A Decade of Change for Newborn Survival

Launch of a supplement in *Health Policy and Planning*

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On behalf of the team
Editorial – Gary Darmstadt, David Oot, Joy Lawn

1. Overview and quantitative analysis:
   - Trends for neonatal mortality rates and causes
   - Multi-country modeling to understand predictors
   - Financial analyses

2. Benchmarking readiness for scale up of newborn care

3. Bangladesh

4. Nepal

5. Pakistan

6. Malawi

7. Uganda

Country case studies with in-country expert teams

Over 150 contributors

More than 60 authors and an additional 90 in-country health experts contributed over a 3 year period
1. Change around the world 2000 to 2010
   - Rates of neonatal mortality change, understanding change
   - Progress for reducing the main killers of newborns

2. Change in countries, focus on 5 case studies
   - Changes in context,
   - Coverage of care,
   - Health systems and policy
   - Health financing

3. Changing the trajectory for our future
   - Focus on change in countries
   - Looking back to look forward,
   - Identifying potential accelerators for change
Global Progress to MDG 4 for child survival

3.1 million neonatal deaths, 40% of all under-five deaths
Maternal mortality ratio = 4.2%
1-59 month mortality rate = 2.5%
Neonatal mortality rate = 1.8%

All 3 measures show increased progress since 2000

<table>
<thead>
<tr>
<th>REGION</th>
<th>Neonatal mortality rate</th>
<th>WHEN WILL ALL REGIONS REDUCE NMR TO THE CURRENT RATE OF HIGH INCOME COUNTRIES (3 per 1000)?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>&lt; 1%</td>
<td>2165</td>
</tr>
<tr>
<td>Eastern Mediterranean</td>
<td>1.5%</td>
<td>2115</td>
</tr>
<tr>
<td>Southeast Asia</td>
<td>2.2%</td>
<td>2085</td>
</tr>
<tr>
<td>Western Pacific</td>
<td>3.3%</td>
<td></td>
</tr>
<tr>
<td>Americas</td>
<td>3.4%</td>
<td>2040</td>
</tr>
<tr>
<td>Europe</td>
<td>3.5%</td>
<td></td>
</tr>
</tbody>
</table>

Not all countries are the same
Malawi is on track for MDG 4

![Graph showing under-five mortality rate from 1990 to 2015](graph.png)


**NMR reducing at 3.5% per year, double the regional average**

**Only a handful of national paediatricians!**
## Where?

Changes for countries with highest numbers of neonatal deaths

<table>
<thead>
<tr>
<th>Country</th>
<th>2000</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Nigeria</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Pakistan</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>China</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>DR Congo</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Indonesia</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Afghanistan</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Sudan</td>
<td>(12)</td>
<td>10</td>
</tr>
<tr>
<td>Brazil</td>
<td>9</td>
<td>(14)</td>
</tr>
</tbody>
</table>

- 2 million neonatal deaths in 2010
- Two thirds of global total

Fastest progress by addressing family planning AND newborn survival

Global causes of child death for 2000

- Malnutrition: 54%
- ARI: 20%
- Diarrhoea: 12%
- Measles: 5%
- Malaria: 8%
- HIV/AIDS: 4%
- Perinatal causes: 22%
- Other: 29%

Newborn deaths invisible in 2000

Estimates did not include specific neonatal causes, and were placed within the categories of perinatal causes and other causes.
Global causes of child death for 2010

Number 1
Pneumonia
- 14%

Number 2
Preterm birth
- 14%

Pneumonia: 717,200
Preterm birth: 713,000

Other conditions: 18%
Meningitis: 2%
AIDS: 2%
Malaria: 7%
Injury: 5%
Measles: 1%
Diarrhoea: 1%
Sepsis/meningitis: 5%
Other: 2%
Congenital abnormalities: 4%
Intrapartum-related events: 9%
Neonatal death: 40%

Average annual rate of change for causes of neonatal deaths 2000-2010

Public health interventions

Frontline workers, commodities and health system solutions

Average annual rate of change (%)

Mortality data from Li Liu et al Lancet 2012

67% of neonatal deaths
Change around the world

Change in countries
Understanding neonatal mortality change, 2000-2010
144 countries, multiple regression modeling

**Developed region**
3% reduction per year

Consistently rapid neonatal mortality reduction across countries

*Strongest predictors of NMR change*
- Increased national income
- Reduced fertility

**Other regions**
3.2% reduction per year

Variable change in mortality reduction across countries

*Strongest predictors of NMR change*
- Reduced fertility
- Baseline level of neonatal mortality

**Sub-Saharan Africa**
1.5% reduction per year

Mortality reduction so slow, it is difficult to analyze what factors related to change.

Countries with increased contraceptive use have progressed more in reducing newborn deaths

Mortality reduction progress cannot be attributed to changes in coverage of care due to slow changes in coverage and lack of coverage data.

Some countries are “bending the curve” for newborn survival against the odds

<table>
<thead>
<tr>
<th></th>
<th>MDG 4</th>
<th>MDG 5</th>
<th>Neonatal mortality rate Av annual change 2000-2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>✓</td>
<td>✓</td>
<td>4.0%</td>
</tr>
<tr>
<td>Nepal</td>
<td>✓</td>
<td>✓</td>
<td>3.6%</td>
</tr>
<tr>
<td>Malawi</td>
<td>✓</td>
<td></td>
<td>3.5%</td>
</tr>
<tr>
<td>Uganda</td>
<td>Progressing</td>
<td>Progressing</td>
<td>2.2%</td>
</tr>
<tr>
<td>Pakistan</td>
<td>Progressing</td>
<td>Progressing</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

Source: Newborn survival decade of change analysis: Health Policy and Planning. 27(Suppl. 3) papers 3 to 7
All 5 countries have recently increased coverage of skilled attendant at birth

- Bangladesh: 12% to 27%
- Nepal: 11% to 36%
- Pakistan: 18% to 39%
- Malawi: 56% to 71%
- Uganda: 39% to 59%

**Coverage (%)**
- Around the year 2000
- Around the year 2010
Facility births – coverage progress but quality gap

Over half of the world’s births are in facilities
Increasing rapidly in some countries

HOW TO CLOSE THE QUALITY GAP?
Eg. only 1 in 5 babies born in African hospitals meet an attendant with skills and equipment for neonatal resuscitation
Community based maternal and newborn care is moving in these countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>33 / 64</td>
</tr>
<tr>
<td>Nepal</td>
<td>25 / 75</td>
</tr>
<tr>
<td>Malawi</td>
<td>17 / 28</td>
</tr>
<tr>
<td>Uganda</td>
<td>65 / 111</td>
</tr>
<tr>
<td>Pakistan</td>
<td>LHWs reach &gt;60% of rural population</td>
</tr>
</tbody>
</table>

Source: Newborn survival decade of change analysis: Health Policy and Planning. 27(Suppl. 3) papers 3 to 7
27 Benchmarks to assess readiness to scale up care for newborns

27 Scale up Readiness Benchmarks
Change in countries over time

Donor aid for MNCH for 68 Countdown priority countries 2003-2008 (constant 2008 US$)

ODA disbursement for MNCH increasing but by 2008 just 6% of MNCH funding mentioning newborns
Stories behind the change in countries
Advocacy, partnerships and convening mechanisms

**Bangladesh**
- [Flag of Bangladesh]
- Informal partnerships led by MoH with collaboration from high profile newborn health champions

**Pakistan**
- [Flag of Pakistan]
- Informal advocacy by civil society, academia, and donors became formal in 2008 with Advocacy and Advisory Network for Newborns

**Uganda**
- [Flag of Uganda]
- Formal convening mechanism
  - Newborn Steering Committee within MoH
  - Maternal and Child Health cluster
Newborn survival
Changing the trajectory

- Some countries “bending the curve” for newborn survival against the odds BUT slower than for children aged 1-59 months and for MMR
- The 3 main causes of newborn death are starting to reduce and we now have solutions, products poised to move
- Facility birth coverage gains BUT quality gap needs urgent attention and crucial newborn care coverage data gaps
- Community care, home visit packages are mainly small scale, apart from a few countries, but great potential

Together we have the tools, funding and opportunity to transform maternal, neonatal and child survival globally – will we deliver?
DOWNLOAD AND USE THE SUPPLEMENT

Full Report FREE ACCESS at Health Policy and Planning Website
http://heapol.oxfordjournals.org/content/27/suppl_3.toc?etoc

Summary Fact cards and additional information at the Healthy Newborn Network:

Additional materials, resources, powerpoints:
http://www.healthynewbornnetwork.org/page/decade-change-newborn-survival

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