



Science in Action: Situation of maternal, newborn, and child health in Africa

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**GHANA ACADEMY OF
ARTS AND SCIENCES**
Promoting Excellence in Knowledge



Science in Action Acknowledgments



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Wider team

Over 60 scientists mainly in Africa have contributed and reviewed

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Ghana Academy of Arts and Sciences



Kenya National Academy of Sciences



Nigerian Academy of Science



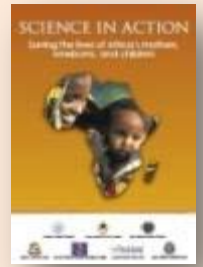
Académie des Sciences et Techniques du Sénégal



Uganda National Academy of Sciences



Outline for presentation



- 1. Africa's mothers, newborns and children**
- 2. Africa and the Millennium Development Goals**
 - MDG 5 – Progress for Africa's mothers
 - MDG 4 – Progress for newborns and children
 - MDG 6 – HIV/AIDS and malaria
 - MDG 1 - Undernutrition
- 3. Variation between countries and programmes
- what is progressing and what is not?**
- 4. Data based priorities to save lives**

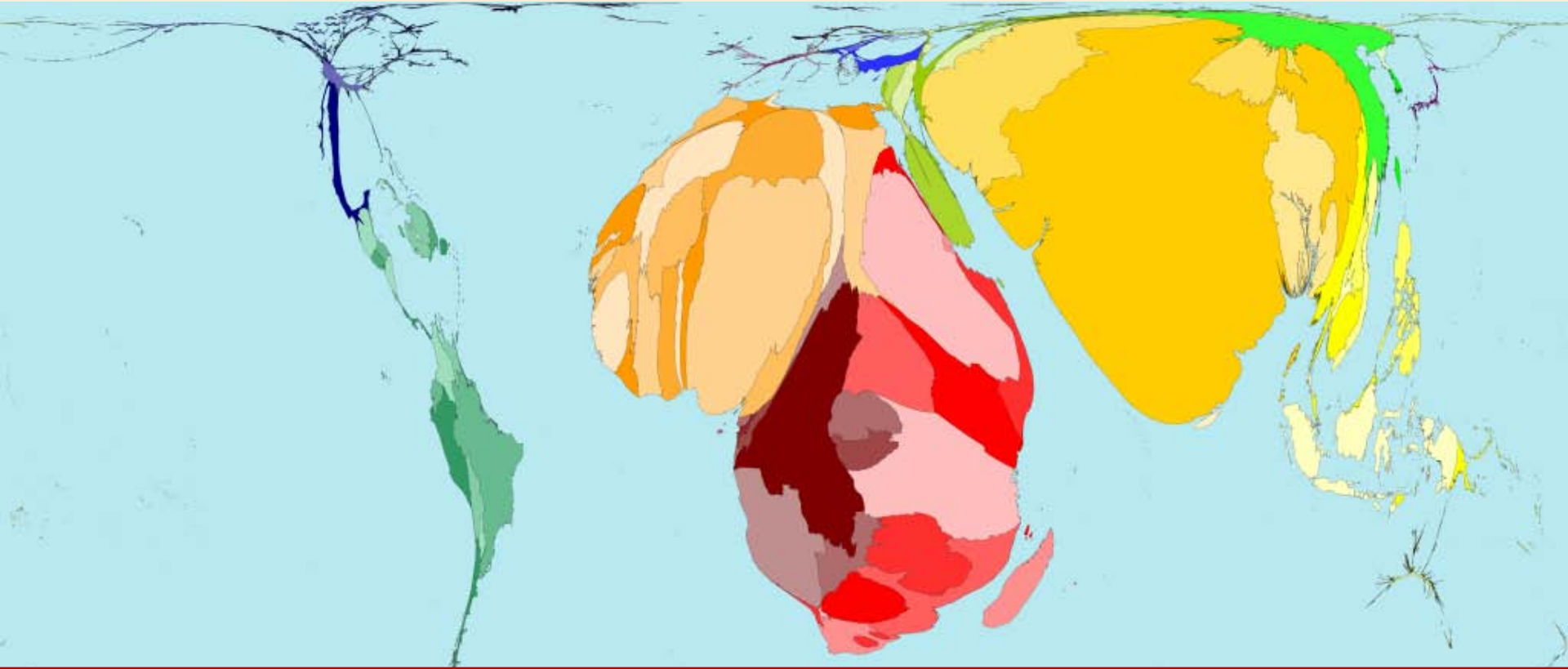


Data message 1.

Africa is 11% of the world's population but carries a disproportionate burden of ill health....

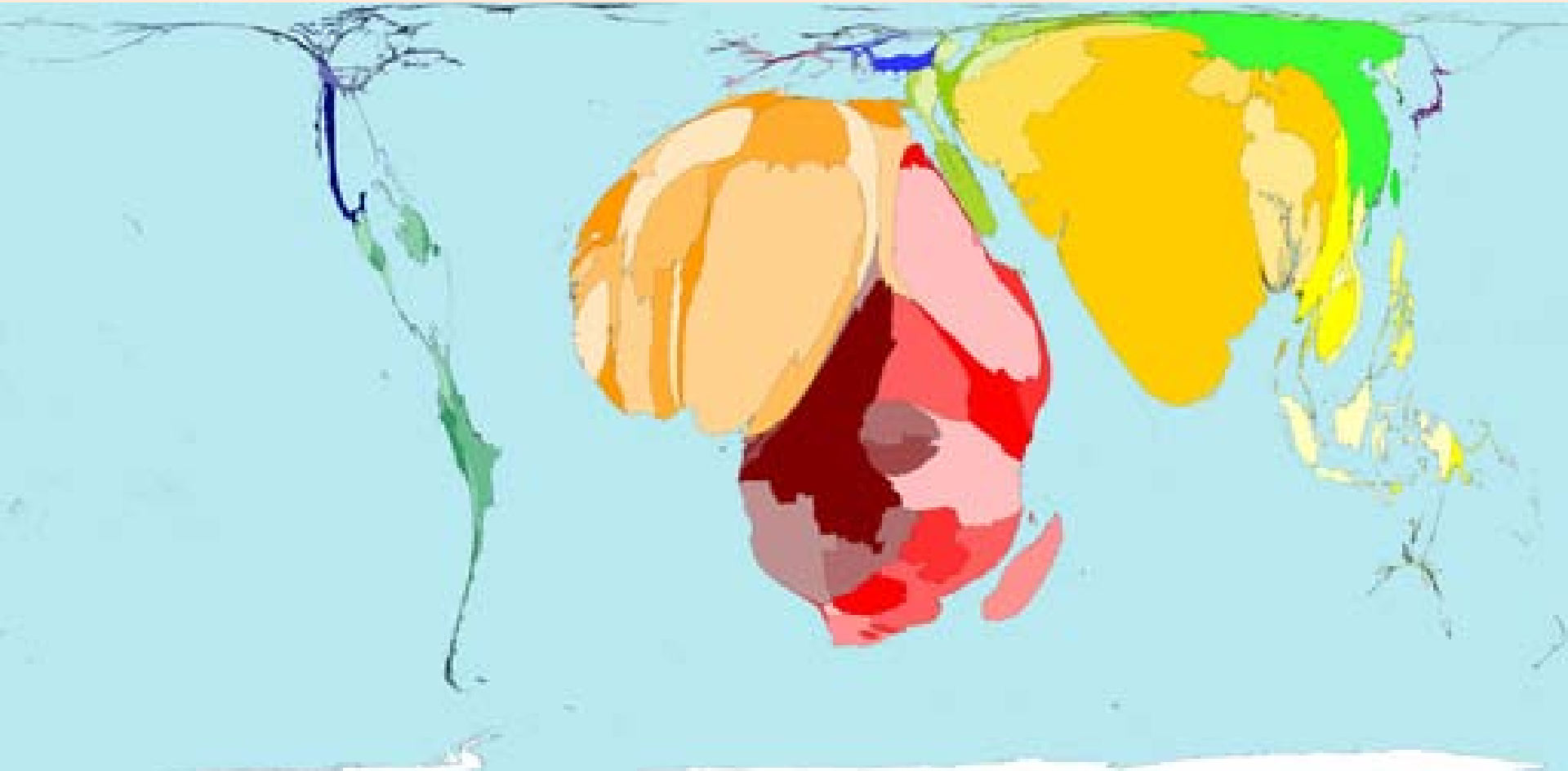


Maternal Mortality burden



Africa experiences half (49%) the world's maternal deaths
Each year 265,000 African women die of maternal causes.
The risk of maternal death in Nigeria is 1100 per 100,000 births which is
360 times higher than for Swedish women

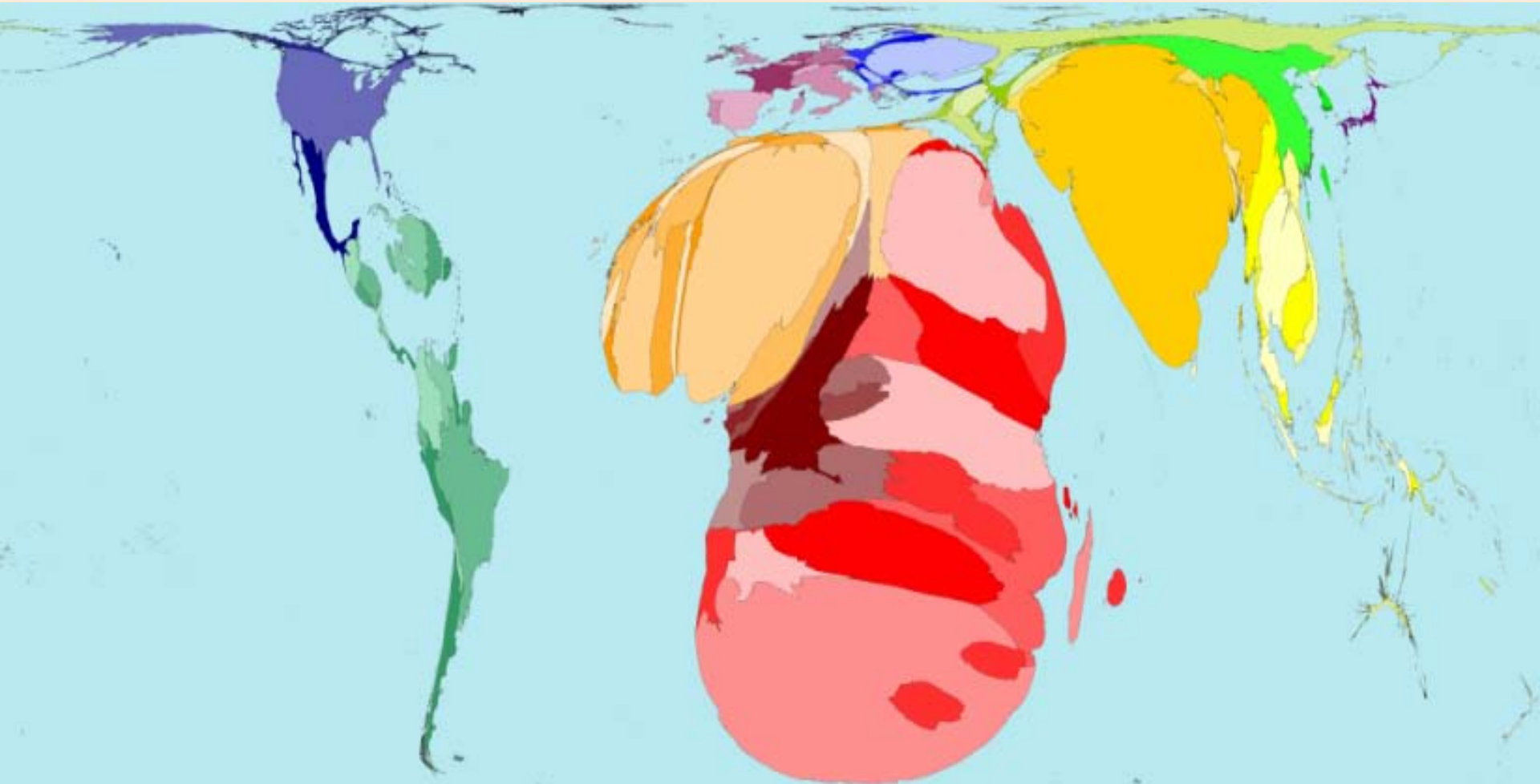
Child Mortality burden



4.4 million African children die each year, including 1.2 million neonatal deaths (first month of life)

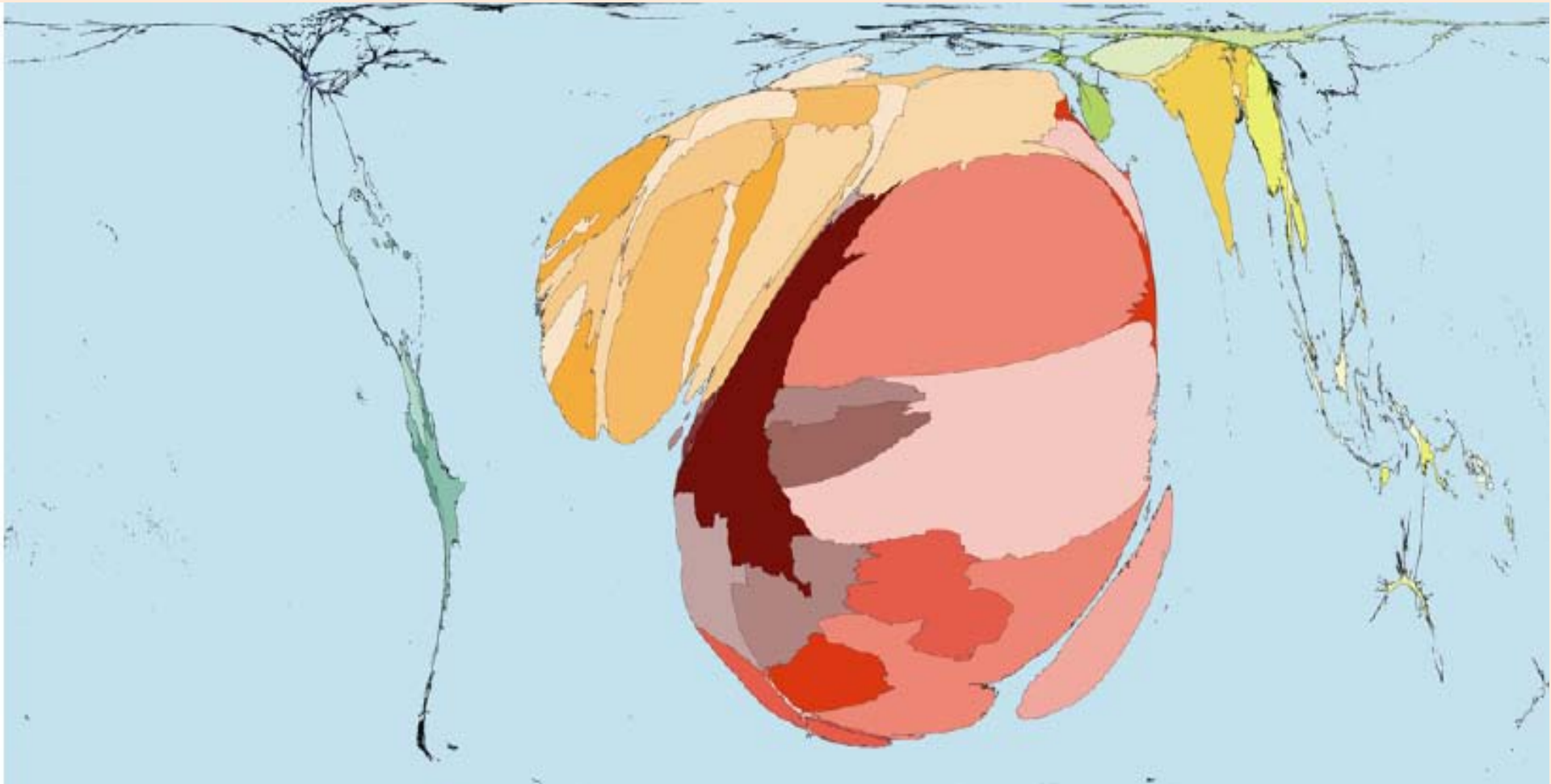
“All lives have equal value ...” Bill & Melinda Gates⁶

HIV/AIDS burden



Africa has two thirds of the world's people living with HIV/AIDS, around 240,000 child deaths per year

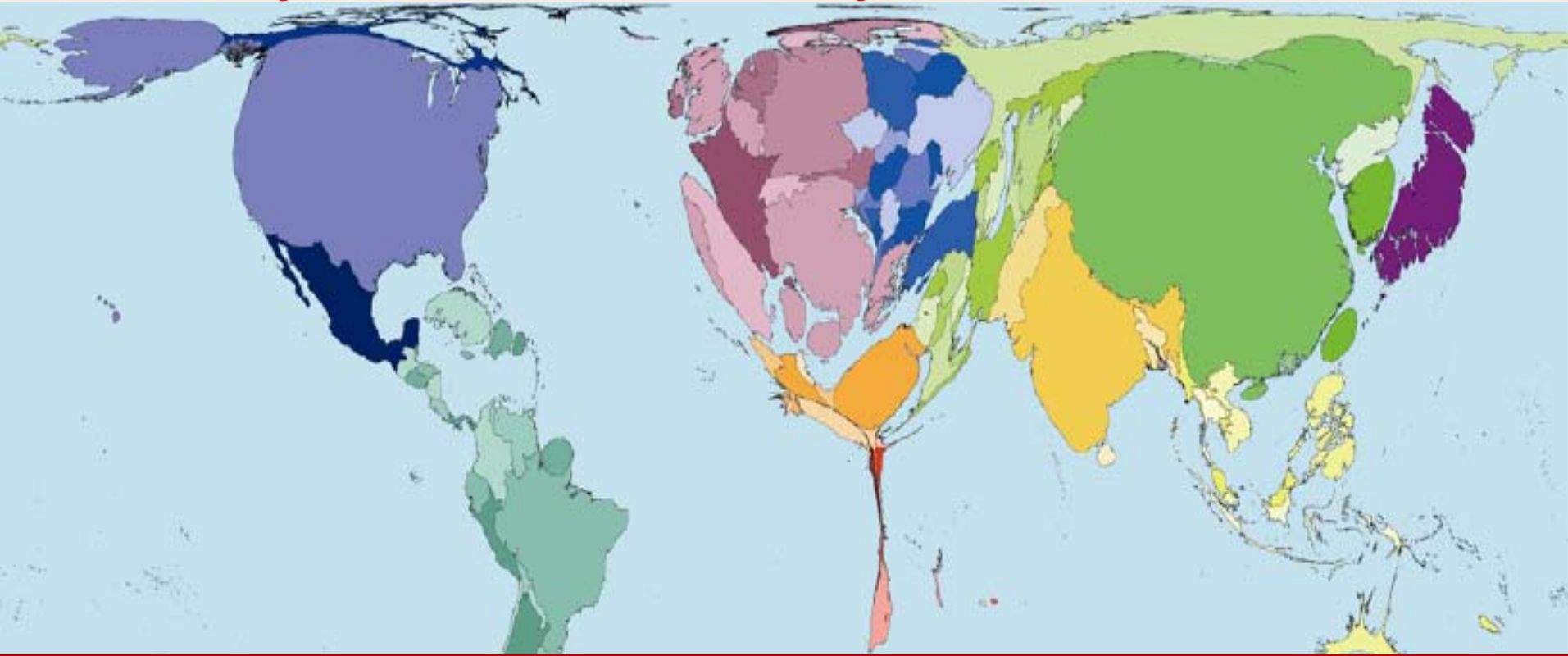
Malaria burden



**Africa has over 90% of the world's malaria deaths
Around 800,000 child deaths per year**

BUT....

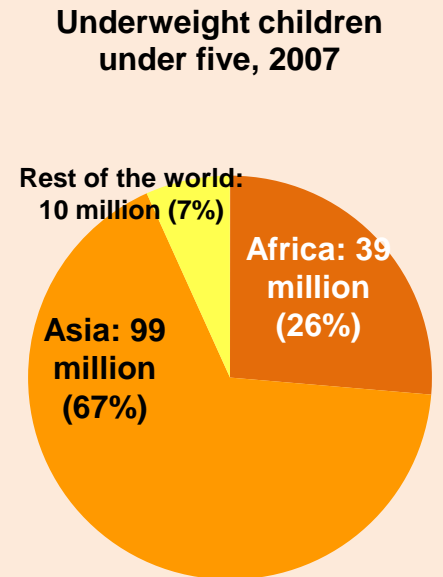
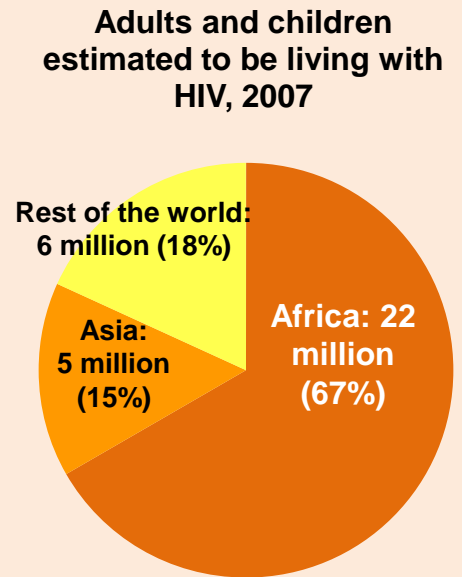
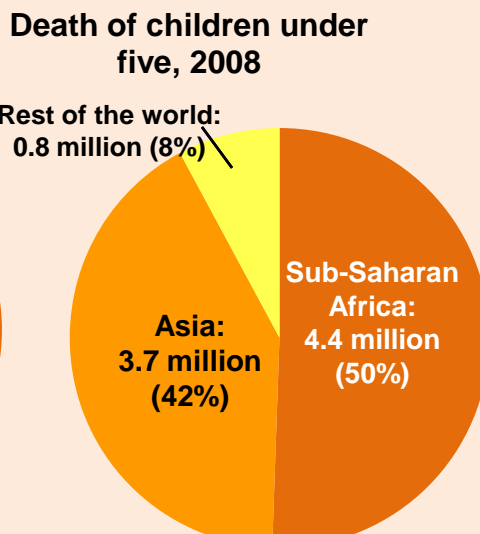
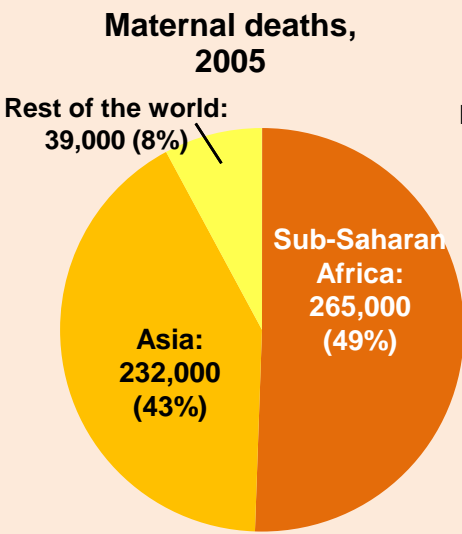
Physician density in countries



Business as usual will not work - more investment in human resources is important but takes time

Africa also needs urgent assessment of data and innovation to reach the poorest families now

Africa carries a disproportionate burden..



Africa is 11% of the world's population BUT half of the world's burden of maternal and child deaths, 67% of AIDS cases, 90% of malaria deaths and 26% of underweight children

Data message 2.

Progress for saving mothers, newborns and children (MDGs 4 and 5) in Africa is too slow.

There is increasing progress for MDG 6 (malaria, HIV and TB) and some but not enough for MDG 1 (nutrition)



Data message 3.

Sub Saharan Africa includes 46 countries which huge variation in status and progress.

Some African countries and programmes are progressing.

What can we learn?

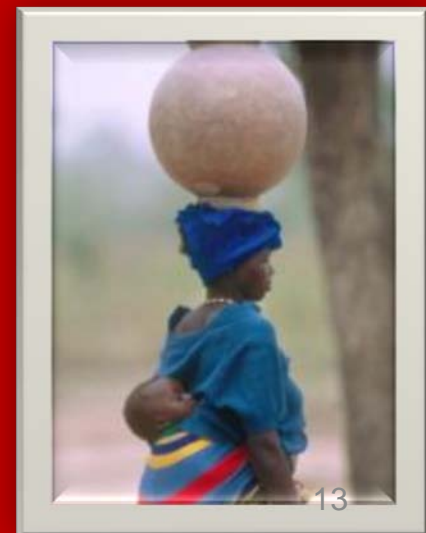




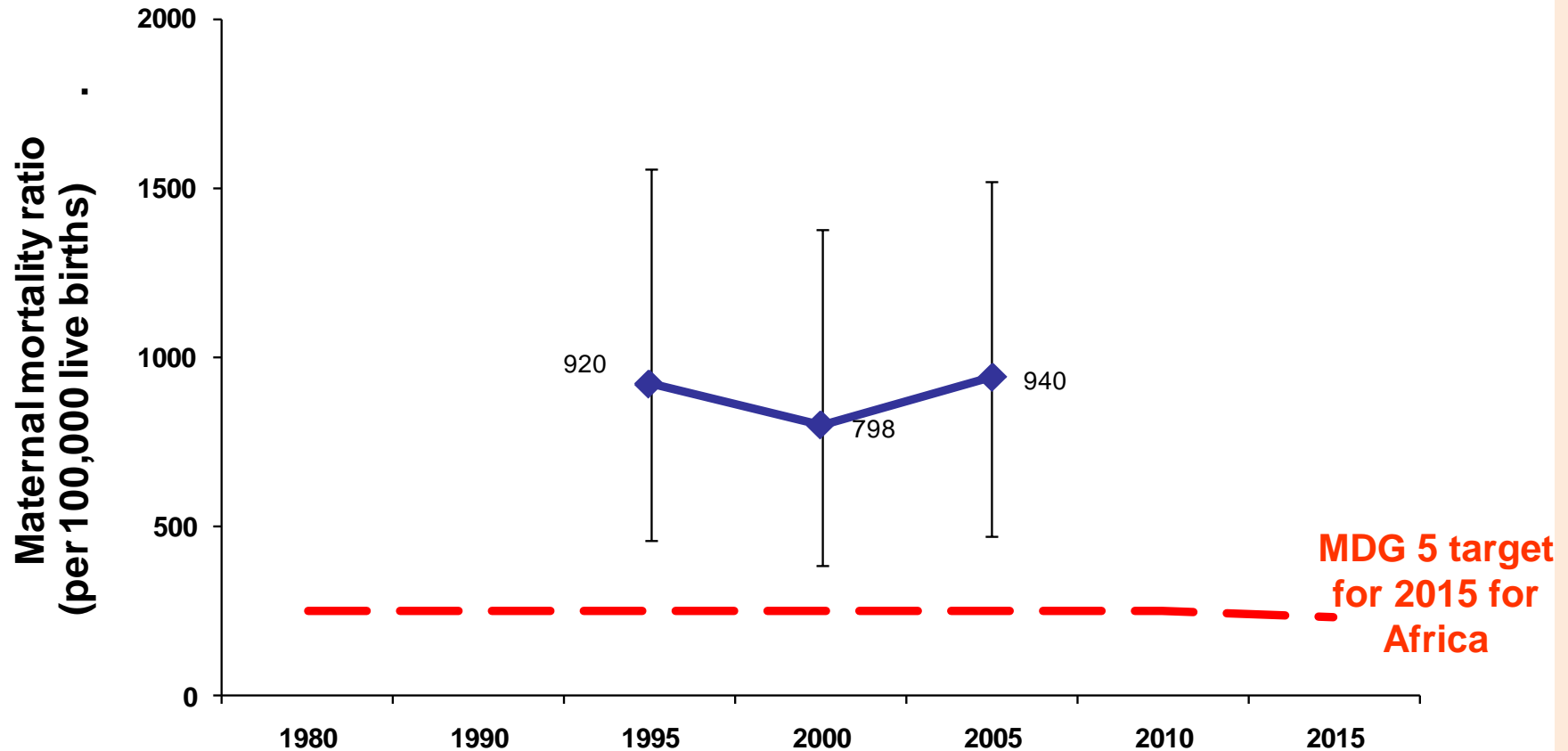
MDG 5

Africa's mothers

Every year 265,000 African mothers die of causes related to pregnancy and childbirth – progress, where, and why?

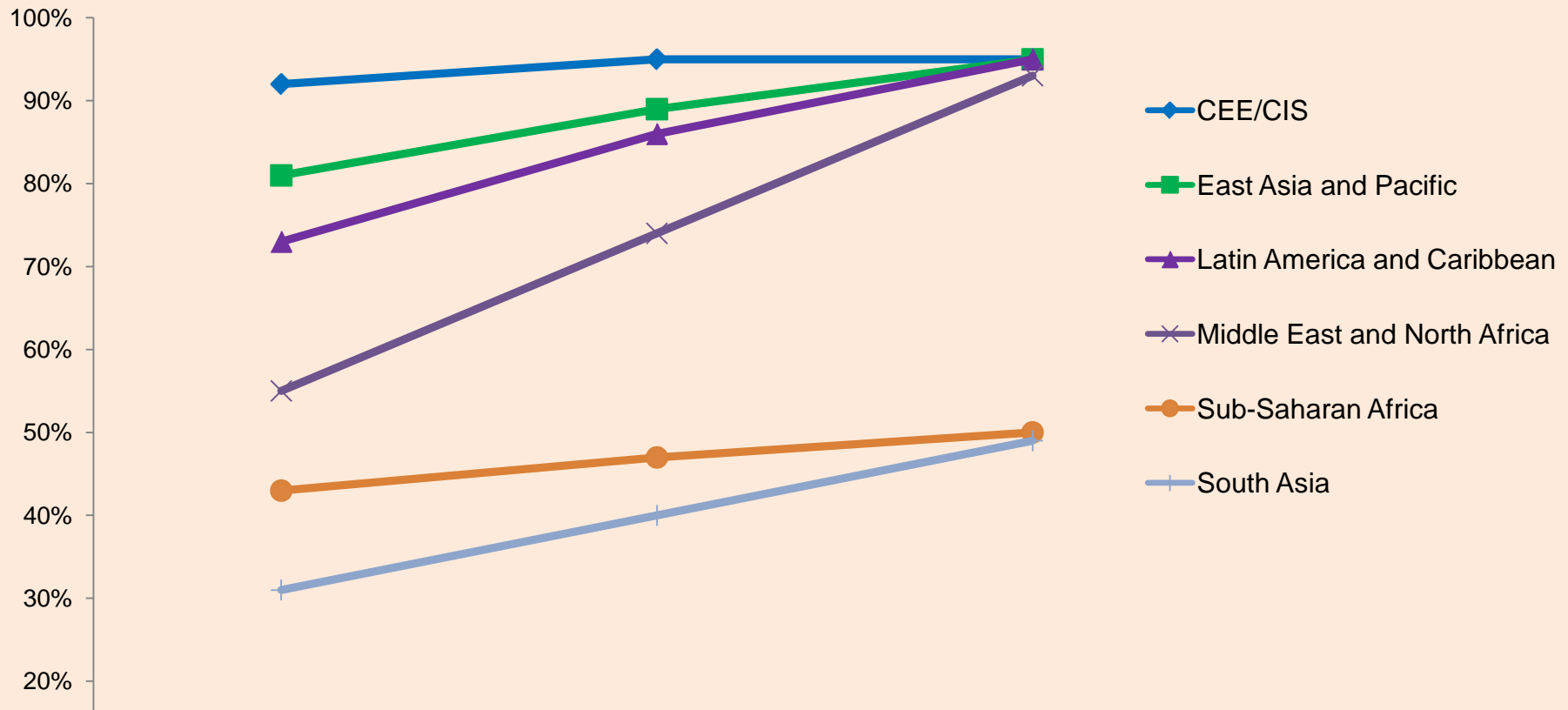


PROGRESS to MDG 5 for maternal health in Africa?



No measureable progress but very wide uncertainty

Trends in the percentage of births attended by skilled health personnel (1995 to 2015)

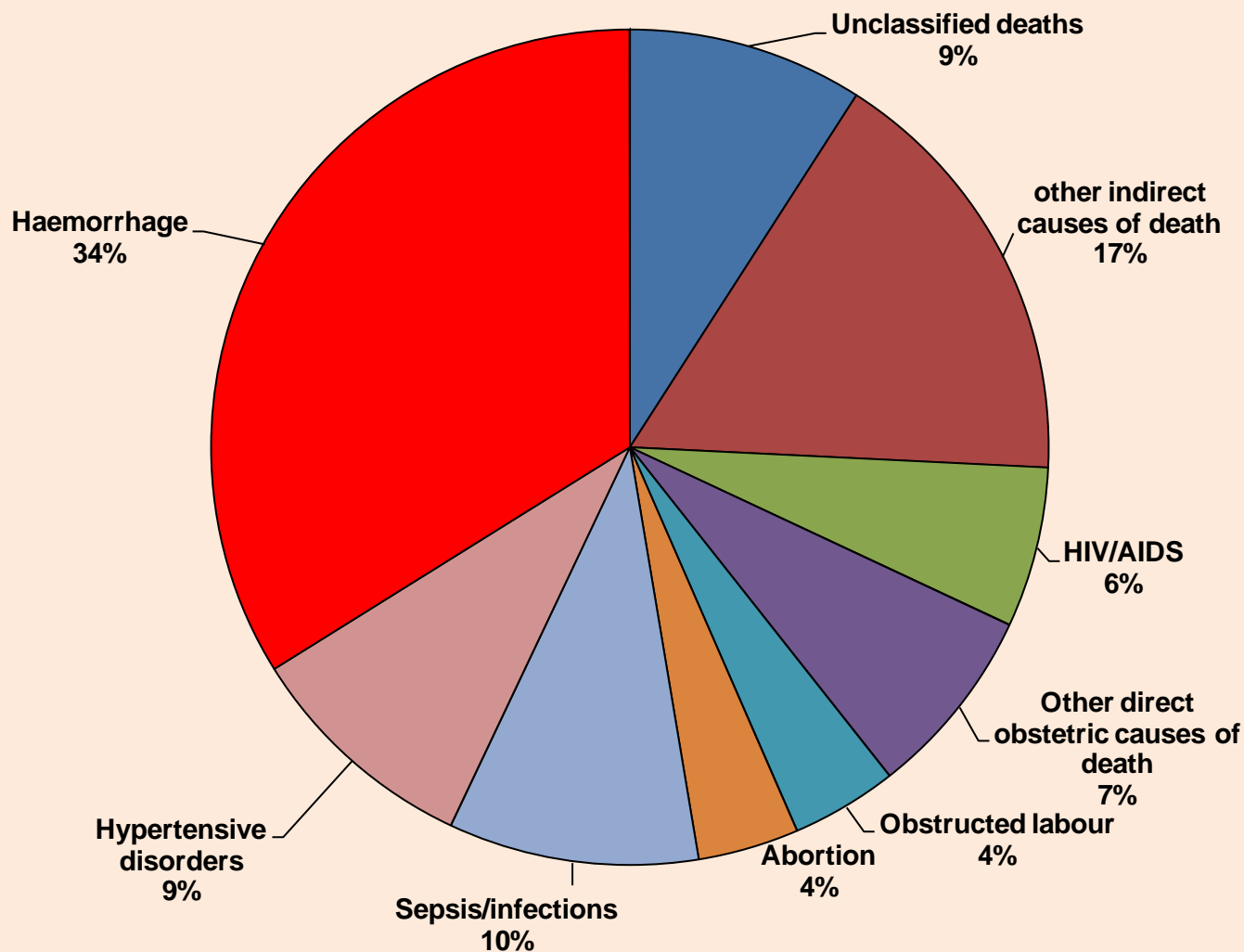


Several African countries have achieved recent increases in skilled attendance at birth

Eg Ghana – new policy of free care at birth, and also National Health Insurance scheme

WHY

do African mothers die?



WHAT are the priorities to save African mothers?

More than half of maternal deaths are direct obstetric complications

- Haemorrhage
- Hypertensive disease
- Sepsis
- Prolonged labour



These causes are highly preventable, with skilled care in labour and emergency obstetric care AND innovation eg task shifting



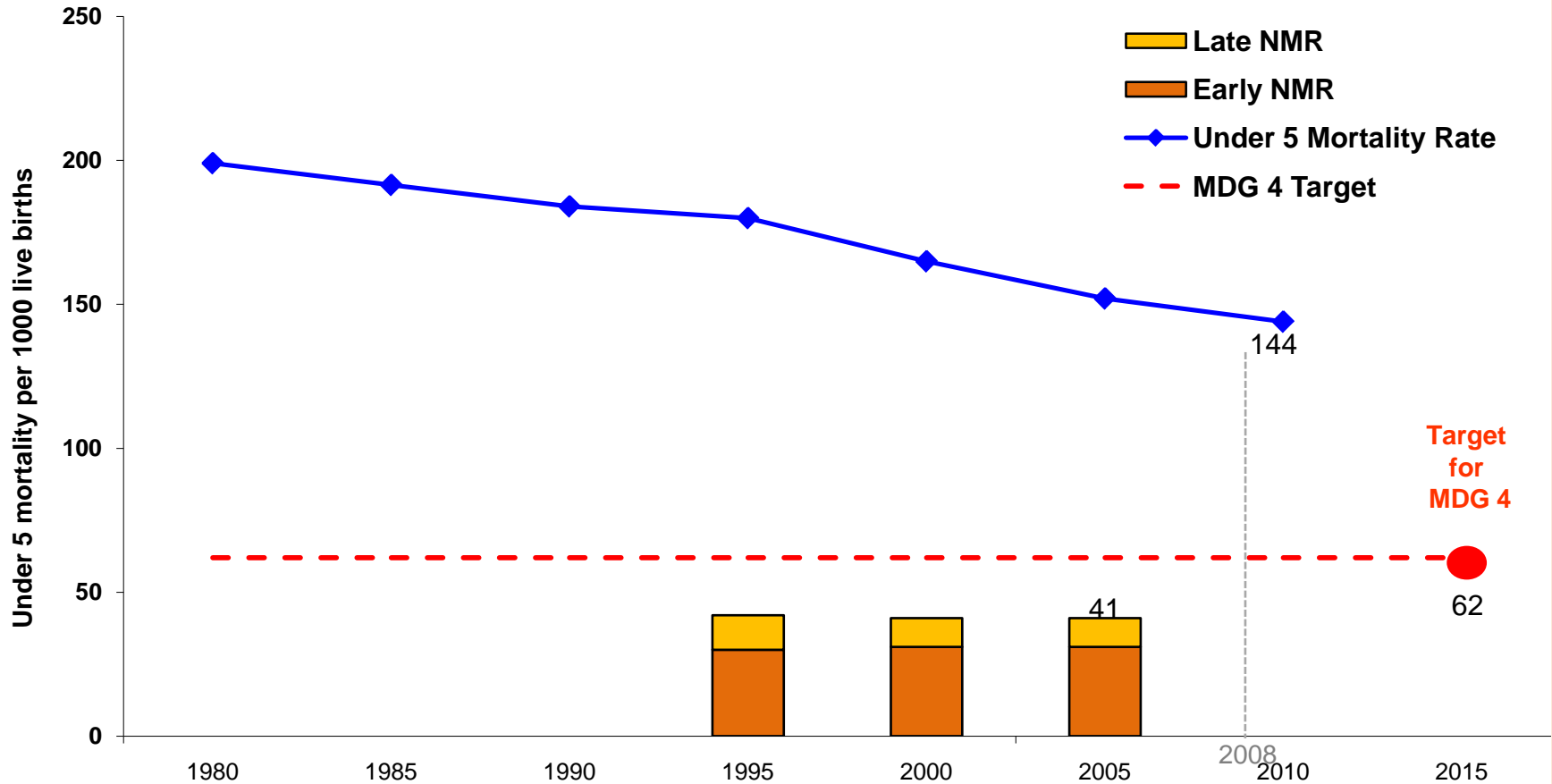
MDG 4

Africa's newborns and children

Every year 4.4 million African children die including 1.2 million newborns die – progress, where, and why?



PROGRESS towards MDG 4 for child survival in Africa?

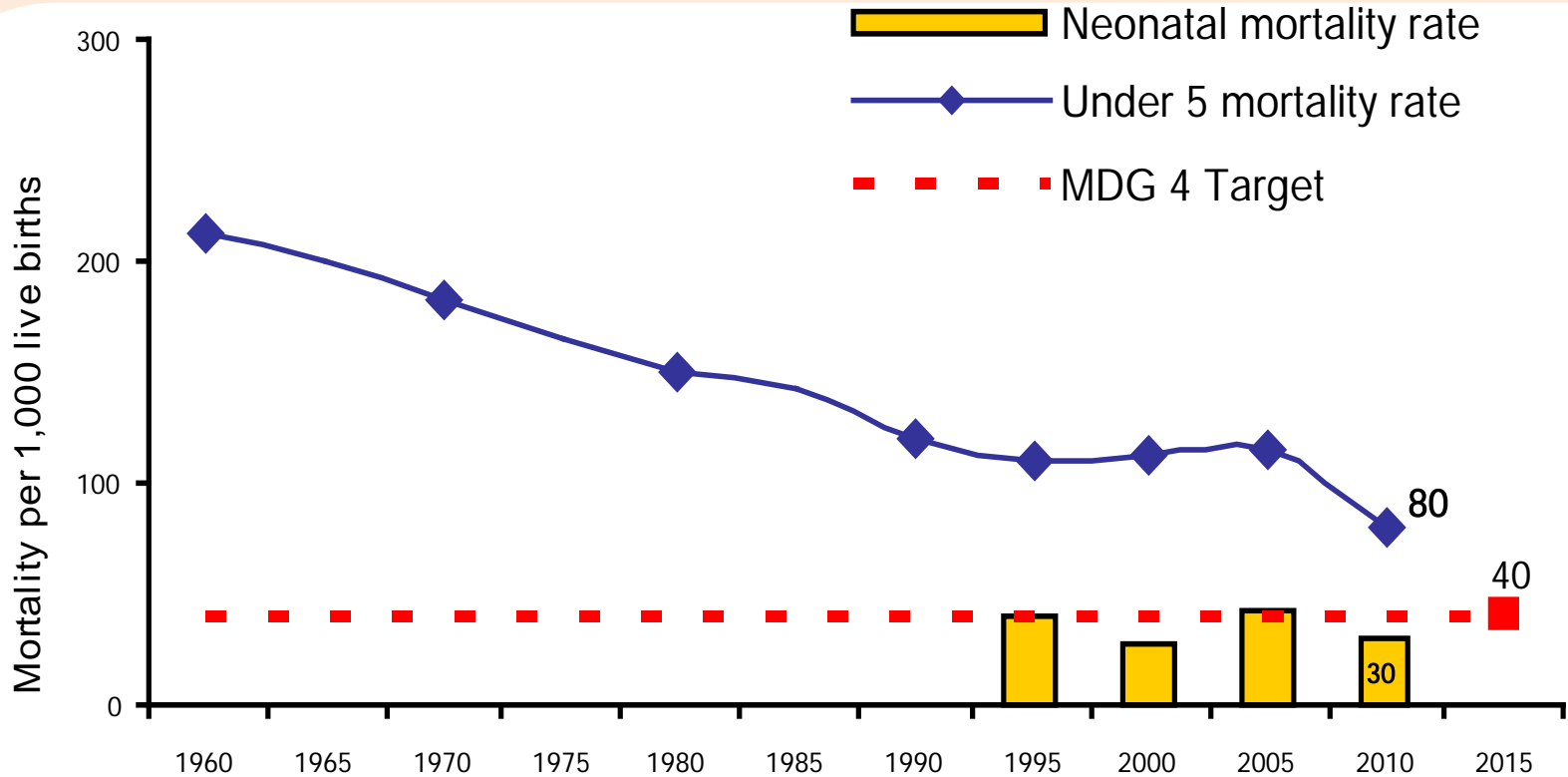


New hope for reducing under five deaths!

BUT 25% of Africa child deaths are neonatal – 1.2 million a year



Some African countries are progressing e.g. Ghana



Ghana could meet MDG 4 with sustained progress and more focus on neonatal deaths
(38% of child deaths in Ghana are neonatal)

MDG 4 will not be met without more focus on newborn deaths



- 25% of under 5 deaths in Africa are neonatal – 1.2 million a year
- Progress is slow and **no measurable progress** in reducing neonatal mortality rates especially early neonatal death rates (first week after birth)
- As under five mortality is reduced then more and more child deaths are in the neonatal period (first month) – for example in most Asian countries over half of child deaths are neonatal

Note closely linked to maternal deaths and also to 880,000 stillbirths in Africa, one third of which occur during labour

WHERE? African countries with the highest *numbers* of maternal and newborn deaths

Country	Rank for number of newborn deaths	Number of newborn deaths	Rank for number of maternal deaths
Nigeria	1	255,500	1
Congo DR	2	130,900	2
Ethiopia	3	119,500	3
Tanzania	4	44,900	8
Uganda	5	44,500	6
Kenya	6	43,600	4
Côte d'Ivoire	7	42,800	16
Angola	8	40,100	5
Mali	9	36,900	9
Niger	10	31,700	7

50%

70%

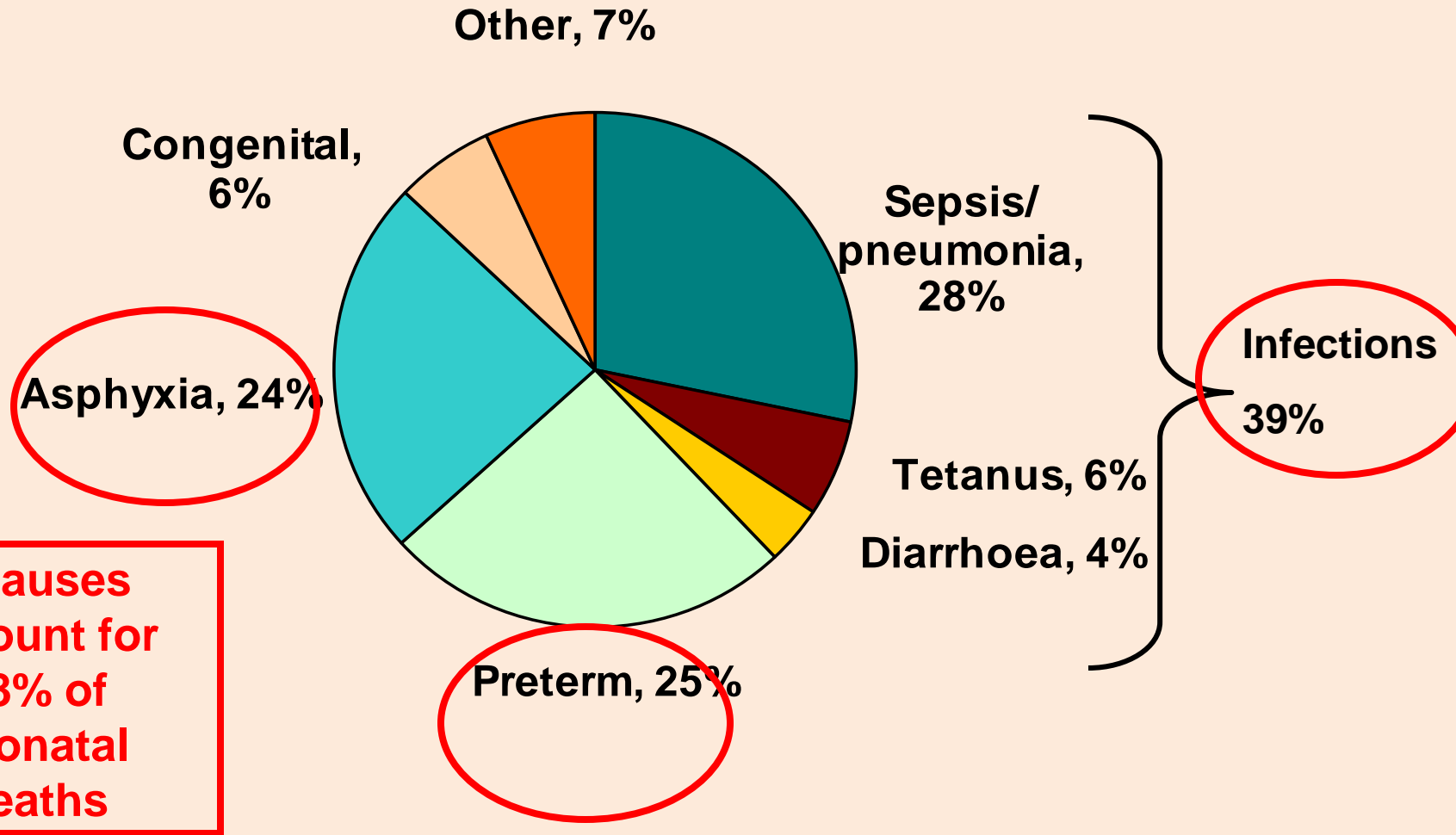
66%

WHERE? The 10 African countries where newborns have the highest *risk* of dying

Rank (out of 46 countries)	Country	Neonatal mortality rate (per 1,000 live births)
	Conflict or recent conflict	
46	Liberia	66
45	Côte d'Ivoire	65
44	Mali	57
43	Sierra Leone	56
42	Angola	54
41	Somalia	49
40	Guinea-Bissau	48
39	Central African Republic	48
38	Nigeria	48
37	Congo DR	47

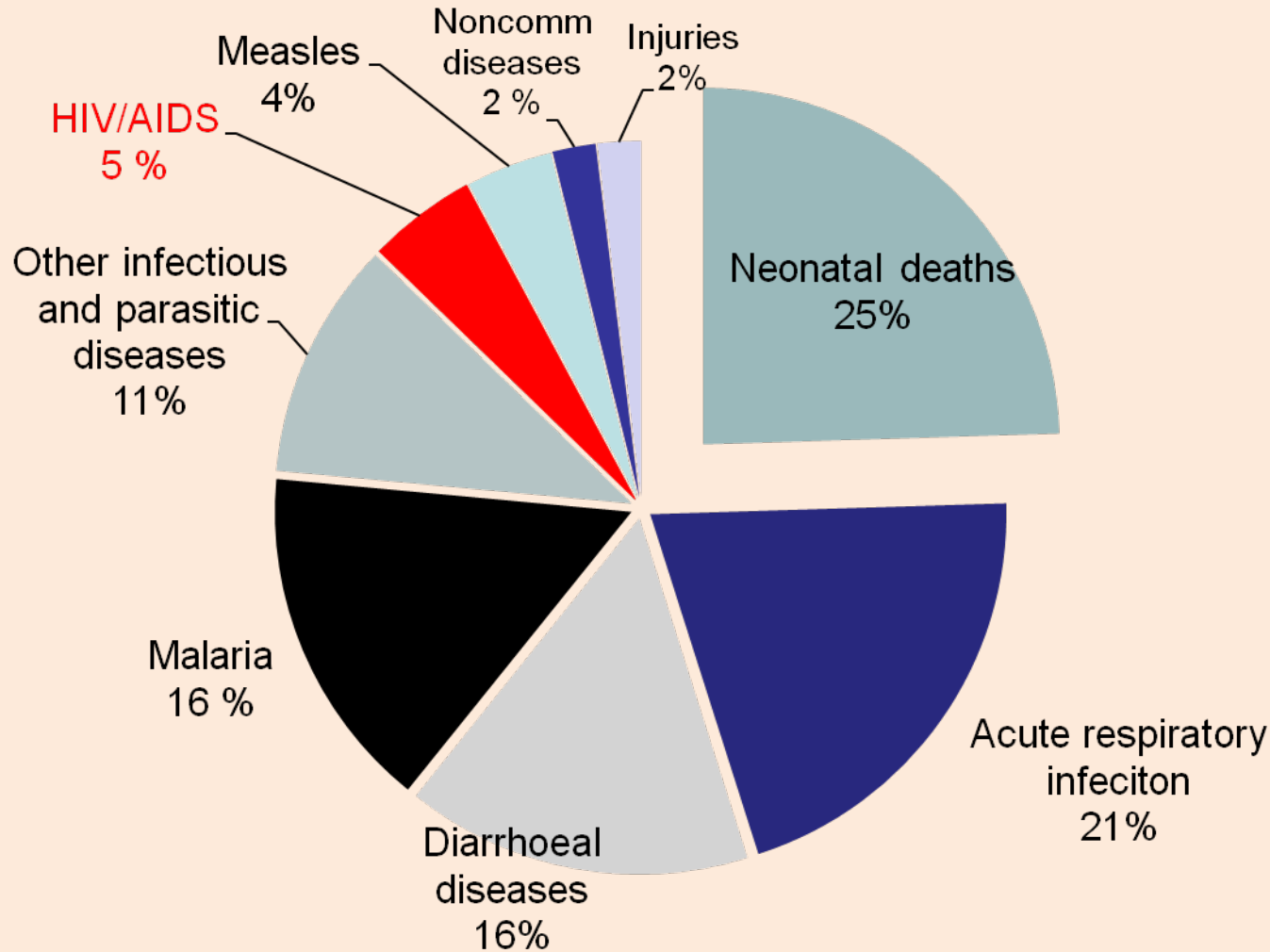
WHY

do African newborns die?



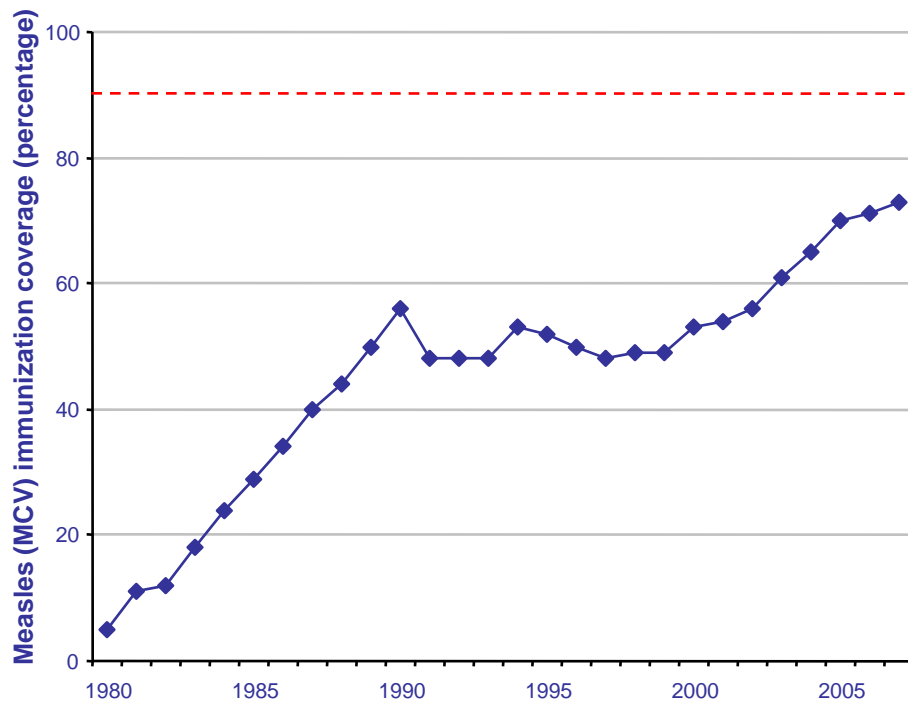
WHY

Do African children under the age of 5 years die?

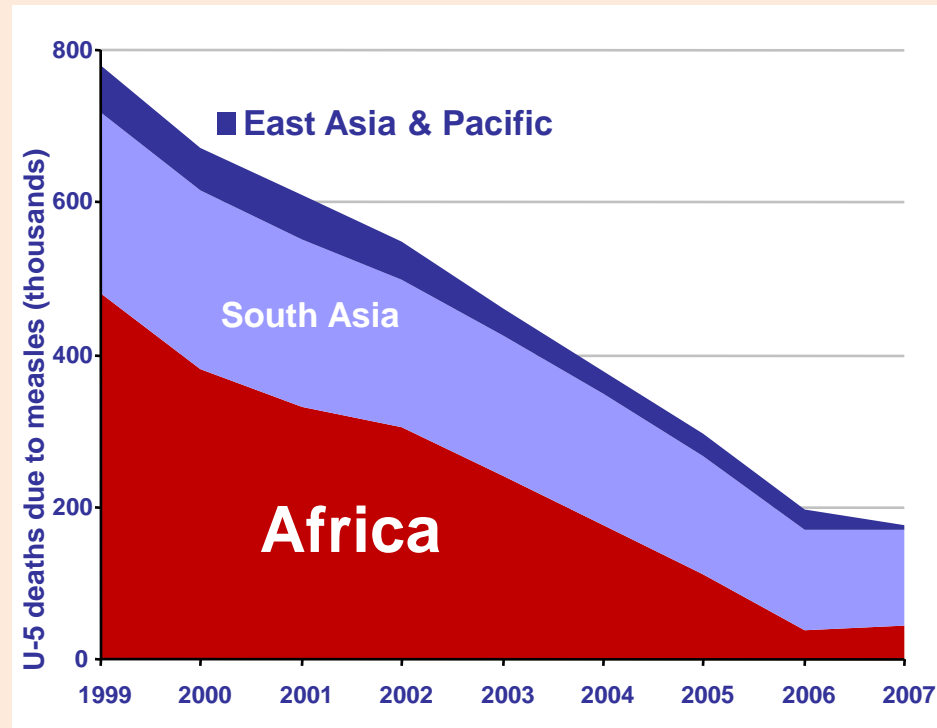


After the first month of life (neonatal) two thirds of African child deaths are due to pneumonia, diarrhoea and malaria

Immunisation investment increasing Measles deaths are reducing



Vaccine coverage has increased



Measles deaths have declined

WHAT are the priorities to save 4.4 million African newborn and children dying each year?

The major causes are:

- Neonatal period (25%)
- Pneumonia (21%)
- Diarrhoea (16%)
- Malaria (16%)
- HIV important , geographically specific



These causes are highly preventable, and/or treatable and in a number of cases the coverage of care is being rapidly scaled up... for others, especially there is little or no progress

MDG 6

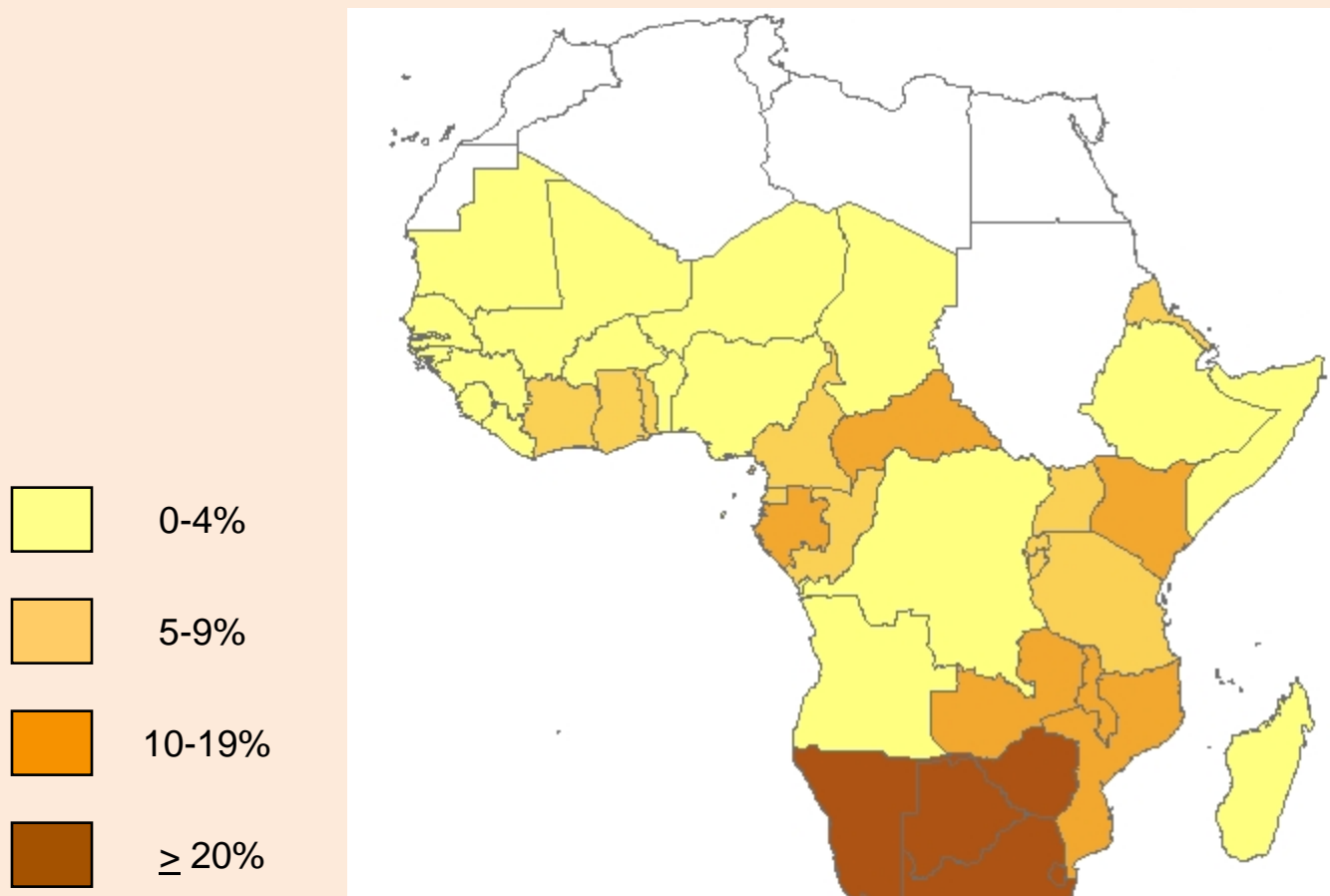
HIV / AIDS, TB and malaria

Every year 1.5 million Africans die from AIDS including 240,000 children under-5, and around 800,000 children under-5 die of malaria



MDG 6 - HIV/AIDS

Percentage of child deaths due to AIDS by country



240,000 under five deaths per year due to HIV/AIDS.

5% of all child deaths in Africa – varies from <1% to 57% of under five deaths nationally

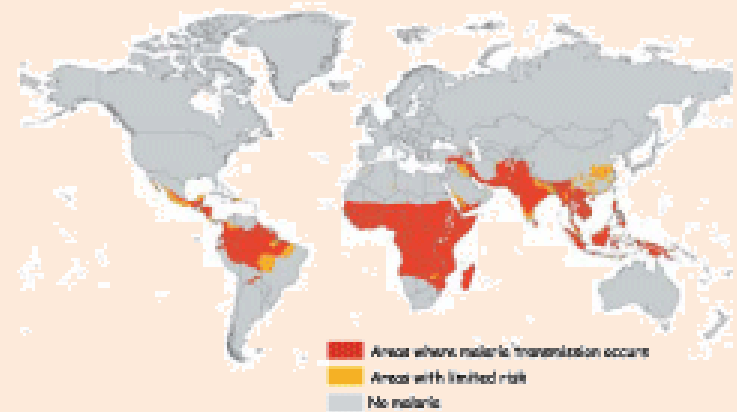
MDG 6 - Malaria

Each year, ~25 million women become pregnant, in settings with intense transmission of *Plasmodium falciparum*.

An estimated 10,000 of these women die as a result of malaria infection during pregnancy.

In addition an estimated 800,000 children under five in Africa die of malaria

Distribution of endemic malaria





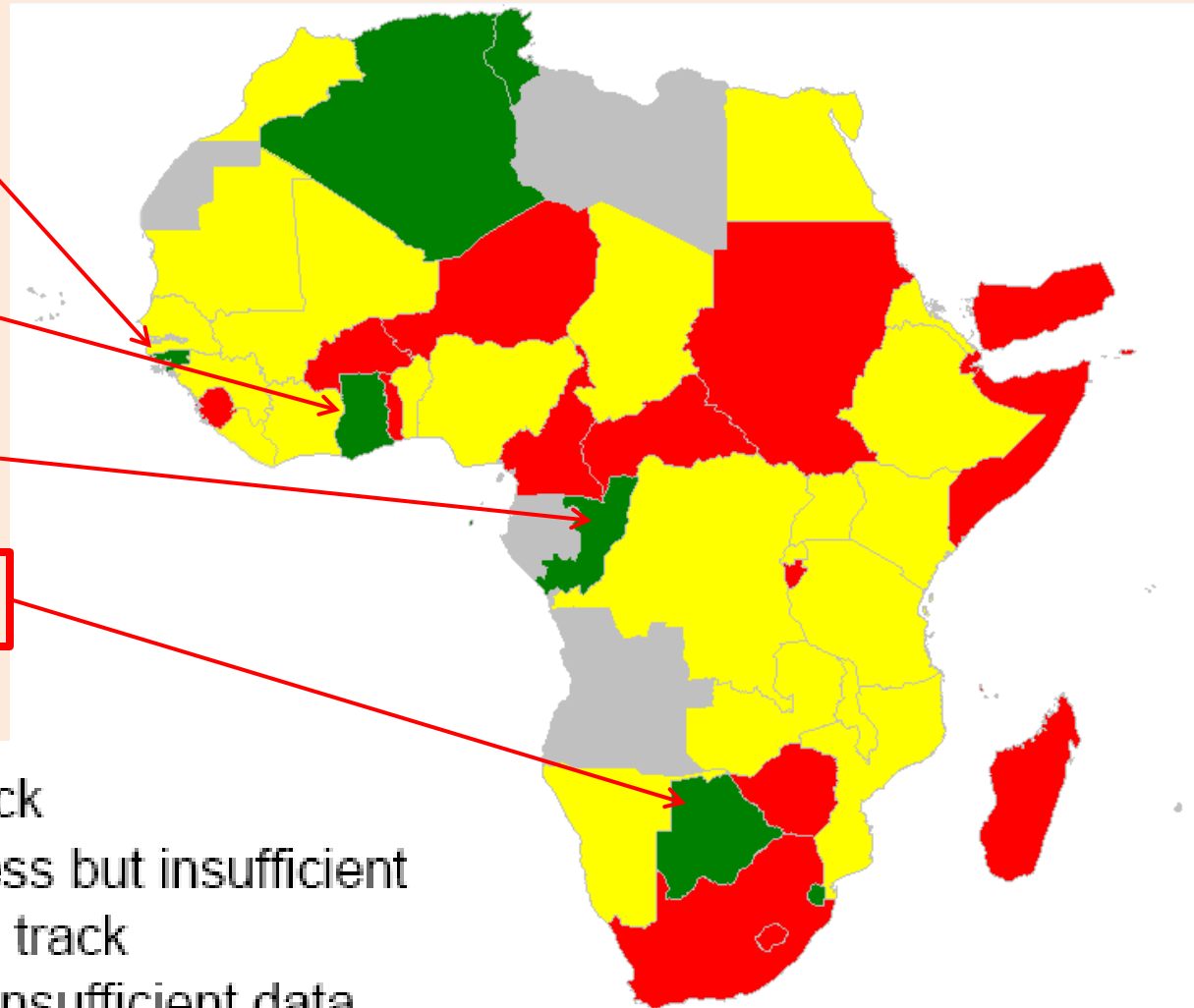
MDG 1

Undernutrition

Every year 39 million African children are underweight for age and nutritional risk factors contribute to more than one-third of child deaths



PROGRESS towards MDG 1 and reduction of underweight in African children







Senegal

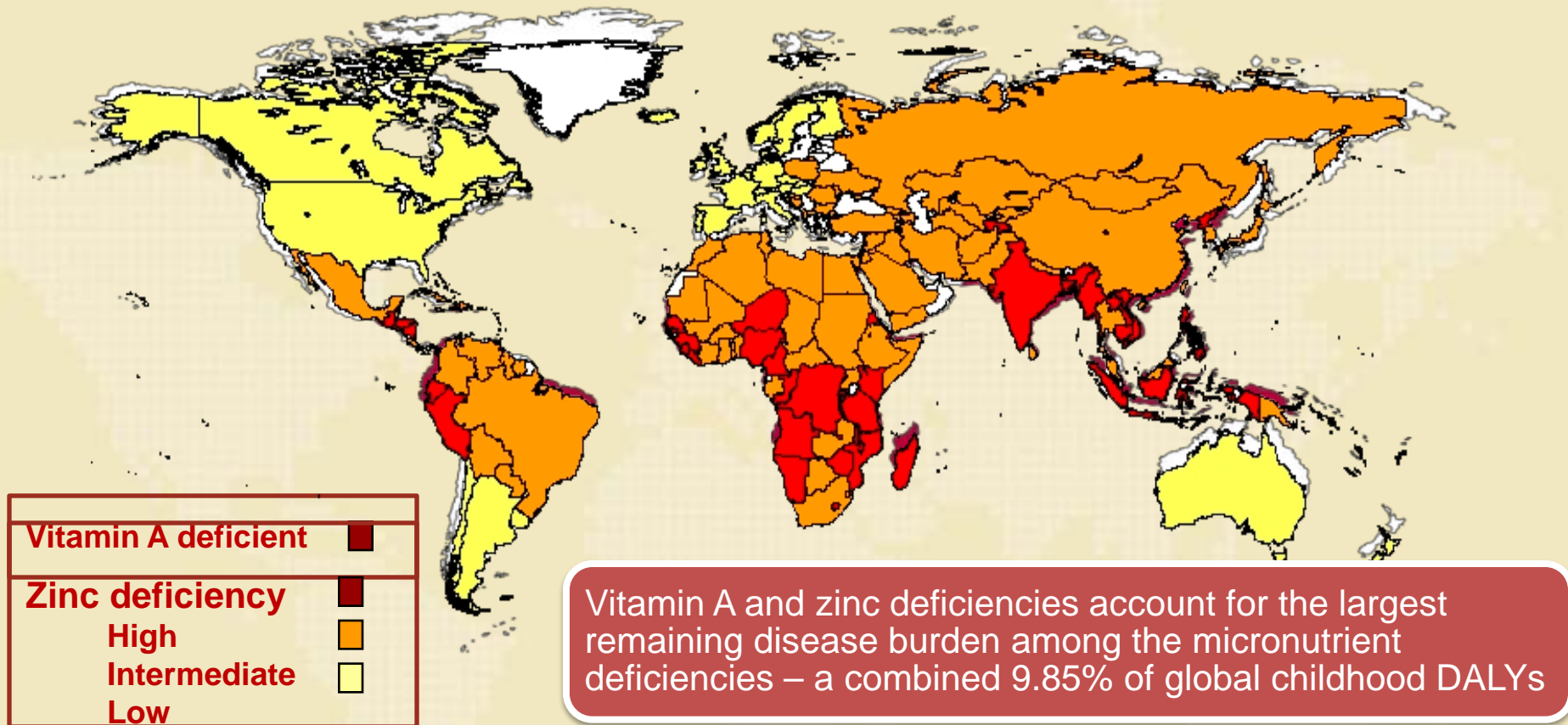
Ghana

Congo

Botswana

-  On track
-  Progress but insufficient
-  Not on track
-  No or insufficient data

Micronutrient Deficiencies



Vitamin A and zinc deficiencies account for the largest remaining disease burden among the micronutrient deficiencies – a combined 9.85% of global childhood DALYs

Iron deficiency is a risk factor for maternal mortality, contributing to 115,000 deaths per year, 20% of maternal mortality



WHAT are the BIG FIVE health challenge for mothers, newborns, and children in Africa?

- 1. Pregnancy and childbirth complications**
- 2. Newborn illness** - one in four child deaths in Africa are newborns.
- 3. Childhood infections including malaria**
- 4. HIV/AIDS**
- 5. Malnutrition**

4.7 million African mothers, newborns and children die each year – 13,000 each day, 9 every minute



Data message 4.

Policymakers and scientists need local data to set priorities for action and to track progress



COUNTDOWN to 2015

68 priority countries

97% of maternal and child deaths

- 42 of 68 countries are in Sub Saharan Africa
- Only 18 countries on track to meet MDG4, two of which are in Sub Saharan Africa
- Of the 10 countries with the least reduction in under five mortality since 1990, all are in Africa and most have conflict or very high HIV (eg South Africa)
- 56 of 68 Countdown countries (82%) have high or very high maternal mortality

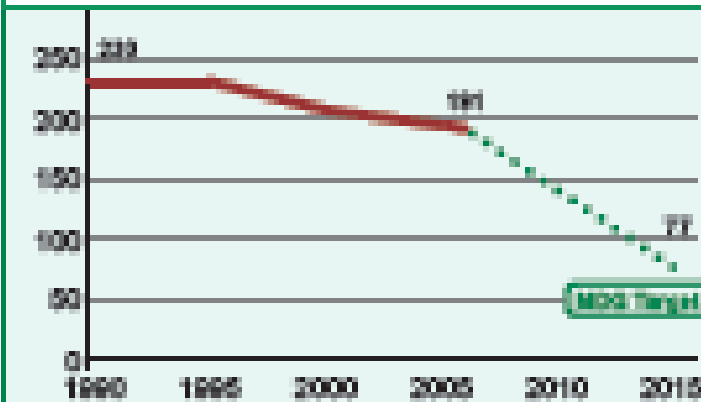


The power of national data

Countdown to 2015
Maternal, Newborn & Child Survival
Nigeria

Under-five mortality rate

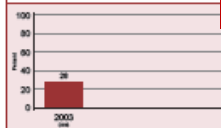
Deaths per 1000 live births



Source: UNICEF, 2008



Diarrhoeal disease treatment
Percent of children < 5 years with diarrhoea receiving oral rehydration therapy or zinc/sulphate, with continued feeding



MDG 4 PROGRESS

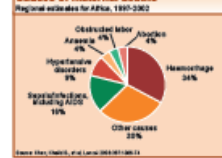
CHILD HEALTH



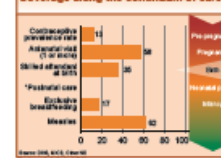
MATERNAL AND NEWBORN HEALTH

Unmet need for family planning (%)	17 (200)
Antenatal visits for women (4 or more visits, %)	47 (200)
Informed preventive treatment for malaria (4)	1 (200)
C-section rate (rate, urban, rural, %)	2, 4, 1 (200)
Delivery attended by skilled health staff (100)	32 (200)
Early initiation of breastfeeding within 1 hr of birth, %	—
Postnatal visit for baby (within 2 days for home visits, %)	—

Causes of maternal deaths



Coverage along the continuum of care

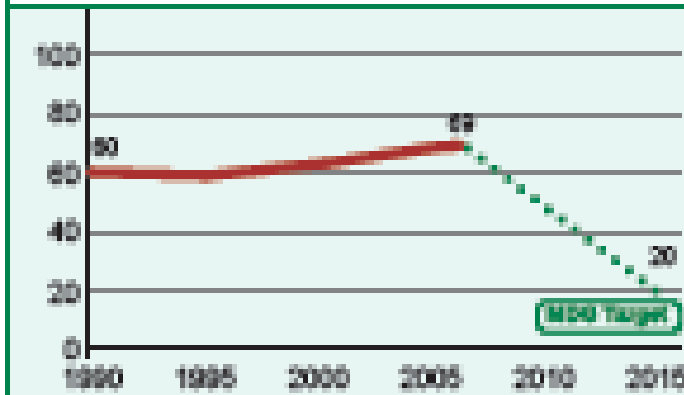


South Africa

MATERNAL AND NEWBORN HEALTH

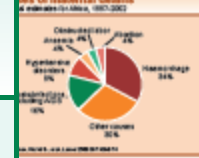
Under-five mortality rate

Deaths per 1000 live births

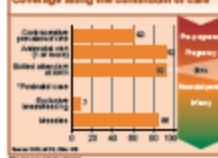


Source: UNICEF, 2008

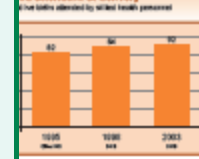
Causes of maternal deaths



Coverage along the continuum of care



Skilled attendant at delivery

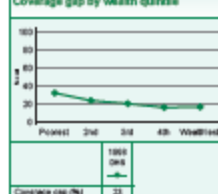


Neonatal tetanus protection



EQUITY

Coverage gap by wealth quintile



POLICIES

SYSTEMS

Local health data is powerful and often under used for change...

National MNCH data profiles from Countdown to 2015

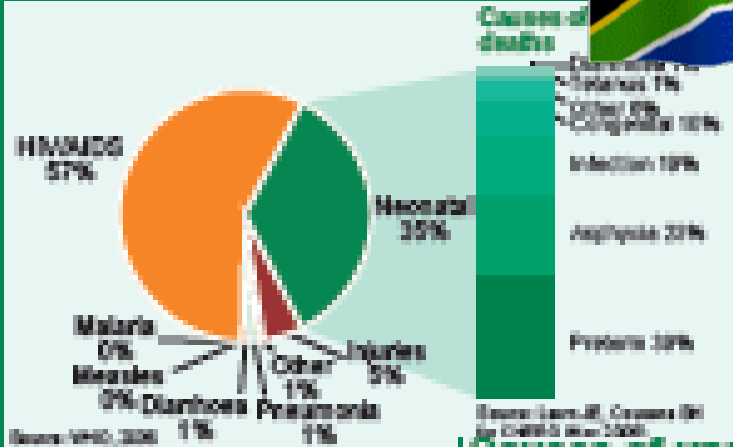
(special thanks to UNICEF)

Causes of under-five deaths

Globally more than one-third of child deaths are still undernutrition

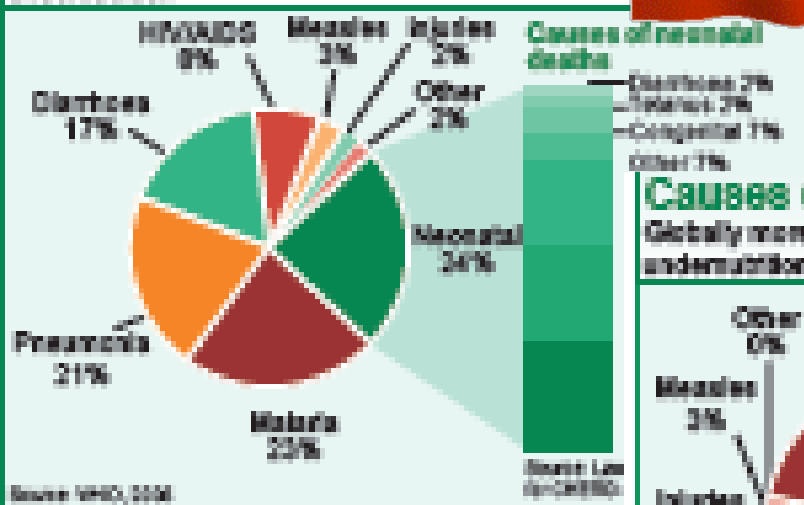


Major variation across countries for causes of child death



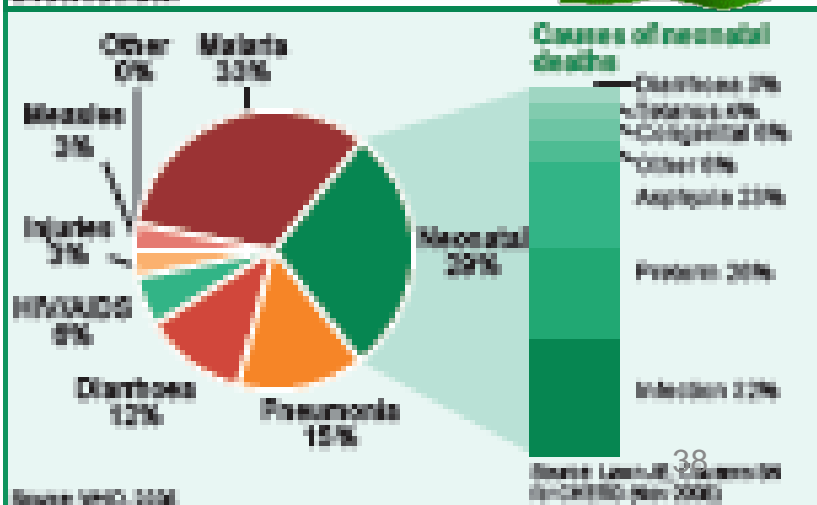
Causes of under-five deaths

Globally more than one-third of child deaths are still undernutrition



Causes of under-five deaths

Globally more than one-third of child deaths are still undernutrition



Also variation within countries

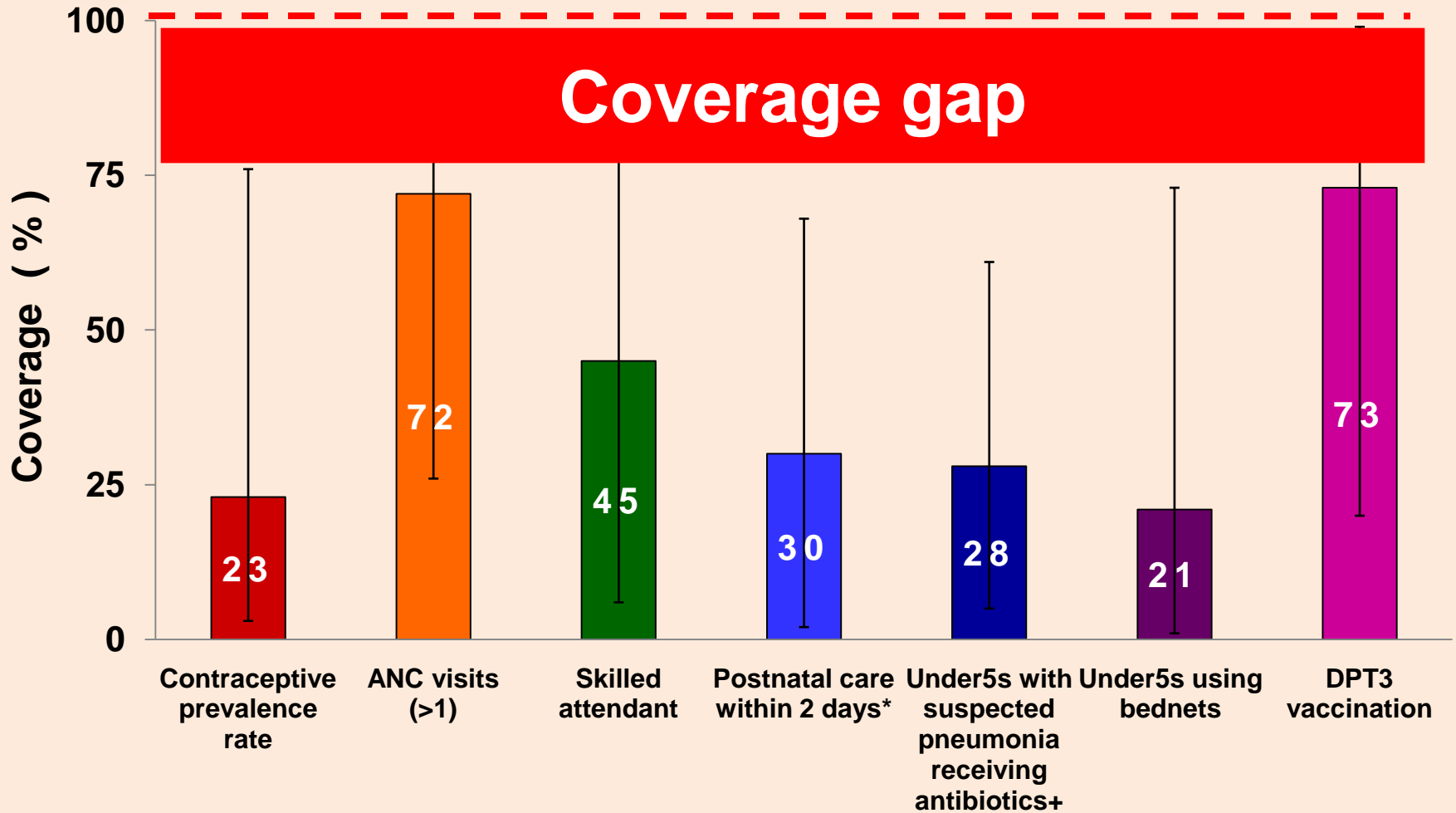
Neonatal deaths and equity in Nigeria

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

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



The continuum of care – COVERAGE GAPS



Ref: Science in Action – Saving the lives of Africa’s mothers, newborns and children. ASADI 2009. Eds Kinney MV, Lawn JE, Kerber KJ

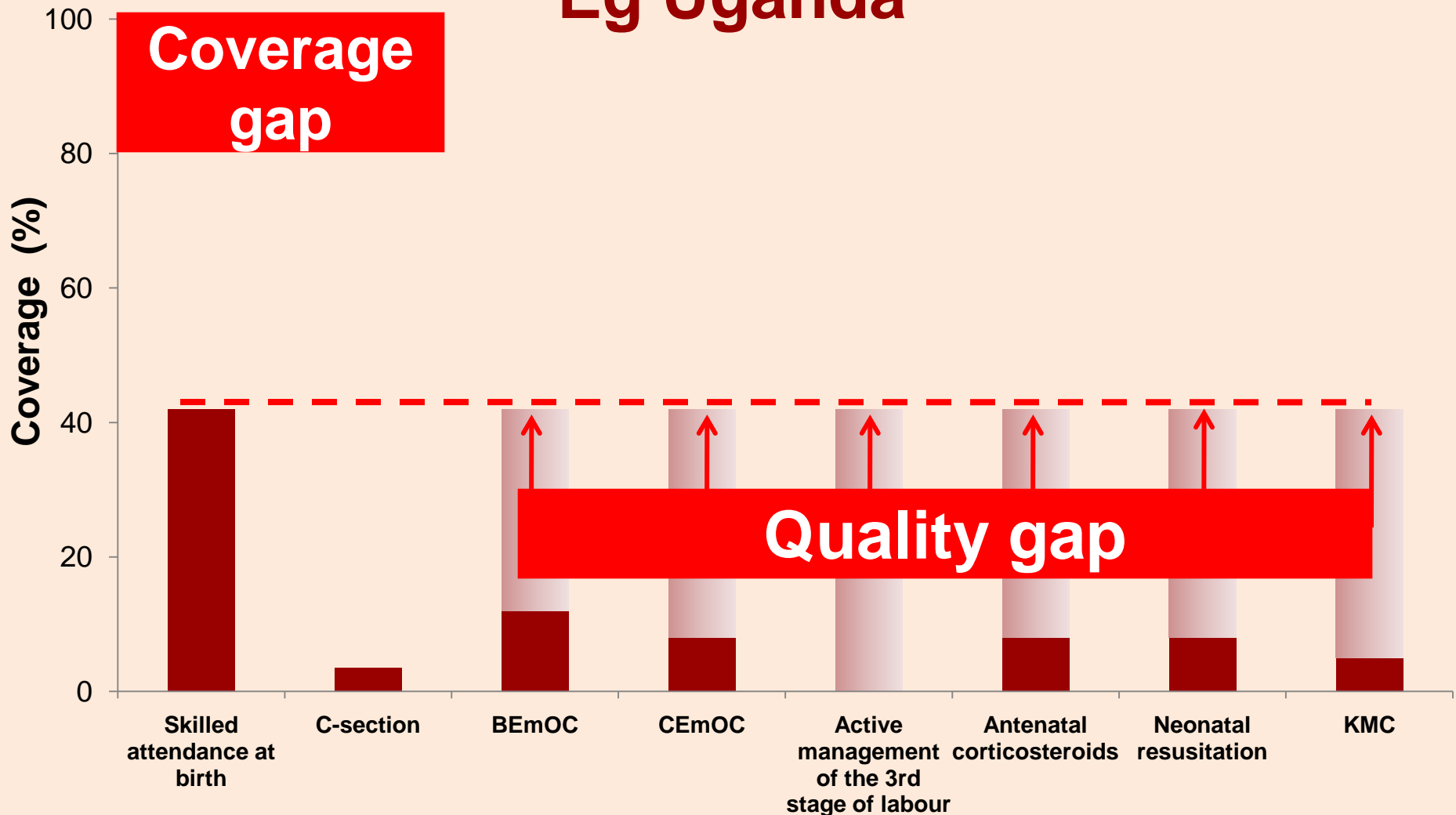
Data sources: Current coverage data based on UNICEF data bases and other sources

The bars signify the range between countries with the lowest and highest coverage

Births already happening in facilities

QUALITY GAPS = MISSED OPPORTUNITIES

Eg Uganda





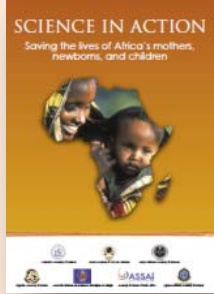
Data based messages for saving lives in Africa

- 1. Situation - Africa's burden is too high.** Each year in Africa 4.7 million babies, children and mothers die – 9 per minute.
- 2. Progress is being made**
MDG 6 has more progress.
Meeting MDG 4 and 5, as well as MDG1 in Africa depends on strategic investment and implementation now.
- 3. African countries are making progress** – good news out of Africa.
- 4. Investment in Africa is increasing** and requires use of local data to prioritize and track high impact interventions.





What can African Scientists do to promote data use for action?



Assess the situation, know your data and use it for action for MNCH in your country

- Provide data support for national planning and public health policy
- Use Science in Action, Countdown profiles and local data (eg DHS)
- Audit deaths in facilities and improve quality of care

Act to improve the data

Applied or implementation research (“how to”)

We are the first generation with the tools, funding and opportunity to transform maternal, neonatal and child survival in Africa – will deliver for the next generation?



**Thank
you !**



Ye dewaese!

Zikomo kwambili! Asante sana! Enkosi

kakhulu! Siyabonga! Webale nyo! Imena!

Amesege'nallo! Baie Dankie! Merci beaucoup!

Obrigado!

