Global Health Policy
Reducing Neonatal Mortality

Susan Niermeyer, MD, MPH, FAAP
Global Health Policy: Reducing Neonatal Mortality

Objectives

• Understand the importance of neonatal mortality in under-5 child survival

• Define the challenges to reducing neonatal mortality globally

• Describe an initiative to reduce global neonatal mortality
Birth in Lushoto District, Tanzania
Regional rates of neonatal mortality

The world of early neonatal deaths (first 7 days)
Millennium Development Goal 4
Reduce under-5 child deaths 2/3 from 1990 levels by 2015

Lawn JE et al. Lancet 2005
Timing of neonatal death

Almost 50% of neonatal deaths occur in the first 24 hours.

75% of deaths occur in the first week.

The time when most newborns die is the time of lowest coverage with skilled attention.

Lawn JE et al. Lancet, 2005
Global causes of neonatal death

- Preterm birth: 27%
- Severe infections (mainly sepsis and pneumonia): 26%
- Asphyxia: 23%
- Congenital anomalies: 7%
- Tetanus: 7%
- Diarrhoeal diseases: 3%
- Other: 7%
Landscape of perinatal death

The world of health workforce

physicians

nurses

midwives

Colorado School of Public Health

www.worldmapper.org 2002
Access to facility birth, trained staff, and resuscitation equipment

Wall SN, Lee ACC, Niermeyer S, et al. IJGO 2009; 107:S47
Helping Babies Breathe
Helping Babies Breathe
evidence base and policy alignment

• International Liaison Committee on Resuscitation (ILCOR)
  – Neonatal Resuscitation: Consensus on Science and Treatment Recommendations
    http://circ.ahajournals.org/cgi/content/full/112/22_suppl/III-91

• World Health Organization – Regional Technical Expert Review (Geneva)
  – Basic resuscitation guidelines (in revision)
  – Post-partum hemorrhage
  – Handwashing
  – Breast feeding
Action Plan

Routine care
The Golden Minute®
Advanced care
Helping Babies Breathe
flipchart/simulator/learner workbook
Learner pair + neonatal simulator
6:1 learner-to-facilitator ratio
Demonstration and practice of separate skills
Facilitator demonstration and coaching of case scenarios in pairs
Peer learning/teaching
Case scenarios conducted independently by learner pairs
Extension of education and simulation to the clinical setting

- Clinical supervision
- Case audit
- Perinatal quality improvement

Bookman L et al. PAS 2009 2505.7
Packages of interventions with evidence of efficacy/effectiveness

Helping Babies Breathe +

- Essential Newborn Care
- Integrated Management of Childhood and Neonatal Illness
- Neonatal Resuscitation Program
- Integrated Management of Pregnancy and Childbirth
Perinatal skills training
Clinical outcomes

• ↓ death at 24 hours among babies not breathing at birth (RR = 0.46) with no change in stillbirths - Tanzania
  – N=6928/7277 pre/post training

• ↓ stillbirths (RR = 0.73) with no change in neonatal deaths – India
  – N=4173/5427 pre/post training

Msemo G, PAS 2011 and Goudar S, GHC 2011
Education and community mobilization
Continuum of care from household to health system

Empowerment of community health professionals and families
Women’s leadership
expanding civic participation
Municipal officials increased advocacy for women
Community health workers training new cadres in the health system

Traditional birth attendants linking to the health system

Carlo W et al. NEJM 2010; 362:614
www.maweni.com/mimba
Continuum of care from household to health system

HBB Global Development Alliance

- **Overall Objective**
  - Reduce newborn mortality due to asphyxia

- **Guiding Principles**
  - Inclusiveness and collaboration
  - Country-owned and country-led
  - Integration with maternal and essential newborn care
  - Shared goal, results, and recognition
  - Brand non-exclusivity
**HBB Monitoring and Evaluation Framework**

### Inputs

**Financial and human resources**

**Indicator:**
1. Funds mobilized for HBB implementation
2. HBB included in national plan for essential newborn care and emergency obstetric and newborn care

### Process

Integrate HBB in national plan for essential newborn care and emergency obstetric and newborn care

### Outputs

Improved access, equity and quality of newborn resuscitation

**Indicators:**
6. Number and percent of babies not breathing at birth that were resuscitated successfully

**Optional indicators:**
7. Resuscitated successfully based on the key HBB action steps:
   - Drying (stimulation)
   - Clearing the airway/stimulation
   - Ventilation with bag and mask

### Impacts

Improved survival

**Indicator:**
8. Rate of intrapartum stillbirth and neonatal death (<24 hours)

**Optional indicators:**
9. Early NMR (<7 days)
10. NMR (28 days)
11. Stillbirth

### Data sources

- Program Reports
- Facility assessments (HMIS, SPA, QA/QI)*
  - Quality, infrastructure, utilization, accessibility, service readiness
- Vital registration
  - Routine vital statistics
- Population-based surveys & surveillance (DHS/MICS, special surveys, sentinel surveillance)*
  - Service coverage, equity, mortality
HBB implementation - July 2011
Suggested reading

Oestergaard MZ et al. on behalf of the United Nations Inter-agency Group for Child Mortality Estimation and the Child Health Epidemiology Reference Group

Neonatal Mortality Level for 193 Countries in 2009 with Trends since 1990: A Systematic Analysis of Progress, Projections, and Priorities

PLoS Medicine 8(8); e1001080.
doi: 10.1371/journal.pmed.1001080
2009 NMR and % change in NMR 1990-2009