300+ Reported Trained by LUTH 650+ Reported Trained by MOH  <b>950+ Trained</b> 2,475 Trained (Survey) 721 Trained (Survey)  <b>3,196 Trained (Survey)</b>
2008	Paediatric Association of Nigeria (PAN) January '08	Lagos	89 Drs. 98 Nurse/Midwives  <b>187Trained</b>	1,758 Trained (Survey) 3,154 Trained (Survey)  <b>4,912 Trained (Survey)</b>
2009	Paediatric Association of Nigeria (PAN) January '09	Ibadan	60 Drs 47 Nurse/Midwives  <b>107 Trained</b>	1,053 Trained (Survey) 1,017 Trained (Survey)  <b>2,070 Trained (Survey)</b>
2010	Paediatric Association of Nigeria (PAN) January '10	Ilorin	69 Drs 67 Nurse/Midwives  <b>136 Trained</b>	<b>To Be Determined</b>
<b>Summ-ary</b>	Major Teaching Hospitals Committed PAN National Strategy On-going Training Materials and Resuscitation Equipment Wide-spread		<b>394 Drs</b> <b>467 Midwives</b>  <b>921 Trained</b>	<b>11,000+ Local Trainees documented</b> Since program began in 2002 <b>Additional trainings continue monthly</b>

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- The statistics remain the same . The incidence of Birth Asphyxia for example has not changed in the last two decades

• **WHY?**

# Birth Asphyxia

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	<b>Benin 1980-81</b>	<b>Ibadan 1976-80</b>	<b>Jos<sup>d</sup> 1987-89</b>	<b>Sagamu 1991-92</b>
<b>Incidence/1000</b>	-	<b>30</b>	<b>26.5</b>	<b>116</b>
<b>Mortality</b>	<b>7.6</b>	<b>3.4</b>	<b>5</b>	<b>44</b>
<b>% Contribution to NMR</b>	<b>44</b>	<b>15.5</b>	<b>21</b>	<b>69</b>
<b>Case Fatality %</b>	-	<b>11</b>	<b>18.7</b>	<b>38</b>
				<b>Ref Mokuolu et al Ilorin 2009</b>

# MORBIDITY AND MORTALITY (2)

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CAUSES	CHER	SCBU OUTBORN	SCBU INBORN
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# INTERVENTIONS AT NATIONAL LEVEL

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- **Nigeria has never lacked for well-designed policies and strategic plans. Our problem has always been with execution.**
- **Integrated Maternal Newborn Child Health (IMNCH) Strategy is an excellent concept with linkages home to the community to hospital but requires implementation which has been slow**
- **Essential Newborn Care (ENC) focus addressing the basic antenatal care, labour and deliver to postnatal care using simple interventions. but slow in reaching care centres**
- **Kangaroo mother care is a simple intervention proven to be beneficial for the preterms but yet to become widely practiced**
- **We cannot begin to see changes until implementation of these laudable programmes/policies begin to take place.**

# Integrated Maternal, Newborn and Child Health (IMNCH) Strategy

- aims at scaling up a **package** of key maternal, neonatal and child survival interventions that have been proven to reduce maternal, neonatal and child mortality.
- Has been adopted by all states and implementation on-going





## Integrated Maternal, Newborn and Child Health Strategy

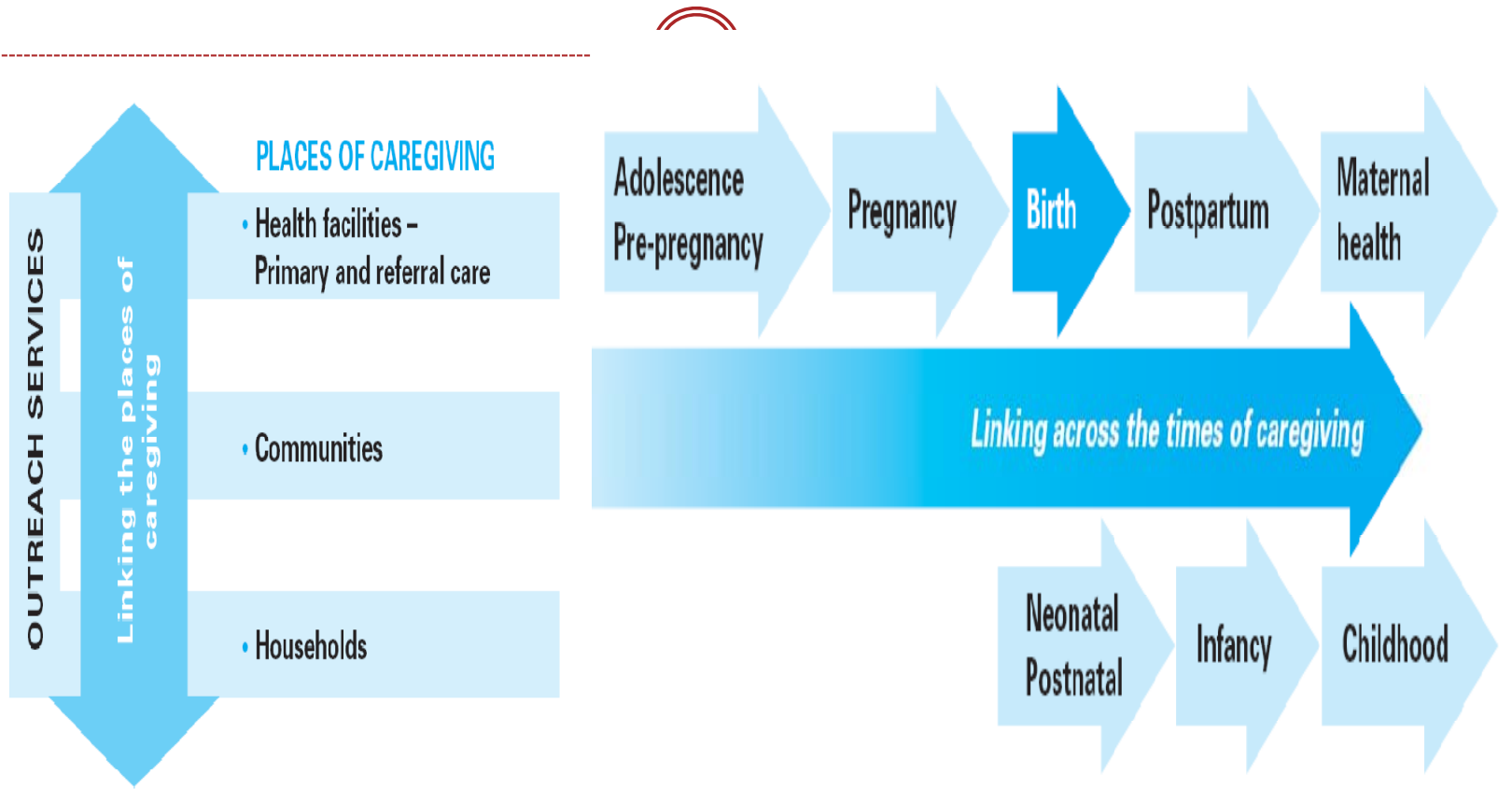


- **Spans life's beginnings:**  
from before conception to childhood  
through pregnancy, childbirth, infancy  
and childhood.
- **Goes from:**  
the home, empowering families;  
through to the health centre, bringing care  
closer to home;  
and, when needed, to the hospital,  
facilitating referral
- **Bridges across programs**  
Family planning, HIV, nutrition, child  
health



**Save the Children**

# Continuum of care in time and place



## Factors that hinder such execution/implementation

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- Constant change in leadership.
- Person-centred approach instead of problem-centred approach
- Insufficient political will and commitment
- Dearth of Manpower and concentration of care in urban centres with collapse of primary care

# RECOMMENDATIONS

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- Policy - National Health Bill implementation will strengthen primary care and make funds available for implementation of
  - IMNCH Strategies
- Expansion and provision of NICU services and equipment in the tertiary centres.
- Increase in training on ENC and Neonatal resuscitation in all hospitals
- Adequate staffing – doctors, nurses, facilitators
- Training and re-training of staff.
- NGOs organisations and other bodies working on maternal and Newborn survival and care should collaborative their efforts and ensure implementation.
- Foreign aid and collaboration.
- Political reforms
- Fight against corruption

*THANK You!!!*

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