



Newborn health and survival: Delivering the future

From Dr. Joy Lawn, Saving Newborn Lives/ Save the Children-US

**Funded by the Bill & Melinda Gates Foundation
& Dr. Geneviève Begkoyian, UNICEF WCARO**

**Presented by Dr. Fariyal Fikree, Population
Reference Bureau**

WAHO meeting, Accra, June

www.dcp2.org

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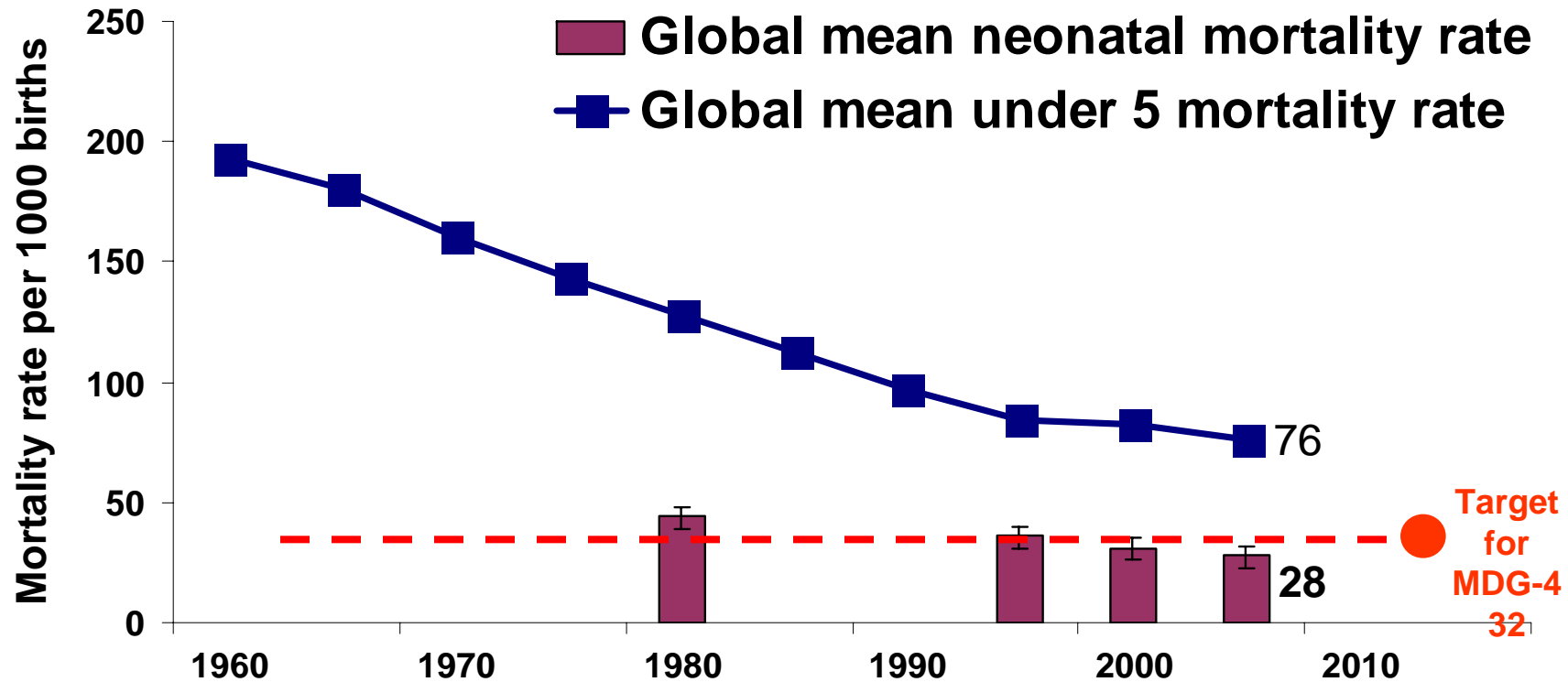
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Outline

1. Progress for child & newborn survival
2. Newborn deaths
 - Where?
 - When?
 - Why?
3. Packages of interventions, lives saved and costs
4. Priorities for implementation and research

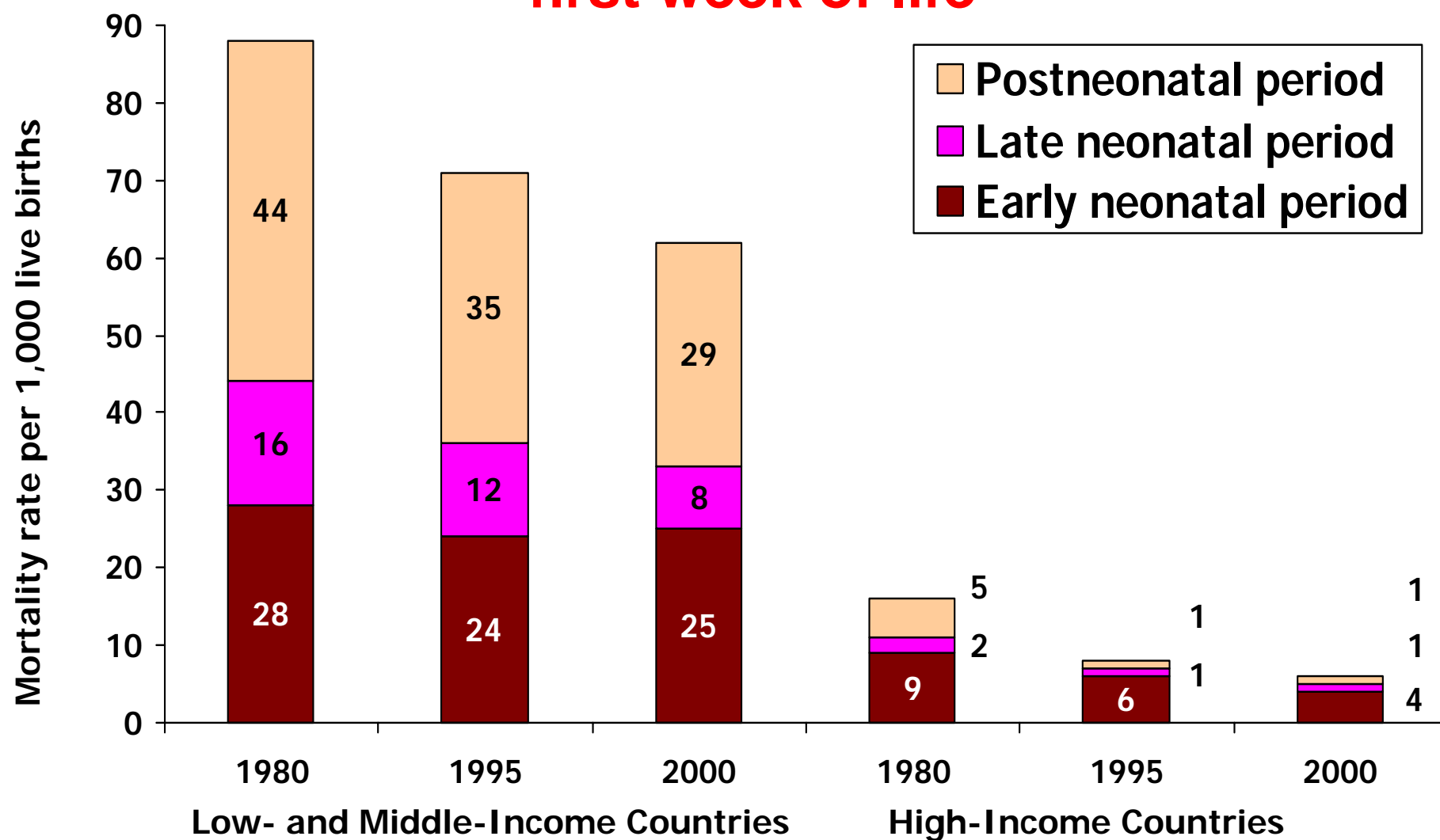


Progress to MDG 4 for child survival



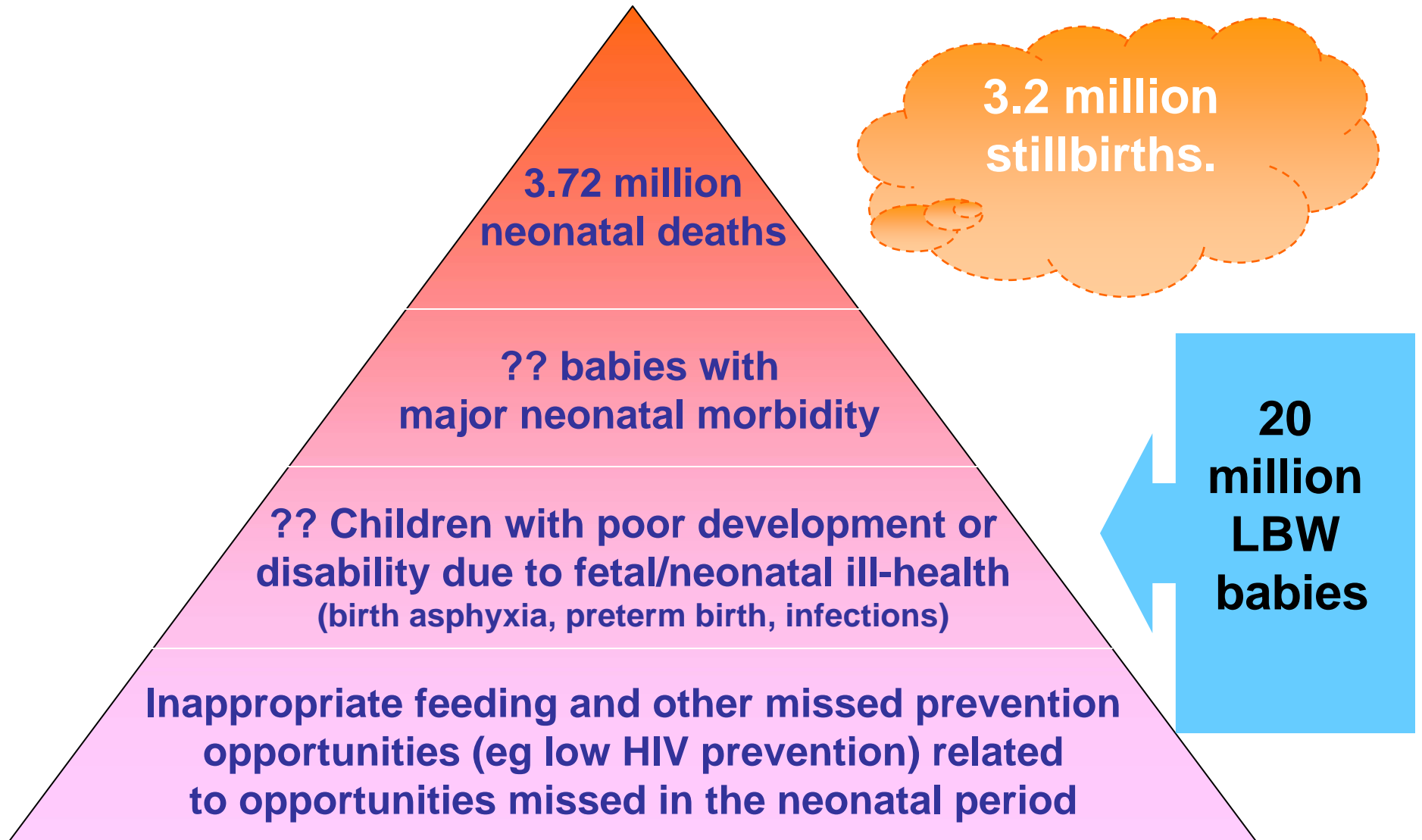
Almost **40%** of under-5 deaths are neonatal
4 million deaths each year
Newborn survival is key for **MDG 4** progress

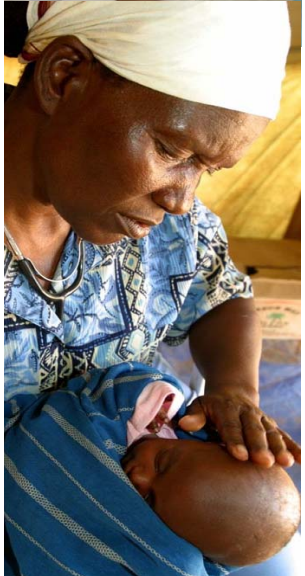
Reducing infant deaths (1980 to 2000): The poor-rich gap is widening especially for the first week of life



Beyond survival....

newborn health is fundamental for a nation's future





**4 million
neonatal deaths:**



Where?

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Newborn deaths – uncounted and not counting in society

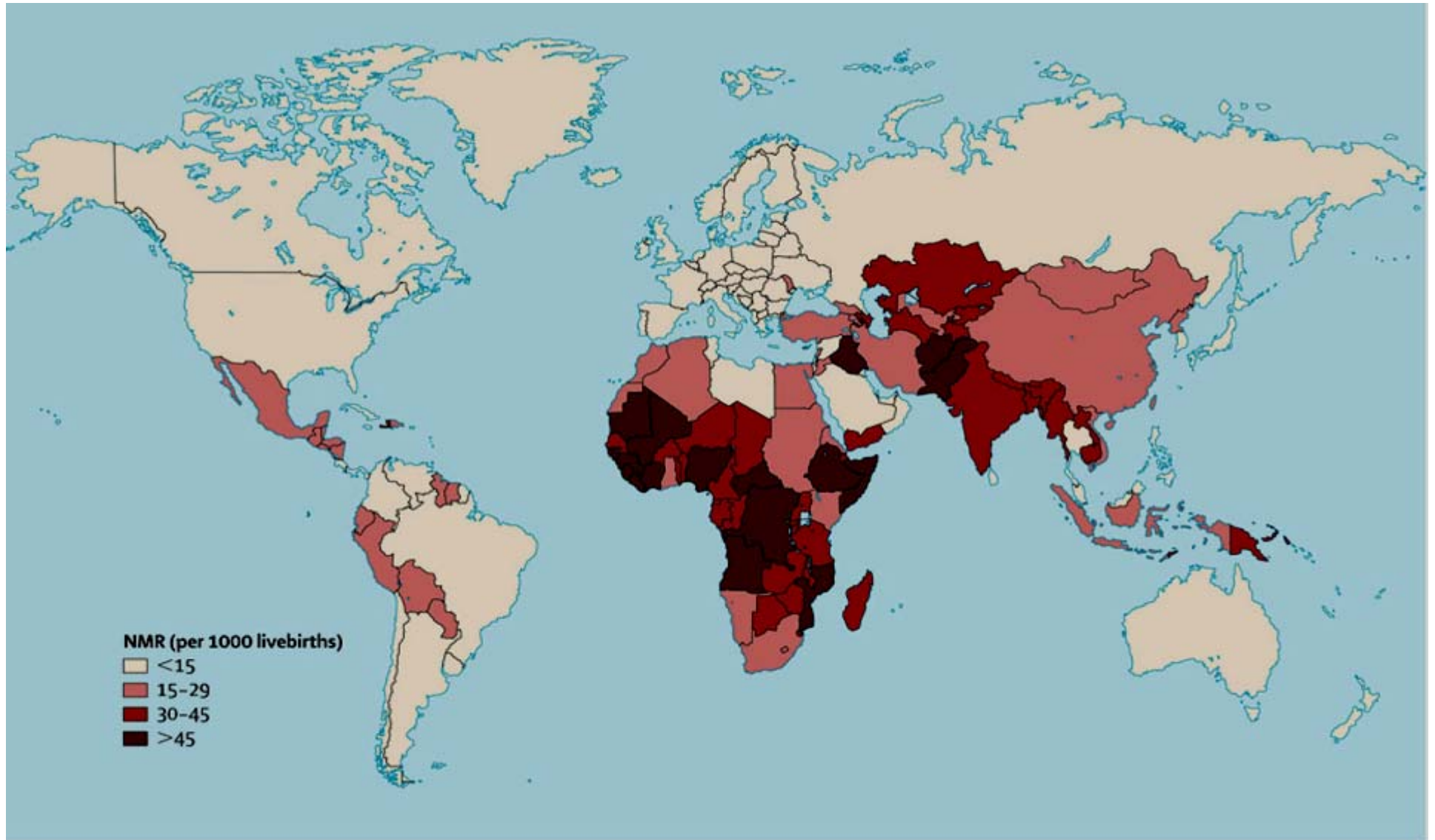


Most die at home - unnamed and uncounted

Retrospective surveys undercount newborn deaths especially on day 1 (probably 10 to 30% undercount)

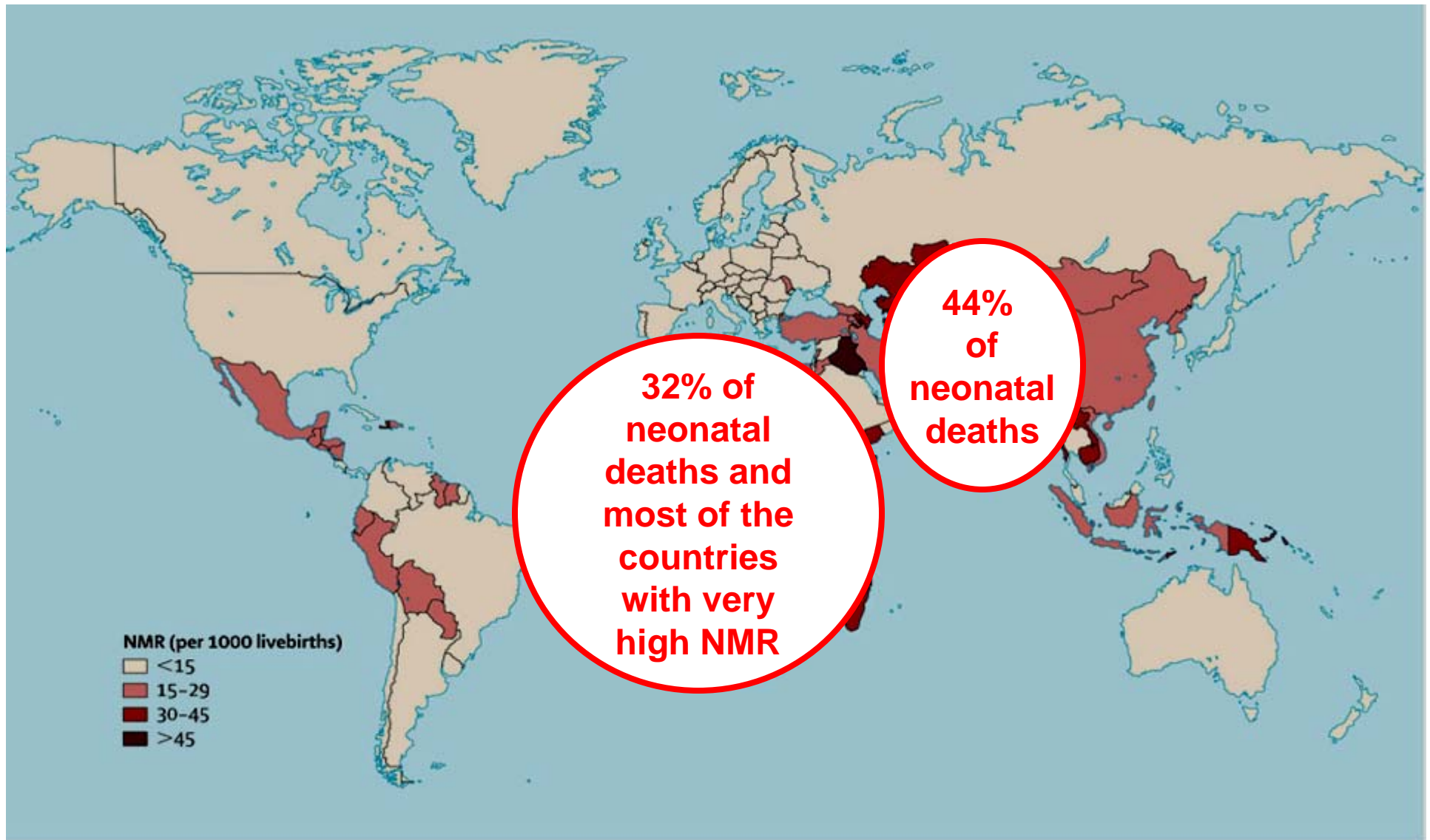
Traditional taboos prevent access to care and promote acceptance of newborn deaths

4 million newborn deaths - Where?



Source: Lawn JE et al Lancet 2005

4 million newborn deaths - Where?



Neonatal deaths – WHERE in reality?

In sub Saharan Africa and South Asia more than half of neonatal deaths are at HOME

Delay in recognition and decision making

- **In general neonatal illness presents less obviously and progresses more quickly than in older infants**
- **Beliefs and cultural taboos**
- **Financial limitations**

Delay in transportation to facility

- **In Uganda IMCI study less than 10% of newborns referred from the first level facility actually went**

Delay in receiving appropriate care once in the facility

Neonatal deaths – WHERE in reality?

In sub Saharan Africa and South Asia more than half of neonatal deaths are at HOME

Delay in recognition and decision making

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Delay in transportation to facility

- In Uganda IMCI study less than 10% referred from the first level facility

Delay in receiving appropriate care in the facility

Community and linkages to facility level are crucial

Neonatal mortality and inequity: the example of Nigeria

Income quintile	Lowest income quintile	Highest income quintile
Neonatal mortality rate (per 1000 live births)	59	23

Neonatal mortality and inequity: the example of Nigeria

Income quintile	Lowest income quintile	Highest income quintile
Neonatal mortality rate (per 1000 live births)	59	

If all the families in Nigeria received the same care as the richest, then NMR would be halved – 127,000 less newborn deaths each year



4 million neonatal deaths:



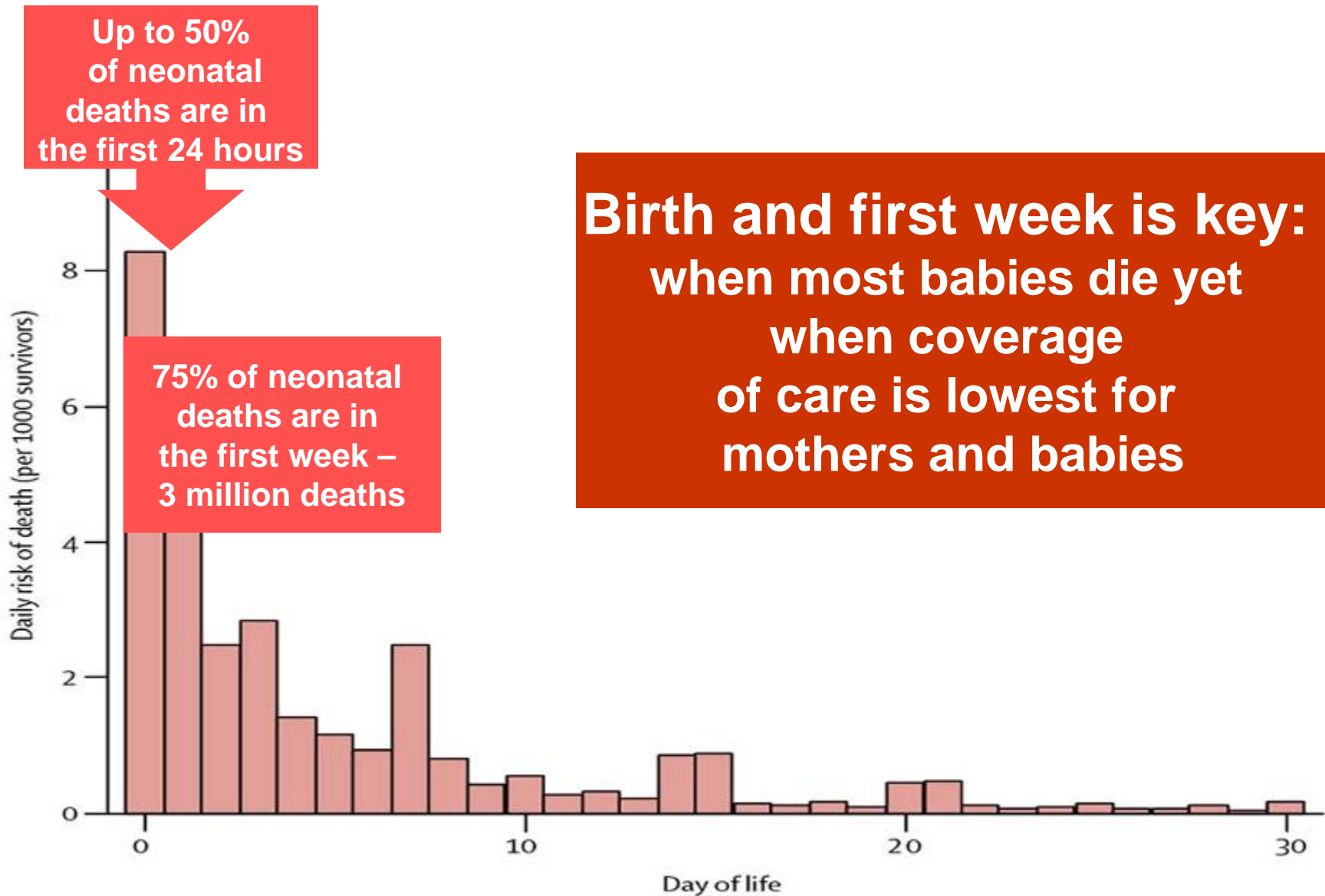
When?

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4 million newborn deaths - When?



Source: Lawn JE et al Lancet 2005, Based on analysis of 47 DHS datasets (1995-2003), 10,048 neonatal deaths)



4 million neonatal deaths:

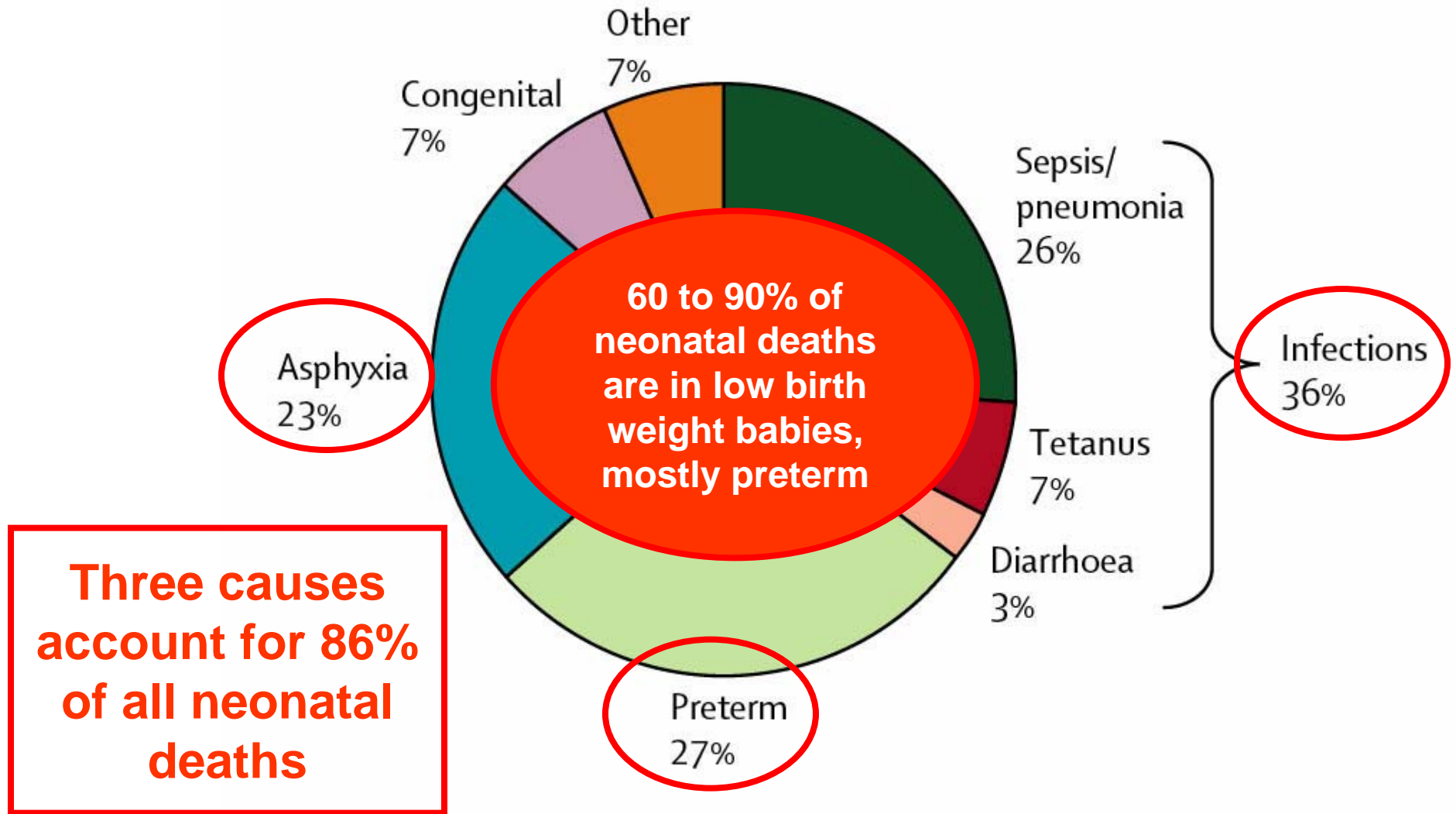


Why?

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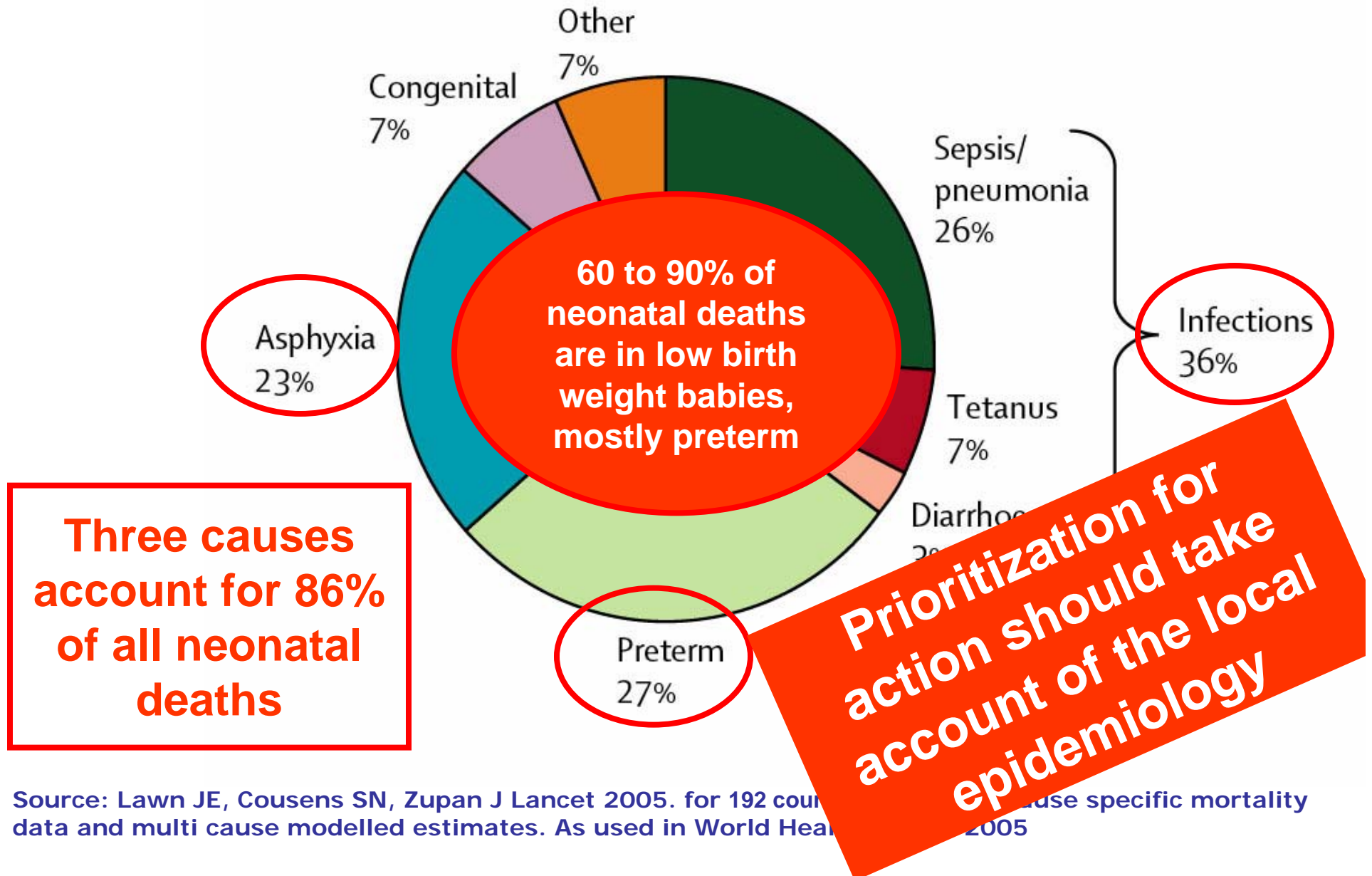


4 million newborn deaths – Why? almost all are due to preventable conditions



Source: Lawn JE, Cousens SN, Zupan J Lancet 2005. for 192 countries based on cause specific mortality data and multi cause modelled estimates. As used in World Health Report 2005

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**4 million
neonatal deaths:**



**Packages of care,
lives saved and
costs**

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Intervention selection

DCP Newborn chapter

Interventions selection if:

- Adequate evidence of effect on neonatal mortality or serious morbidity (Systematic reviews, meta-analysis, or in wide practice and RCTs considered unethical (eg resuscitation, cleanliness, warmth))
- Considered feasible

Each intervention categorized into:

- Universal = for all women/babies
- Situational = if there are specific conditions prevalent eg HIV
- Additional = more complex, less favourable cost-effectiveness until Mortality is lower and the health system is more advanced eg Folic acid preconception, Rubella immunization

Grouped in packages by time and place of service delivery

- Focus on 5 neonatal specific packages in the context of existing Maternal and Child Packages – integrated MNCH package

Cost estimation

DCP newborn chapter

Using an adapted version of the World Bank/UNICEF Marginal Budgeting for Bottlenecks tool applied with DCP 2 economic analysis guidelines with ingredients based approach for:

- **running costs (ie the staff time, supervision, training, drugs, equipment etc)**
- **estimated new investment costs (facilities, human resources etc)**

Applied in 5 sub Saharan African countries (Benin, Ethiopia, Madagascar, Mali, and Rwanda) and 5 large Indian states (Gujarat, Madhya Pradesh, Orissa, Rajasthan, and West Bengal).

To give

- **Total cost of MNCH package per capita**
- **Marginal cost of the newborn specific interventions**

Newborn care packages



Family and community care at home

- Healthy home care behaviours (cleanliness, warmth)
- Recognition of danger signs
- Increased use of skilled care
- Addressing key harmful practices
- Sleeping under an insecticide treated bednet



Essential newborn care and routine postnatal care

- Clean delivery and clean cord care
- Immediate and exclusive breastfeeding
- Warmth and skin-to-skin care
- Early identification of illness

Newborn care packages



Neonatal resuscitation

- Basic resuscitation with a bag and mask (cost approx \$5 for locally made device)



Extra care for preterm babies

- Warmth (skin to skin care and Kangaroo Mother Care)
- Breastfeeding support
- Early identification and management of complications



Emergency newborn care

- Treating newborn infections with antibiotics
- Facility care of preterm babies and neonatal encephalopathy (but not intensive care)

Cost of saving newborn lives

To meet MDG4 for child survival in a given country requires reduction of neonatal mortality by 40 to 70% varying with proportion of under-5 deaths that are neonatal and current rate of reduction of post-neonatal

Indian example (47% of under five mortality is neonatal)

Meeting MDG 4 in India will require ~58% reduction in neonatal mortality (700,000 lives saved) and scaling up the integrated MNCH package to achieve this will cost \$5.5 per capita per year (marginal cost for newborn packages = 70 cents per capita)

Raising coverage of all essential MNCH packages by 20%

- Neonatal mortality reduced by estimated 26% (almost 300,000 deaths fewer deaths a year)
- Cost \$2.40 per capita (marginal cost for newborn packages = 34 cents per capita)

Cost of saving newborn lives

To meet MDG4 for child survival in a given country requires reduction of neonatal mortality by 40-70% varying with proportion of under-5 deaths due to neonatal and current rate of reduction of neonatal

Indian example (47% of under-5 deaths due to neonatal)

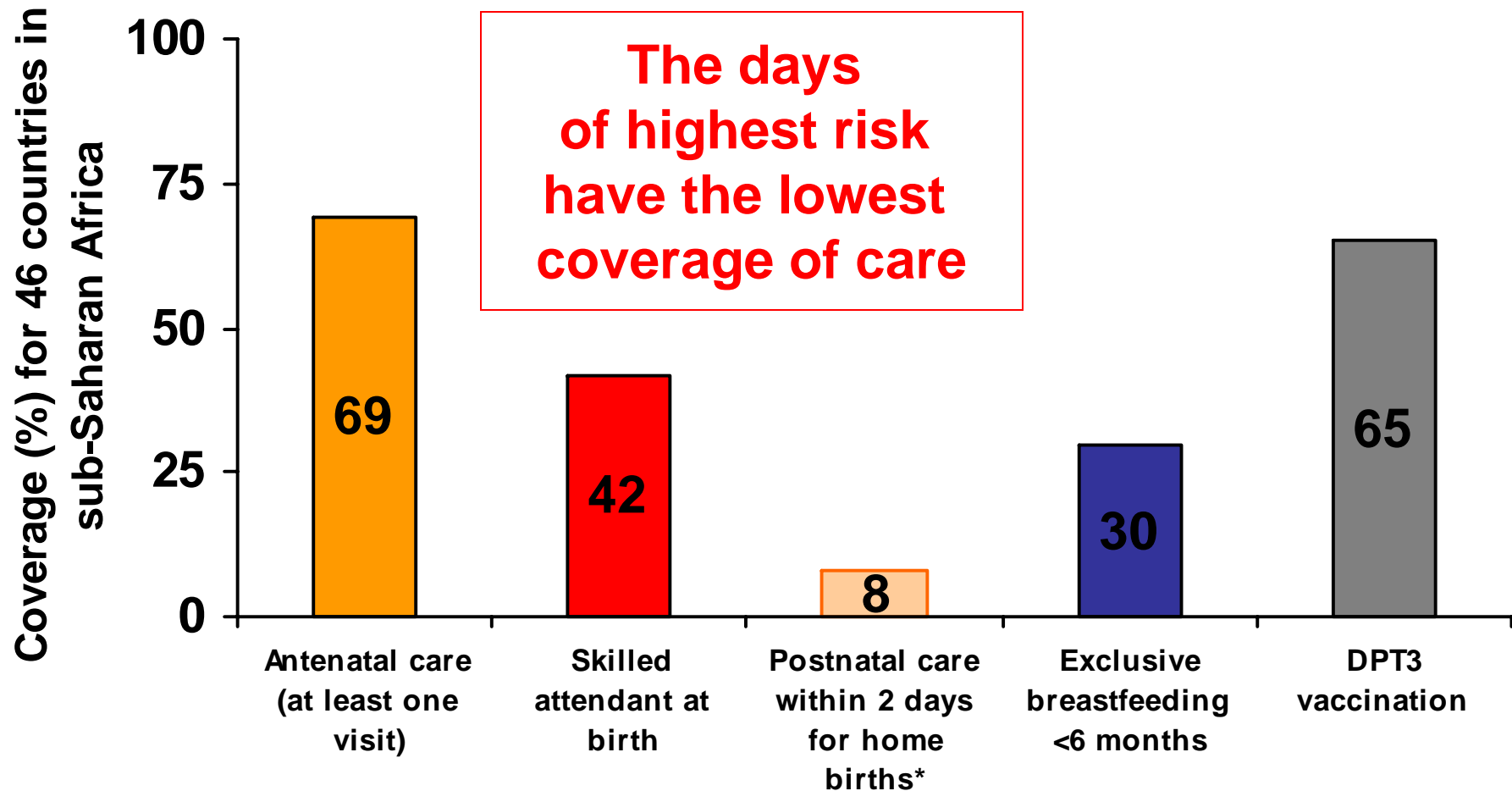
Meeting MDG 4 requires reduction of neonatal mortality by 40% the integrated MDG 4 package = \$5.5 per capita per year
newborn care packages = 70 cents per capita

Raising coverage of newborn care packages

- Neonatal mortality reduction = 40% (almost 300,000 deaths fewer deaths a year)
- Cost \$2.40 per capita (marginally above 70 cents per capita) for newborn packages = 34

Cost per neonatal Years of Life Lost (YLL) for 20% increase in coverage of newborn care packages
US\$ 380 for India
\$ 432 for African countries
One of the best buys in DCP

Neglected opportunity with particularly low coverage



* Postnatal care is only measured for home births in most Demographic and Health Surveys (DHS).

Source: *Opportunities for Africa's Newborns*. Eds Lawn J, Kerber K 2006. Data from analysis 28 African DHS, 1998-2005



**4 million
neonatal deaths:**



**Priorities in
programmes and
research**

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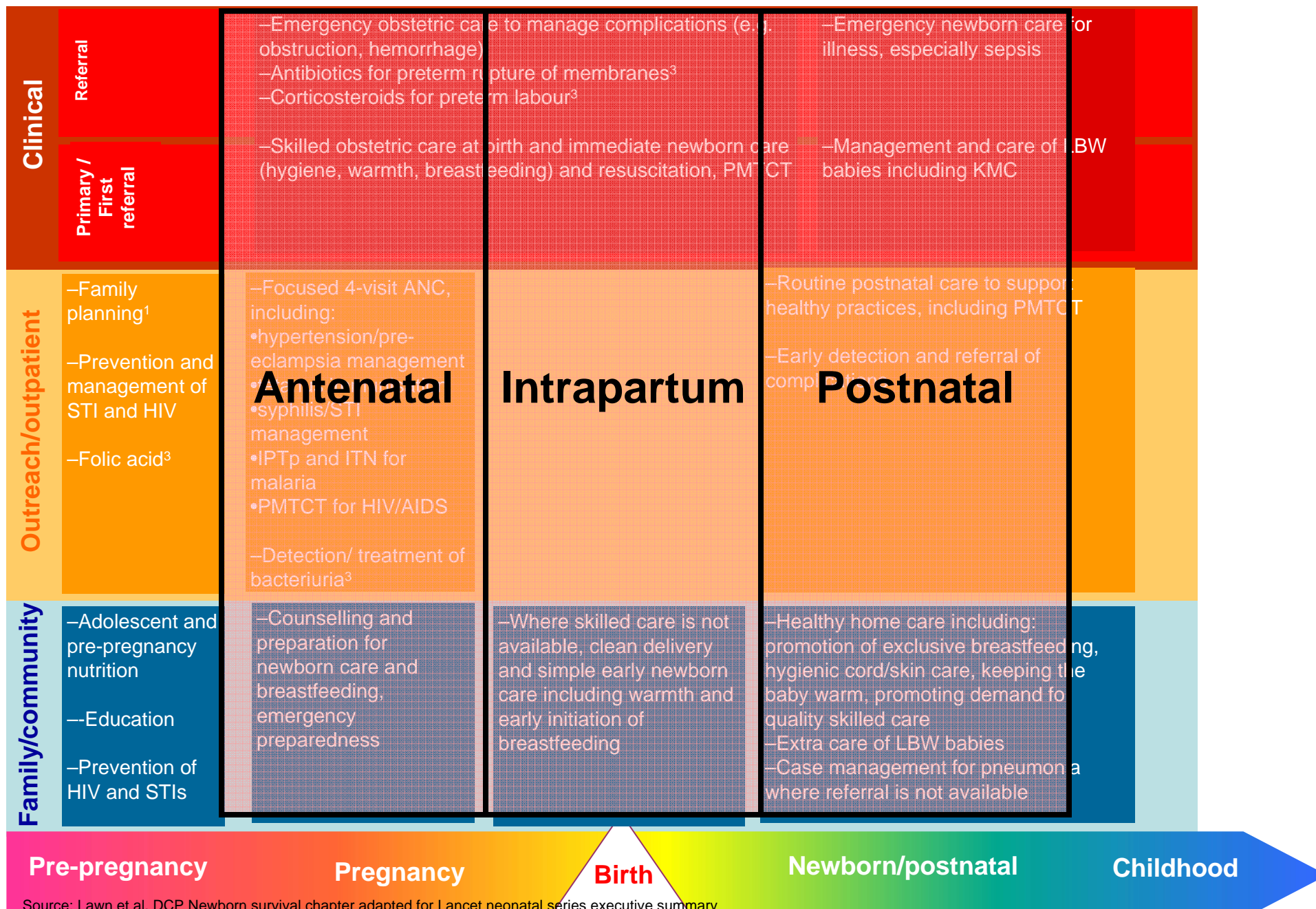
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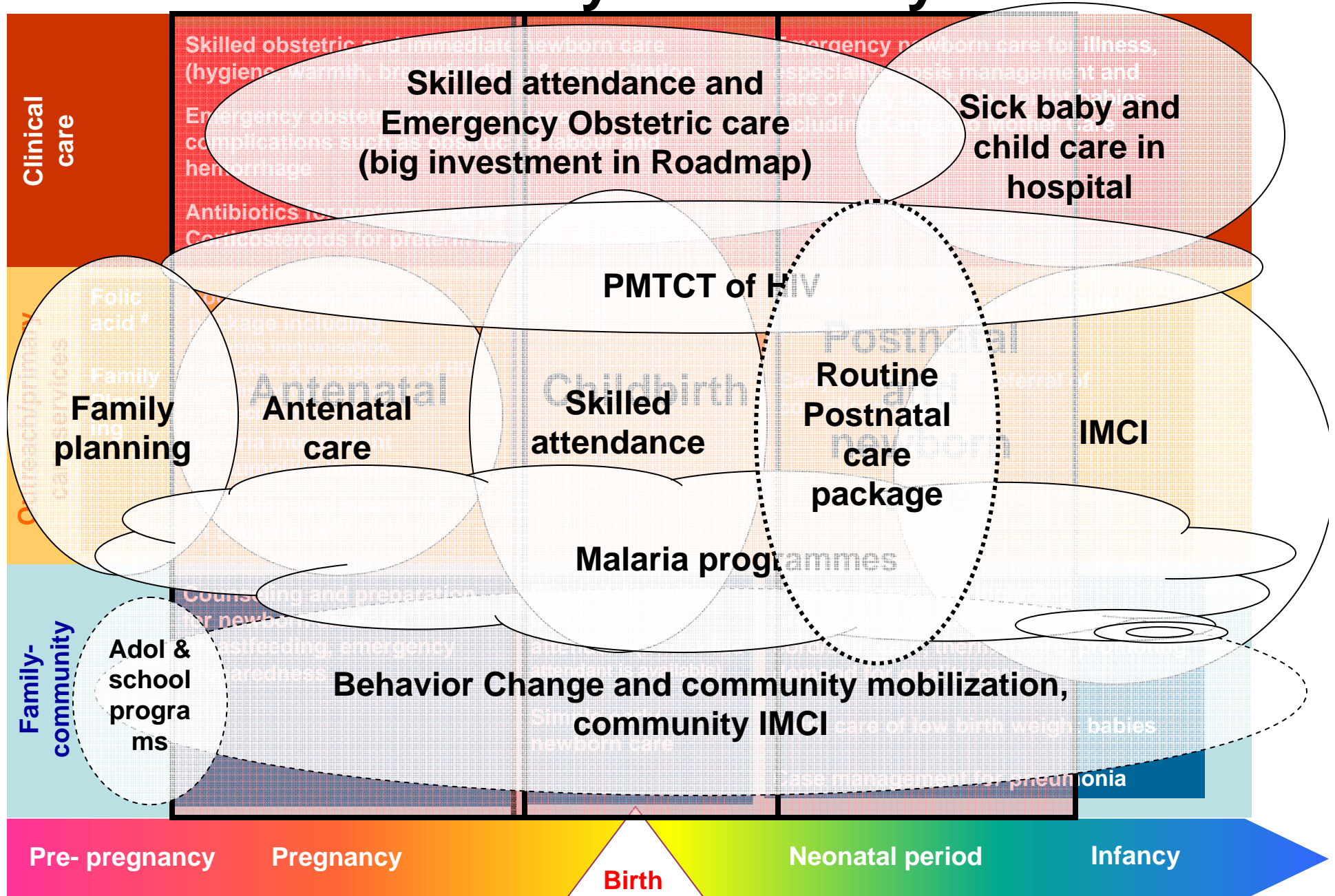
Priority actions in countries

- 1. Assess the situation in country and develop government led phased operational plan**
- 2. Seize opportunities in existing programmes:**
 - Antenatal care is at relatively high coverage in many countries
 - More investment in skilled attendance and emergency obstetric care
 - Integrated Management of Childhood illness
 - Vertical programmes – Immunisation, malaria, AIDS prevention of mother to child transmission
- 3. Increase coverage of high impact packages, develop and test innovative delivery approaches to reach the poorest especially with postnatal/newborn care**
- 4. Improve data for tracking newborn deaths and coverage of essential care**

Integrated packages that reduce newborn deaths



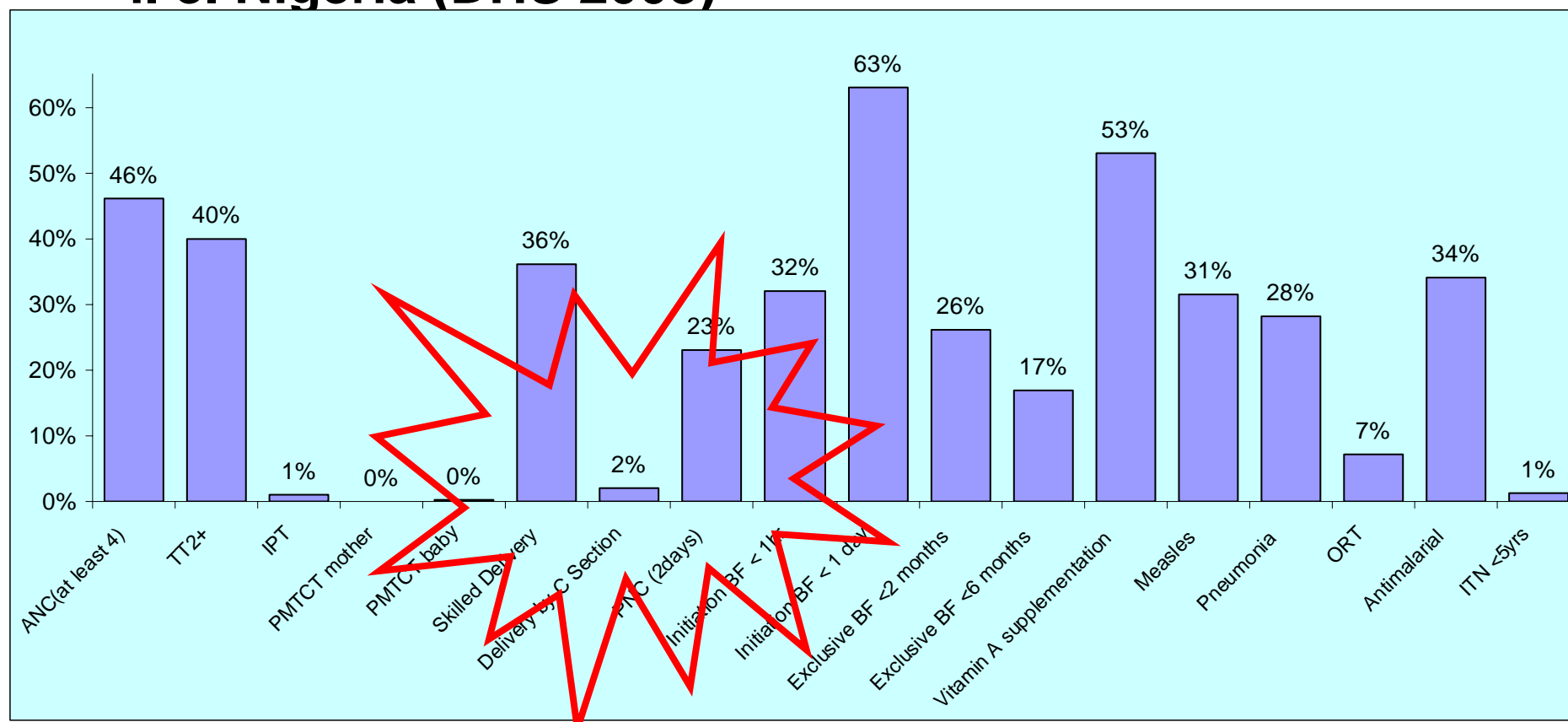
Health system reality



Continuum of care

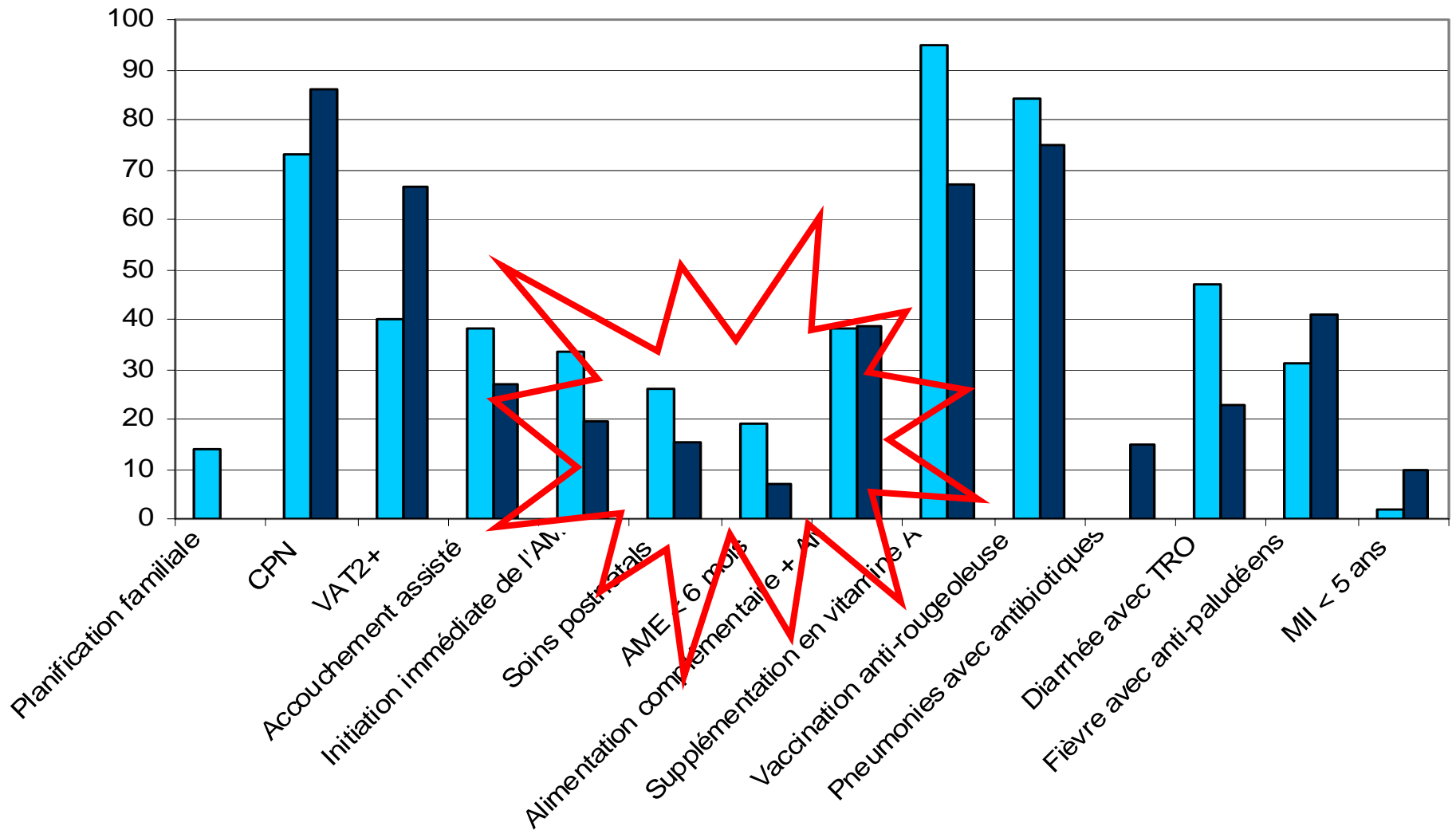
The birth period at risk of lower coverage for key interventions

- i. e. Nigeria (DHS 2003)



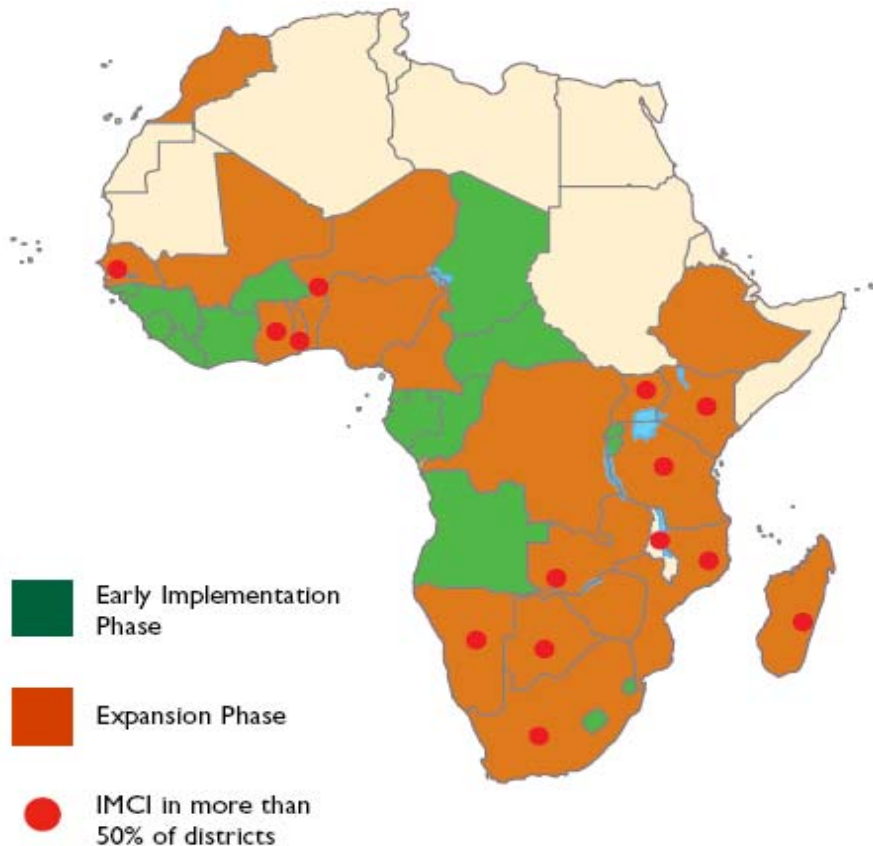
Continuum of care

i.e Burkina Faso: DHS 2003- MICS 2006 preliminary results



Seize opportunities in existing programmes eg Integrated Management of Childhood Illness (IMCI)

Almost every country in Africa has started IMCI and at least 14 countries have IMCI in more than 50% of districts



Opportunities exist to add newborn care to:

- Facility IMCI (originally no care for first week of life)
- Community IMCI component (healthy behaviours)



Research priorities to advance innovative delivery of high impact packages especially for the poor

1. Routine postnatal care
2. Community and family care – promoting healthy behaviours
3. Extra care of small babies in the community, linking to facilities
4. Treating neonatal infections especially where referral is not possible



Approximately one-third of neonatal deaths could be averted with outreach and family or community-based interventions, feasible now the main issue is HOW to deliver these

Conclusions

- **MDG- 4 cannot be met unless 4 million newborn deaths are reduced more rapidly and the first week of life is key**
- **Around 2.5 million newborn lives could be saved every year with existing interventions – the problem is low coverage. Up to 30% can be saved through community care**
- **The estimated cost of an integrated MNCH package to meet MDG 4 is around \$5.5 per capita in Asia and Africa – only about \$0.70 per capita is the marginal cost of the newborn-specific care**
- **Some programmes are progressing to scale more rapidly than others, presenting opportunities**
- **There are major research gaps especially for **HOW** to deliver care**
 - **Routine postnatal care and healthy home behaviours**
 - **Care of small babies and care of ill newborns especially where referral is not possible**

A healthy newborn changes the future!

The gap is investment and action and HOW TO research



**Thank
you !**

Opportunities for Africa's Newborns

Practical data, policy and programmatic support for newborn care in Africa.



A healthy newborn delivers the future!

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Where?

Countries with the highest numbers of neonatal deaths are similar to those with high maternal deaths

	Ranking for numbers of neonatal deaths		Ranking for numbers of maternal deaths
India	1	<p>2.5 million neonatal deaths</p> <p>Approx 66% of global total</p>	1
China	2		9 =
Pakistan	3		3
Nigeria	4		2
Bangladesh	5		8
Dem. Rep. Congo	6		4 =
Ethiopia	7		4 =
Afghanistan	8		11
Indonesia	9		7
Tanzania	10		6

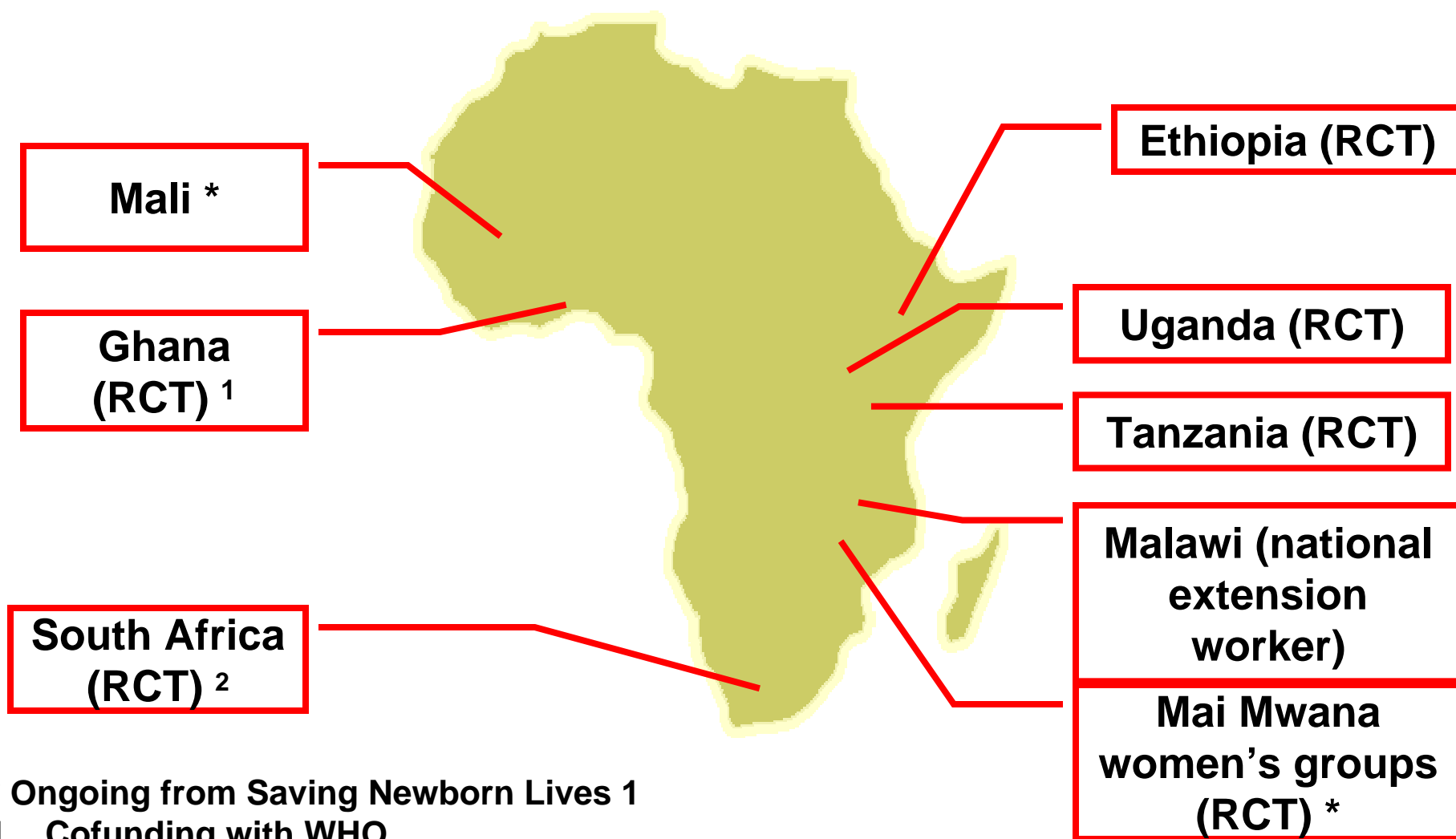
Where?

Countries with the highest neonatal mortality rates

1	Liberia (66)	11	Somalia (50)
2	Cote d'Ivoire (64)	12	Rwanda (49)
3	Iraq (60)	13	Myanmar (49)
4	Afghanistan (60)	14	Cambodia (48)
5	Sierra Leone (60)	15	DRC (47)
6	Mali (57)	16	Equatorial Guinea (47)
7	Angola (54)	17	Nigeria (48)
8	Pakistan (58)	18	Guinea Bissau (48)
9	Lesotho (54)	19	Botswana (43)
10	Cen African Rep (52)	20	Gambia (44)

**75% are
African
countries**

Developing and testing community-based, integrated packages addressing newborn health in Africa



* Ongoing from Saving Newborn Lives 1

1. Cofunding with WHO

2. Cofunding with CDC and UNICEF