

Child mortality and Infant Feeding: Positioning Breastfeeding Promotion as a key Child Survival Strategy

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Outline of presentation

- Child survival on a global level
- Findings of 2013 Lancet Nutrition Series update
 - general
 - specific focus on infant feeding/EBF
- Child survival in South Africa
- Positioning EBF as a child survival intervention:
 - programmatic implications

MDGs

Goals and targets	Indicators
Goal 4: Reduce child mortality	
Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	Under-five mortality rate Infant mortality rate Proportion of one-year-old children immunised against measles
Goal 5: Improve maternal health	
Target 6: Reduce by three-quarters, between 1990 and 2015, the maternal mortality rate	Maternal mortality ratio Proportion of births attended by skilled health personnel
Goal 6: Combat HIV and AIDS, malaria and other diseases	
Target 7: Have halted by 2015, and begin to reverse the spread of HIV and AIDS	HIV prevalence among 15- to 24-year-old pregnant women Contraceptive prevalence rate Number of children orphaned by HIV and AIDS

MDG 4: How are we doing?

GOOD NEWS

- The number of under-five deaths worldwide has declined from nearly 12 million in 1990 to 6.9 million in 2011
- The rate of decline has accelerated – from 1.8% per year during the 1990s to 3.2% per year between 2000 and 2010.
- This translates into 4 000 fewer children dying every day in 2011 than in 1990.

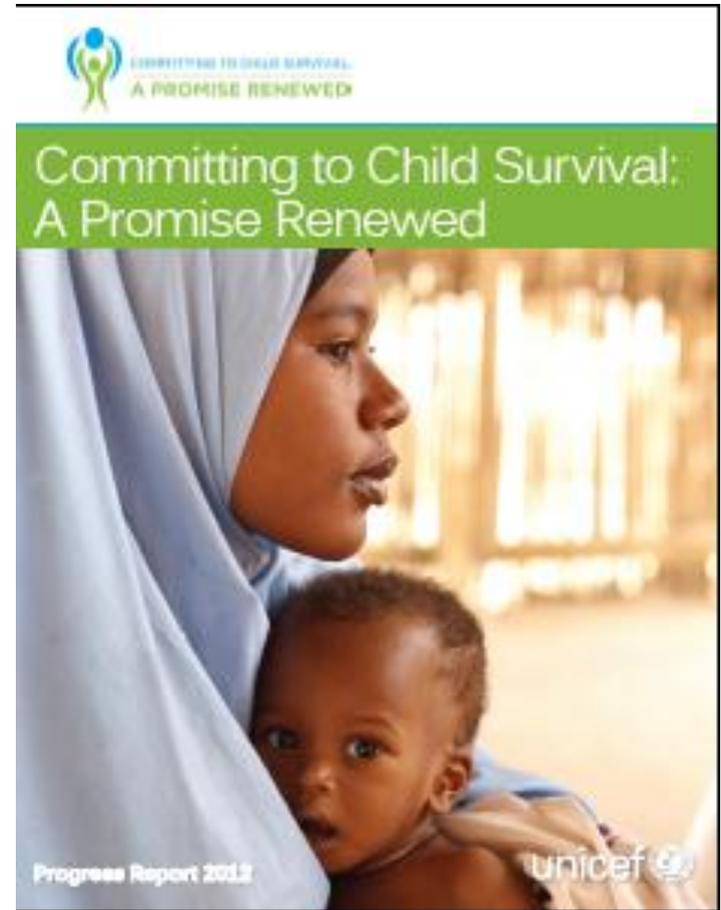
BAD NEWS

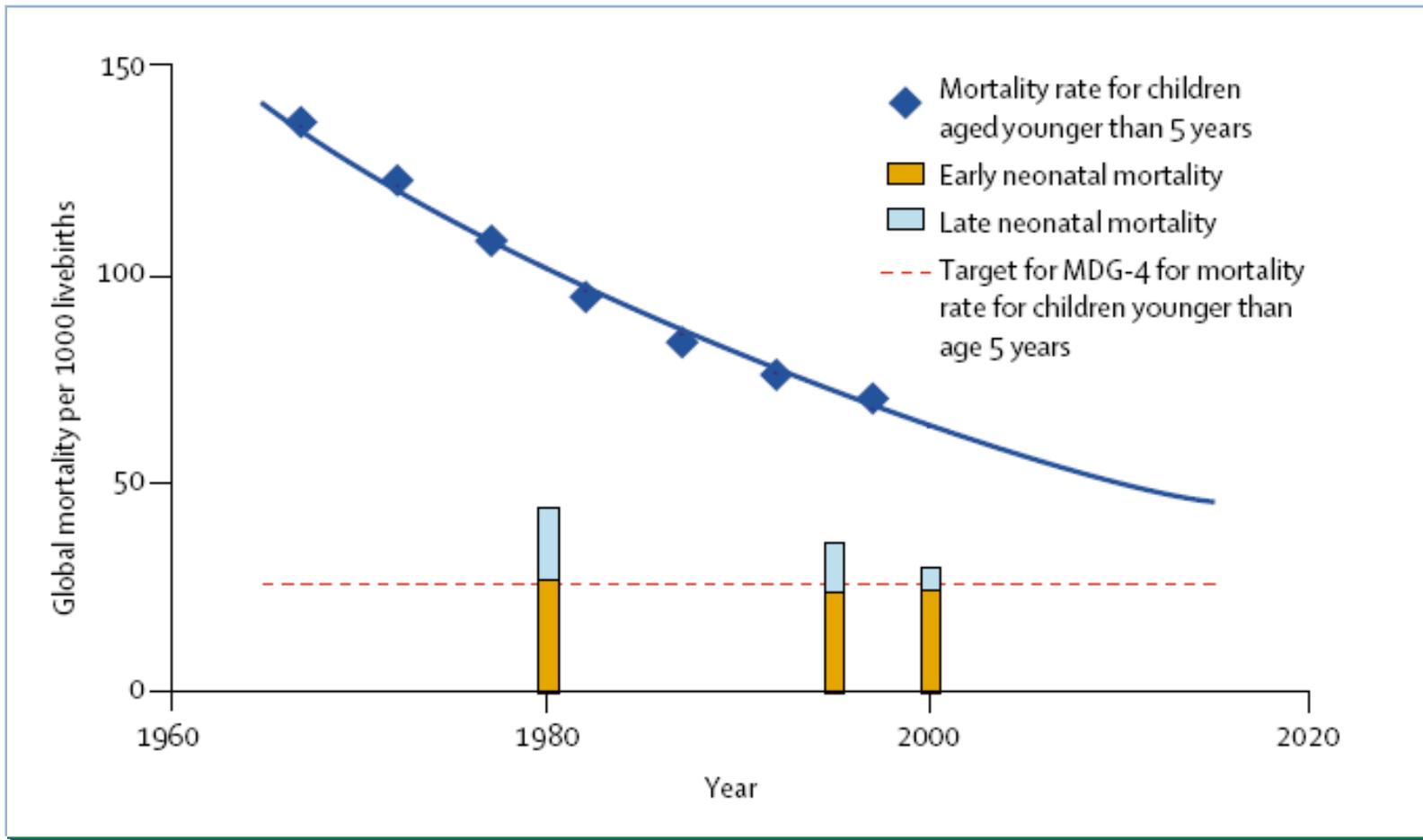
- 19 000 children under five years of age still died every day in 2011
- MDG 4 target of reducing child deaths by two-thirds by 2015 will not be achieved.
- 70% of the world's under-five deaths in 2009 occurred in only 15 countries and about half of the deaths occurred in just five countries (India, Nigeria, DRC, Pakistan and China).
- Relative disparity between rich and poor have increased over the last two decades

Child deaths (and undernutrition) are increasingly becoming concentrated in the poorest and most deprived communities.

Committing to Child Survival: a Promise Renewed

- Aims to ensure that under-five mortality rates are below 20 per 1 000 live births in all countries by 2035,
- Targets commonest cause of death
 - Newborn conditions
 - Pneumonia
 - Diarrhoea
 - Malnutrition
- Focuses on scaling up essential interventions through:
 - strengthening of evidence-informed country plans,
 - transparency and mutual accountability
 - global communication and social mobilisation.





Lancet Series on Child Survival and Maternal and Child Undernutrition

- Child Survival Series: 2005
- Child Development: 2007
- Maternal and child undernutrition: 2008
 - stunting, wasting and deficiencies of essential vitamins
 - prevalence, short-and long-term consequences
 - potential for reduction



Key findings (1)

35% of child deaths associated with undernutrition

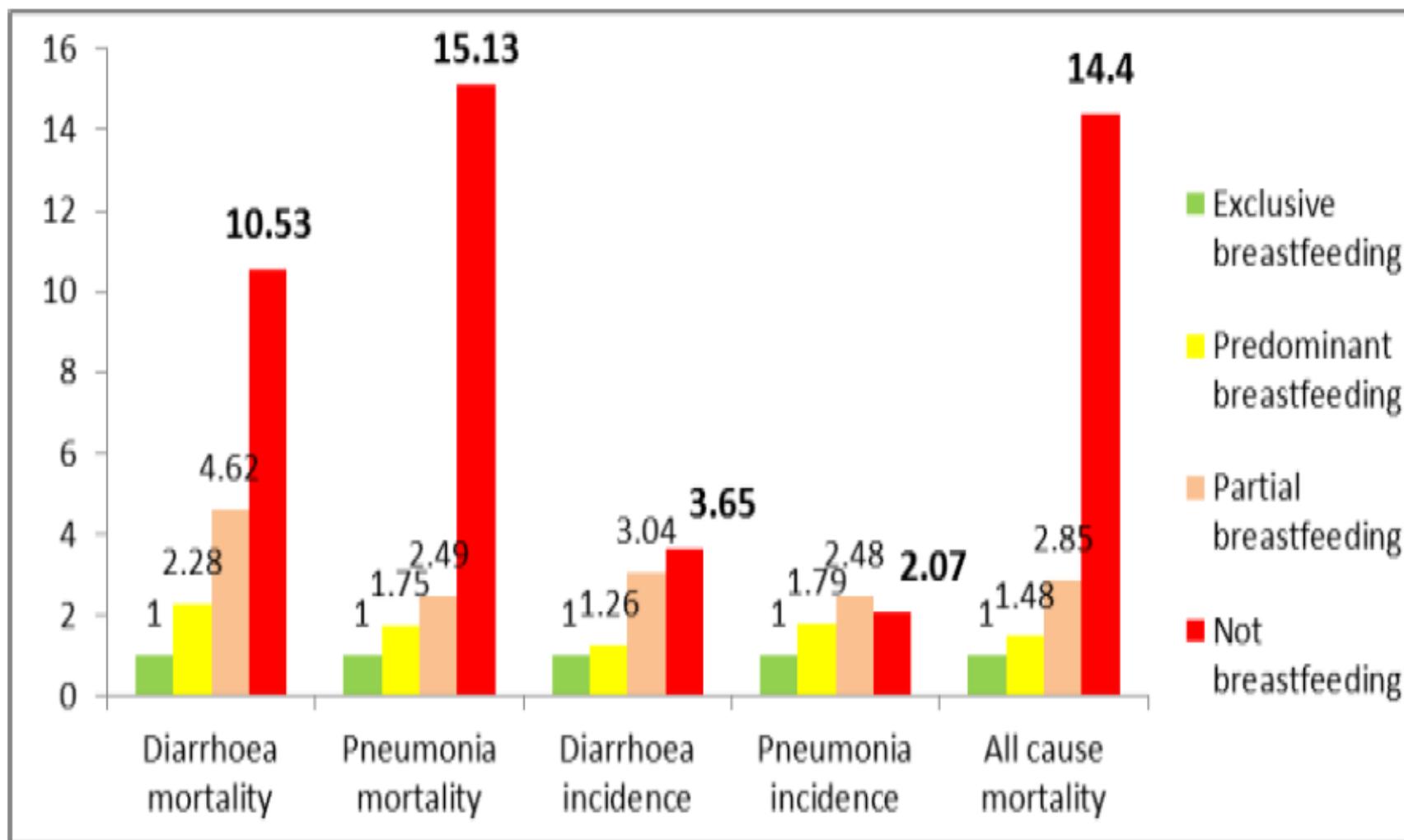
Critical period of pregnancy and the first two years of life, the 1,000 days in which good nutrition and healthy growth have lasting benefits throughout life.



Key findings (2)

High coverage with optimal breastfeeding practices has potentially the single largest impact on child survival of all preventive interventions with the potential to prevent 12-13% of all under-5 deaths in the developing world, or 1.4 million lives.

Relative risk of not breastfeeding for infections and mortality compared to exclusive breastfeeding 0-5 months



Source: Lancet 2008, Nutrition Series

Vitamin A supplementation

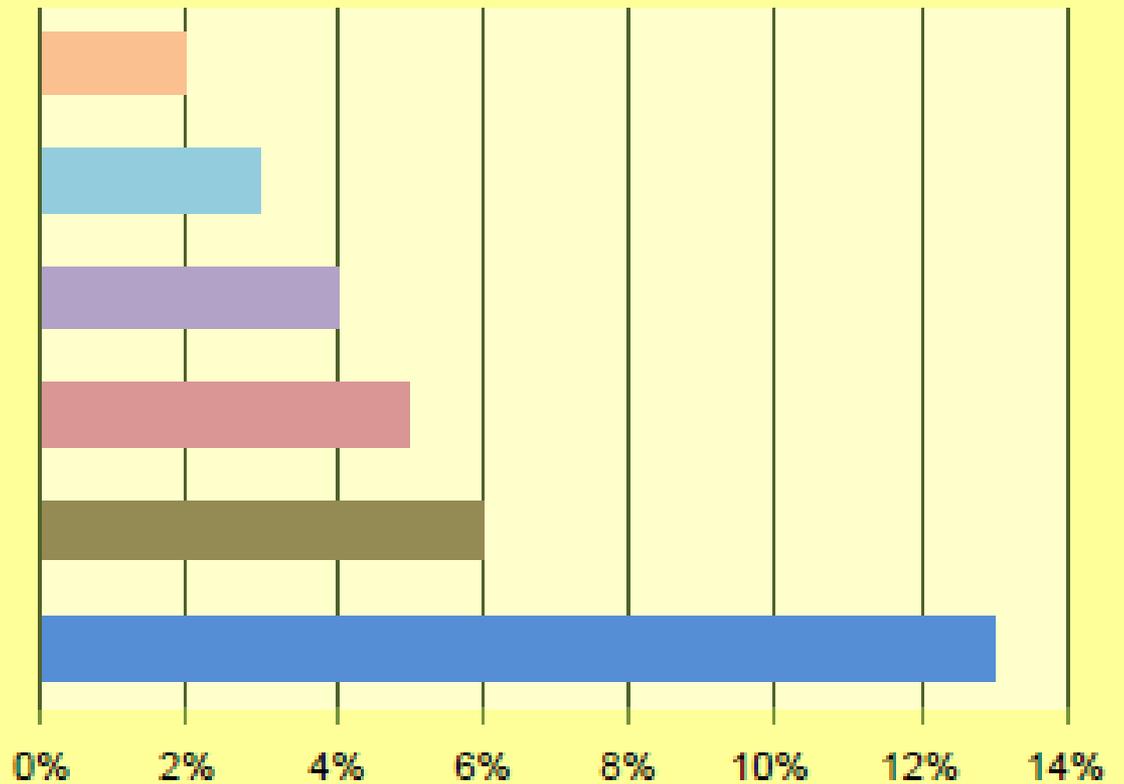
Water, sanitation, hygiene

Hib vaccine

Zinc supplementation

Complementary feeding*

Breastfeeding



Benefits of breastfeeding

FOR THE BABY:

- Improved growth and nutrition status
- Increased bonding
- Lower risk of chronic diseases (diabetes, heart disease, asthma, some cancers)
- Lower risk of overweight/obesity
- Improved cognitive and motor development
- Faster maternal recovery and weight loss post partum
- Less post-partum depression
- Less likely to die
- Less diarrhoea and respiratory infections
- Less ear infections, GI disorders, skin conditions and SIDS



FOR THE MOTHER:

- Mother less likely to become pregnant in early months
- Lower risk of maternal cancers (ovarian and breast cancer)

Key findings (2)

High coverage with optimal breastfeeding practices has potentially the single largest impact on child survival of all preventive interventions with the potential to prevent 12-13% of all under-5 deaths in the developing world, or 1.4 million lives.

Established breastfeeding as a key child survival intervention

Lancet 2013 Update on Maternal and Child Undernutrition

CONTENTS

Paper I: The prevalence and consequences of nutritional conditions

Paper II: Evidence supporting the nutrition-specific interventions and the health impact and cost of increasing their population coverage.

Paper III: Nutrition-sensitive interventions and approaches and their potential to improve nutrition.

Paper IV: Features of an enabling environment

Assessment of the current and desired national and global response to address nutritional and developmental needs of women and children in low- and middle-income countries.



Key Findings (1)

Although preventable child deaths continue to decline, undernutrition is still responsible for 45% of all under five child deaths, representing more than three million deaths each year (3.1 million of the 6.9 million child deaths in 2011).

Key challenges remain:

- stunting
- foetal growth restriction
- sub-optimal breastfeeding
- wasting
- deficiencies of micronutrients especially vitamin A and zinc

Key findings (2)

- Foetal growth restriction and sub-optimal breastfeeding together are responsible for 1.3 million deaths, or 19.4% of all under five child deaths, representing 43.5% of all nutrition-related deaths.

Key Findings (3)

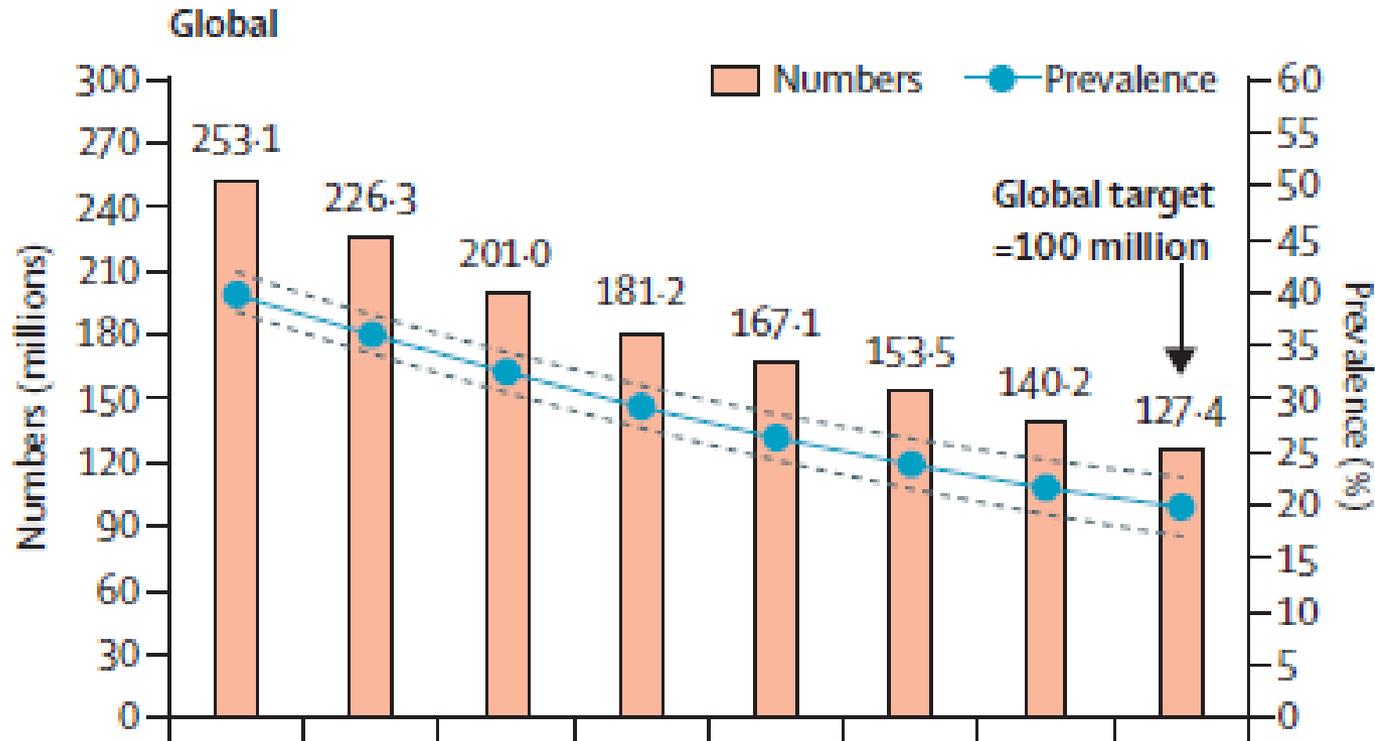
Foetal growth restriction and poor growth early in infancy are now recognized as important determinants of neonatal and infant mortality, stunting and overweight and obesity in older children and adults.

- Thirty-two million babies are born small for their gestational age (SGA) annually – representing 27% of all births in LMIC.
- Foetal growth restriction causes 800,000 deaths in the first month of life each year and an additional 400,000 infant deaths after the first month of life.
- Newborns with foetal growth restriction are also at substantially increased risk of developing stunting by 24 months.
- These early patterns coupled with rapid weight gain later in childhood are linked to obesity and non-communicable diseases in adulthood.

This reinforces the importance of the nutritional status of women at the time of conception and during pregnancy for foetal growth and development.

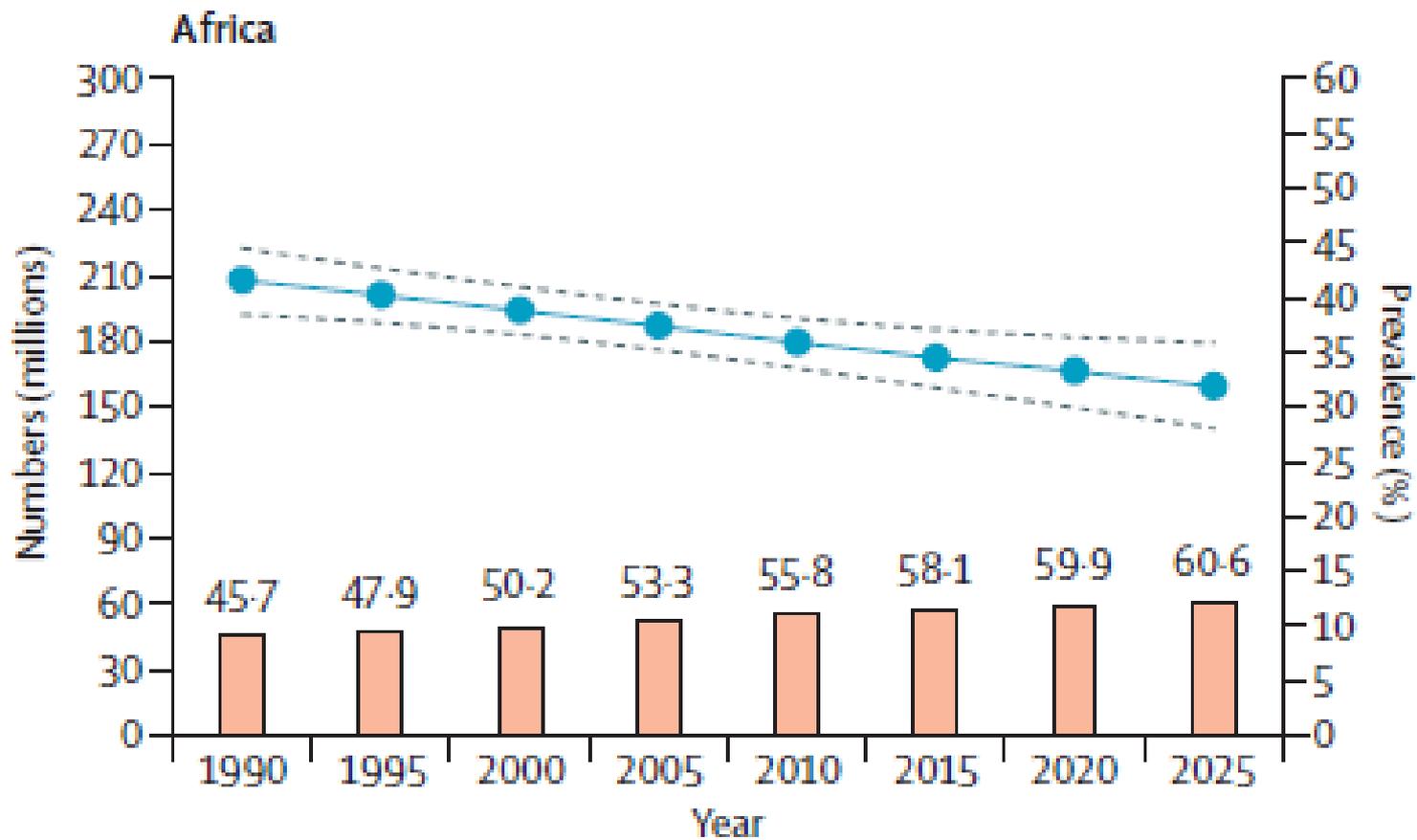
Key findings (4)

- Undernutrition during the 1,000 days during pregnancy and the first two years of life is a major determinant of both stunting and subsequent obesity and non-communicable diseases in adulthood.



The prevalence of stunting in children under five years of age in developing countries in 2011 is 26%, a decrease from 40% in 1990 and 32% in 2005. There has also been a decline in the number of stunted children from 253 million in 1990 to 165 million in 2011.

This is an average annual rate of reduction of 2.1%.



Irreversible after two years of age

Compromised cognitive development and physical capabilities

Key findings (5)

- The prevalence of maternal overweight has increased steadily since 1980 and exceeds that of underweight in all regions of the world. Maternal overweight and obesity result in increased maternal morbidity and infant mortality.

“DOUBLE BURDEN OF MALNUTRITION”

- Continuing stunting of growth and deficiencies of essential nutrients
- Obesity

Key findings (6)

The current total of deaths in children younger than 5 years can be reduced by 15% if populations can access ten evidence-based nutrition interventions at 90% coverage.

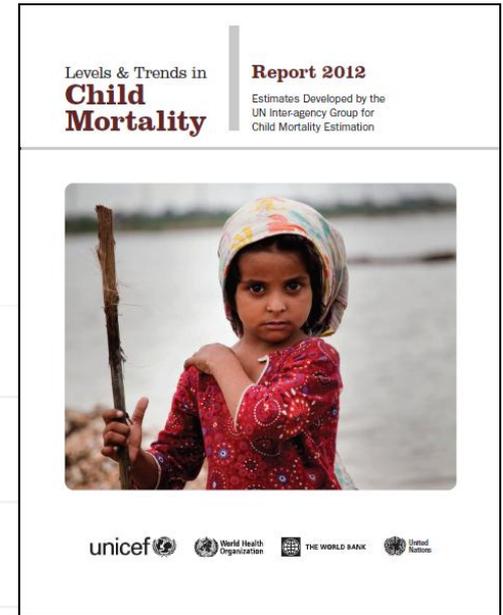
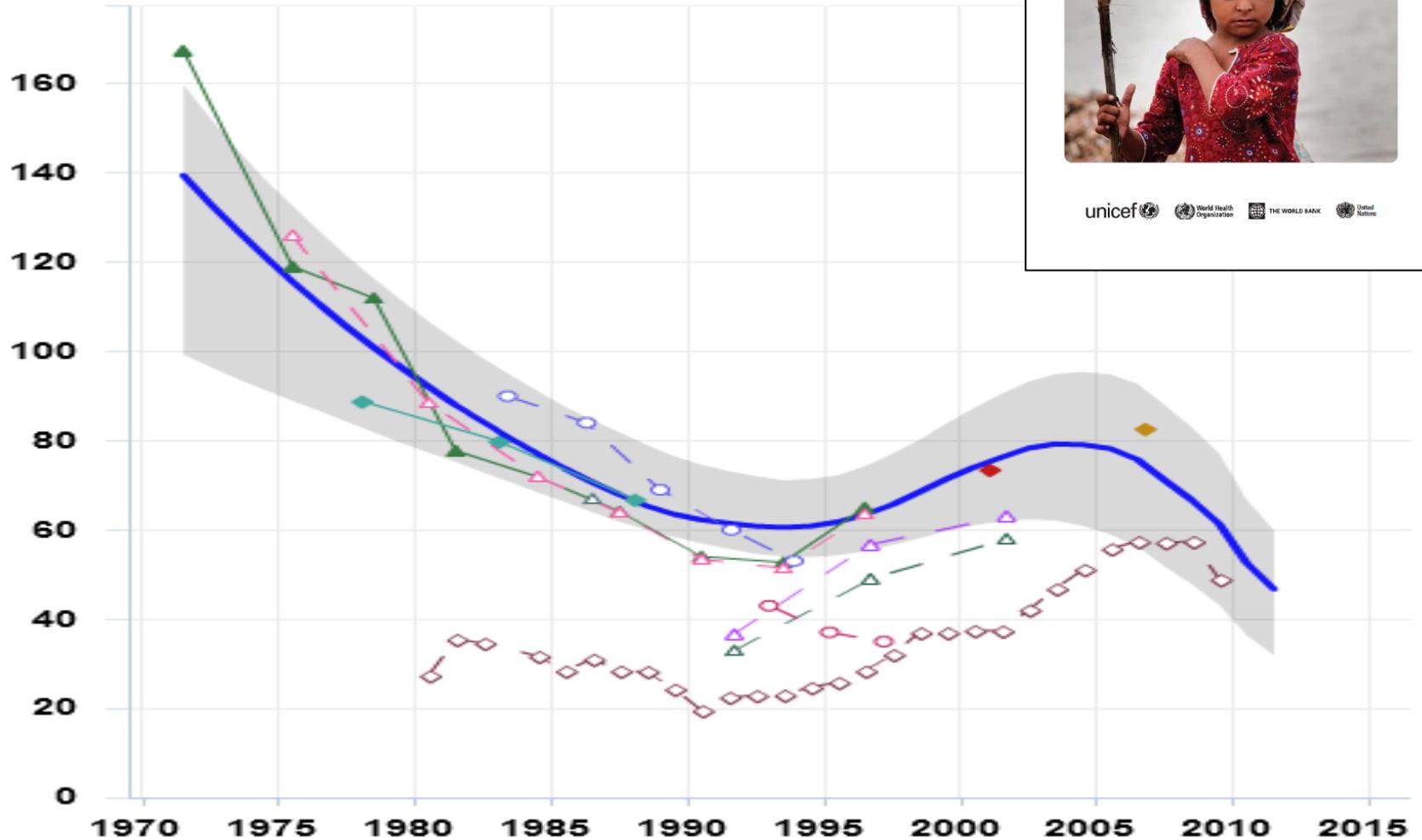
- periconceptional folic acid supplementation or fortification
- maternal balanced energy protein supplementation
- maternal calcium supplementation
- multiple micronutrient supplementation in pregnancy
- promotion of breastfeeding
- appropriate complementary feeding
- vitamin A and preventive zinc supplementation in children 6–59 months of age
- management of Severe Acute Malnutrition
- management of Moderate Acute Malnutrition

Key findings (7)

- The interventions with the most life-saving potential are treatment of severe acute malnutrition throughout childhood (both in development settings and in emergencies) and promotion of optimal breastfeeding practices.
- Sub-optimal breastfeeding results in an increased risk for mortality in the first two years of life and results in 800,000 deaths annually.
- Interventions that have contributed to significant reductions in child mortality to date, such as vitamin A supplementation, must be continued where the need still exists.
- A fifth of the existing burden of stunting can be averted

CHILD SURVIVAL IN SOUTH AFRICA

UNDER-FIVE MORTALITY RATES IN SOUTH AFRICA

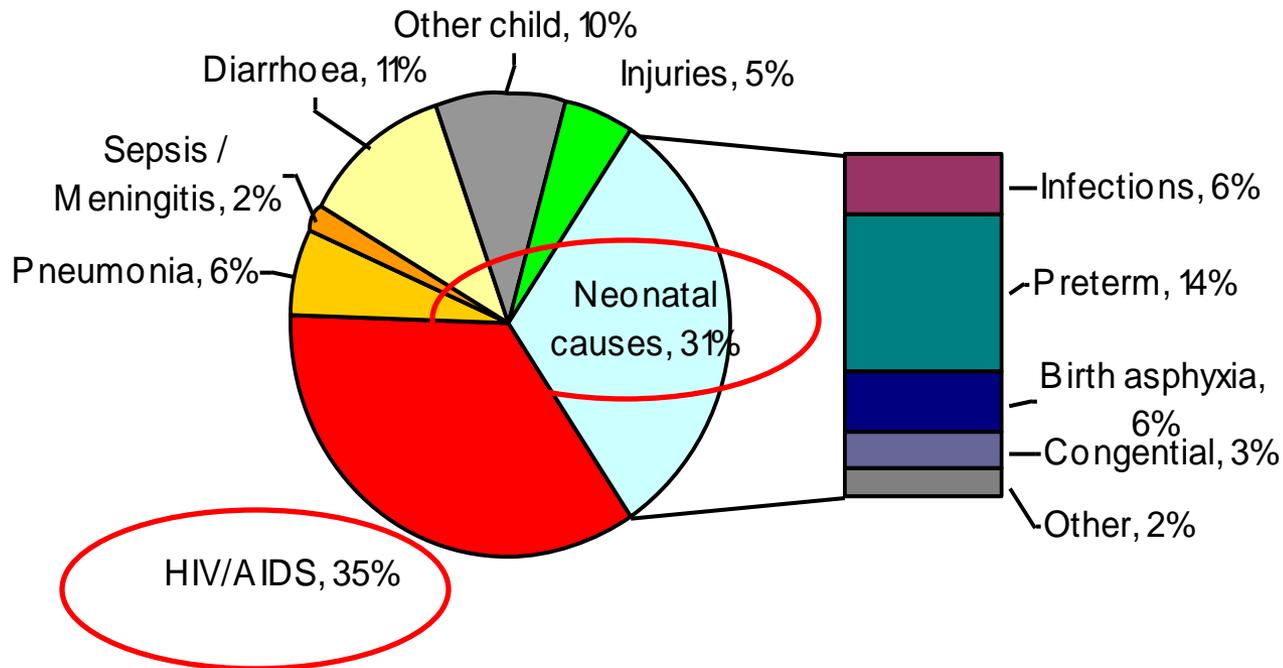


Maternal and child mortality rates

Indicator	2008	2009	2010	2011	Target 2014
Under-5 Mortality Rate (U5MR)		56 per 1 000 live births	53 per 1 000 live births	42 per 1 000 live births	50 per 1 000 live births (10% reduction)
Infant Mortality Rate (IMR)		40 per 1 000 live births	37 per 1 000 live births	30 per 1 000 live births	36 per 1 000 live births (10% reduction)
Neonatal Mortality Rate(<28 days)		14 per 1 000 live births	13 per 1 000 live births	14 per 1 000 live births	12 per 1 000 live births (10% reduction)
Maternal Mortality Ratio (MMR)	310 per 100 000 live births	333 per 100 000 live births			270 per 100 000 live births (reverse increasing trend)

Why do children and newborns die?

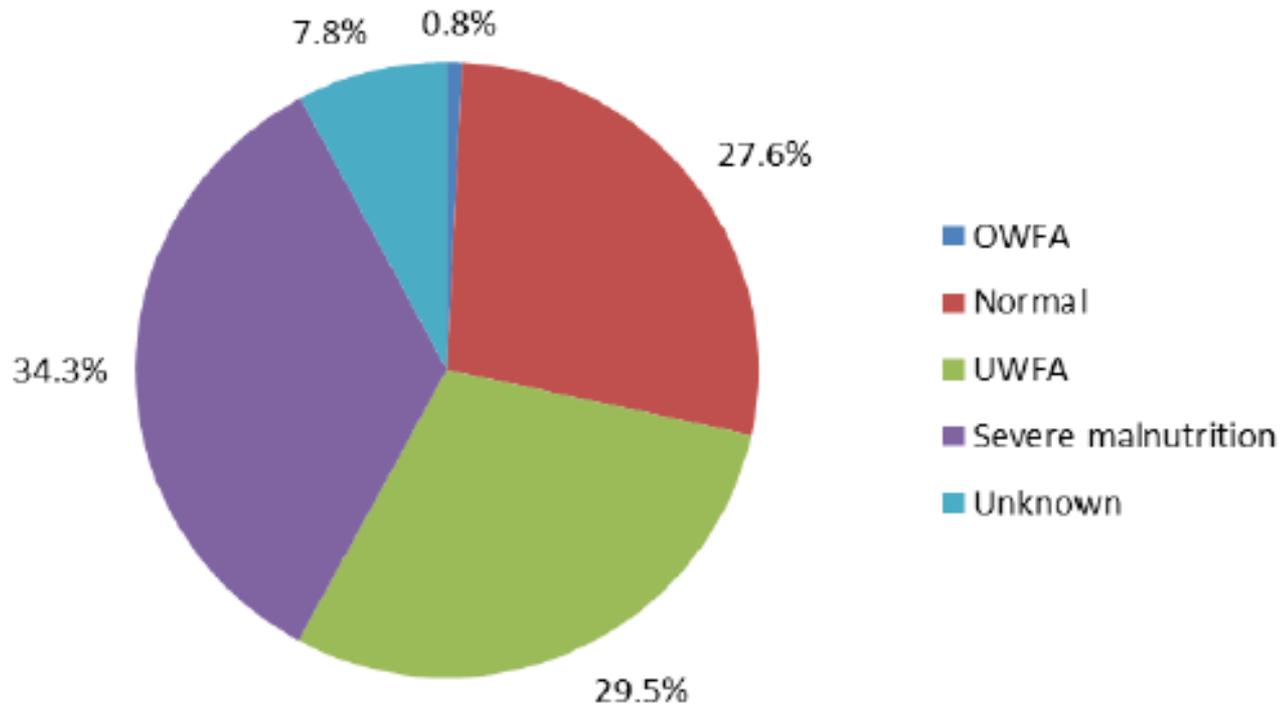
Revised 2000 Burden of Disease estimates, 2006



12% of child deaths are attributed to malnutrition

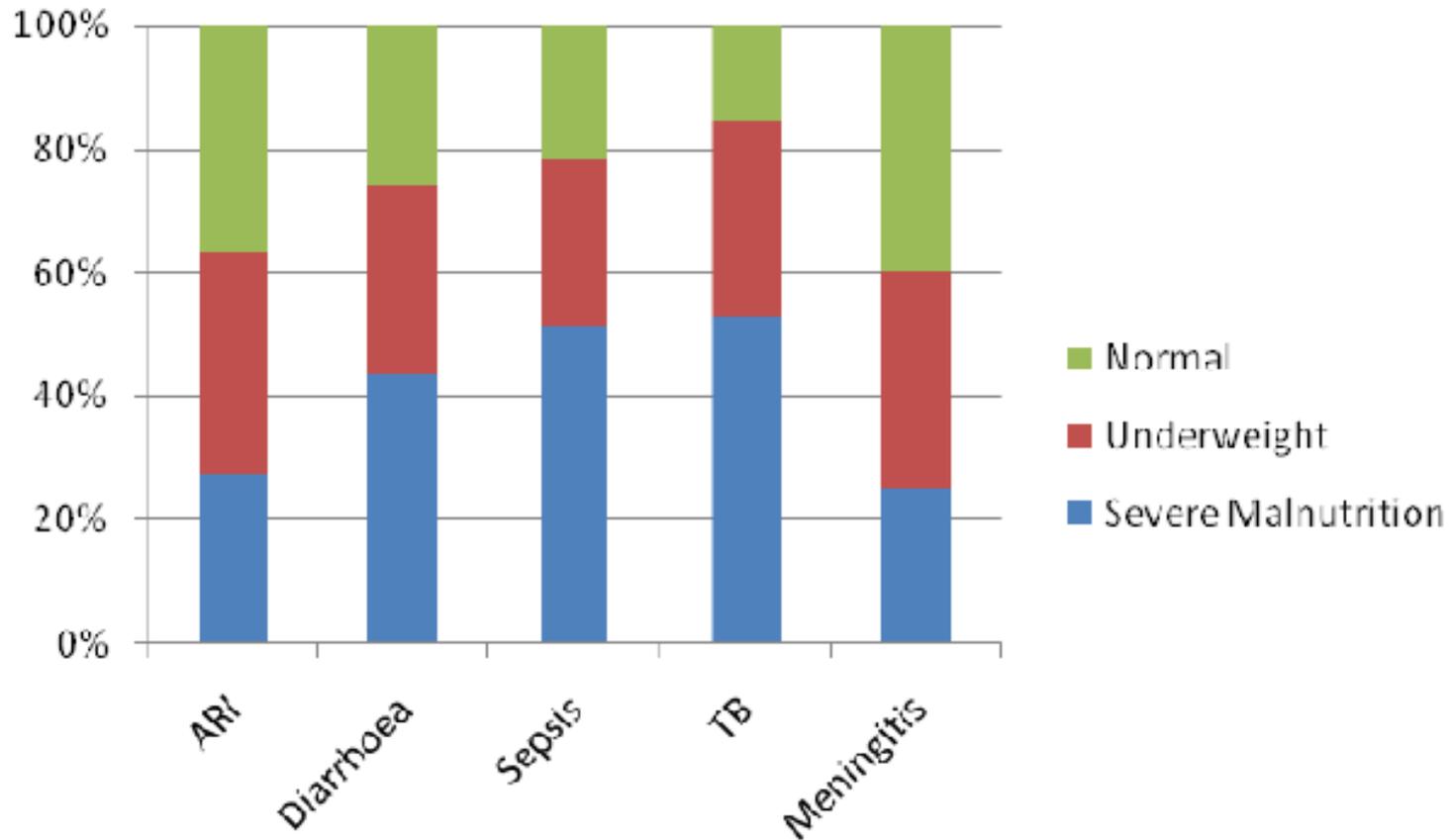
Why do children die?

Figure 4. Nutritional status of children who died: 2005-2009



Why do children die?

Figure 5. Nutritional status and leading causes of death: 2005-2009



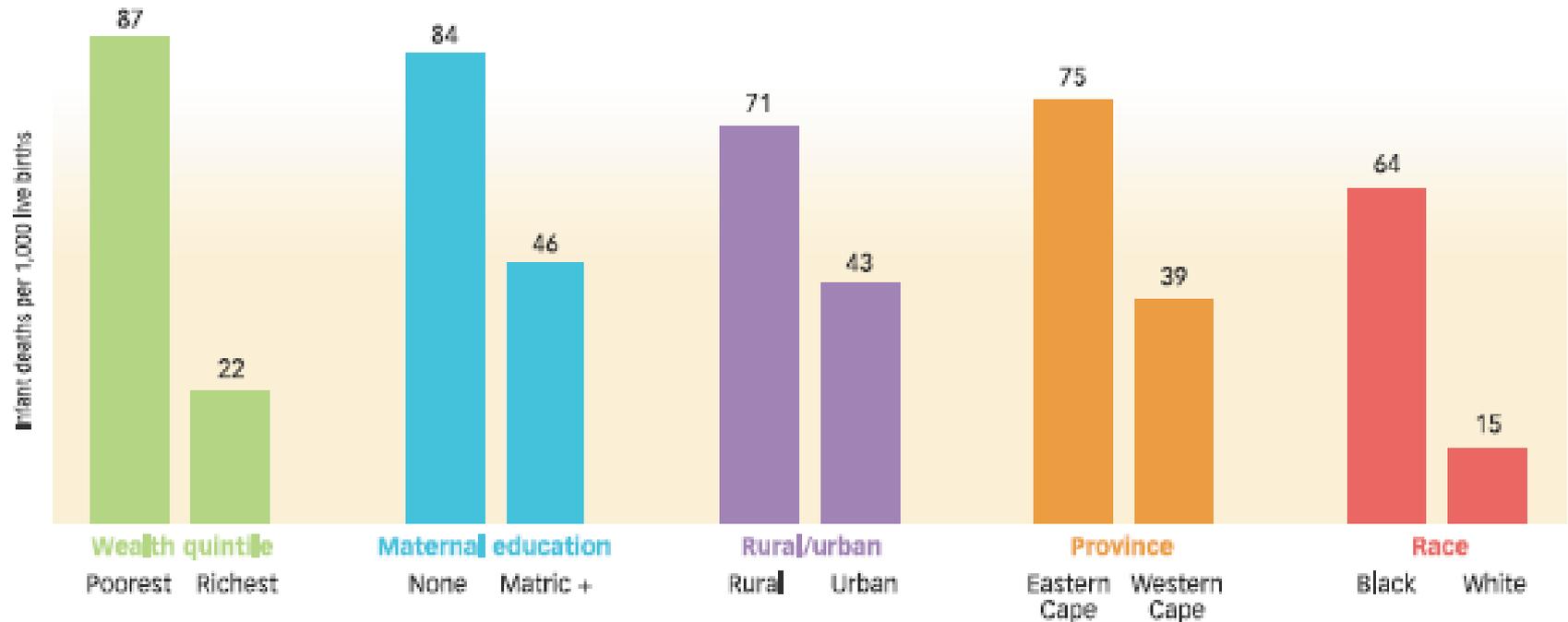
Why do children die?

Table 6. Leading modifiable factors occurring in clinics or OPD: 2005-2009

<i>Ranked modifiable factors in clinics or OPD</i>	<i>% of deaths</i>
IMCI not used for patient assessment at clinic/OPD	3.8%
Inadequate notes on clinical care (assess, classify, treat) at clinic	3.1%
IMCI not used for case management at clinic/OPD	3.0%
Delayed referral for severe malnutrition, weight loss, or growth faltering	2.6%
Child's growth problem inadequately identified or classified	2.4%

Why do children die?

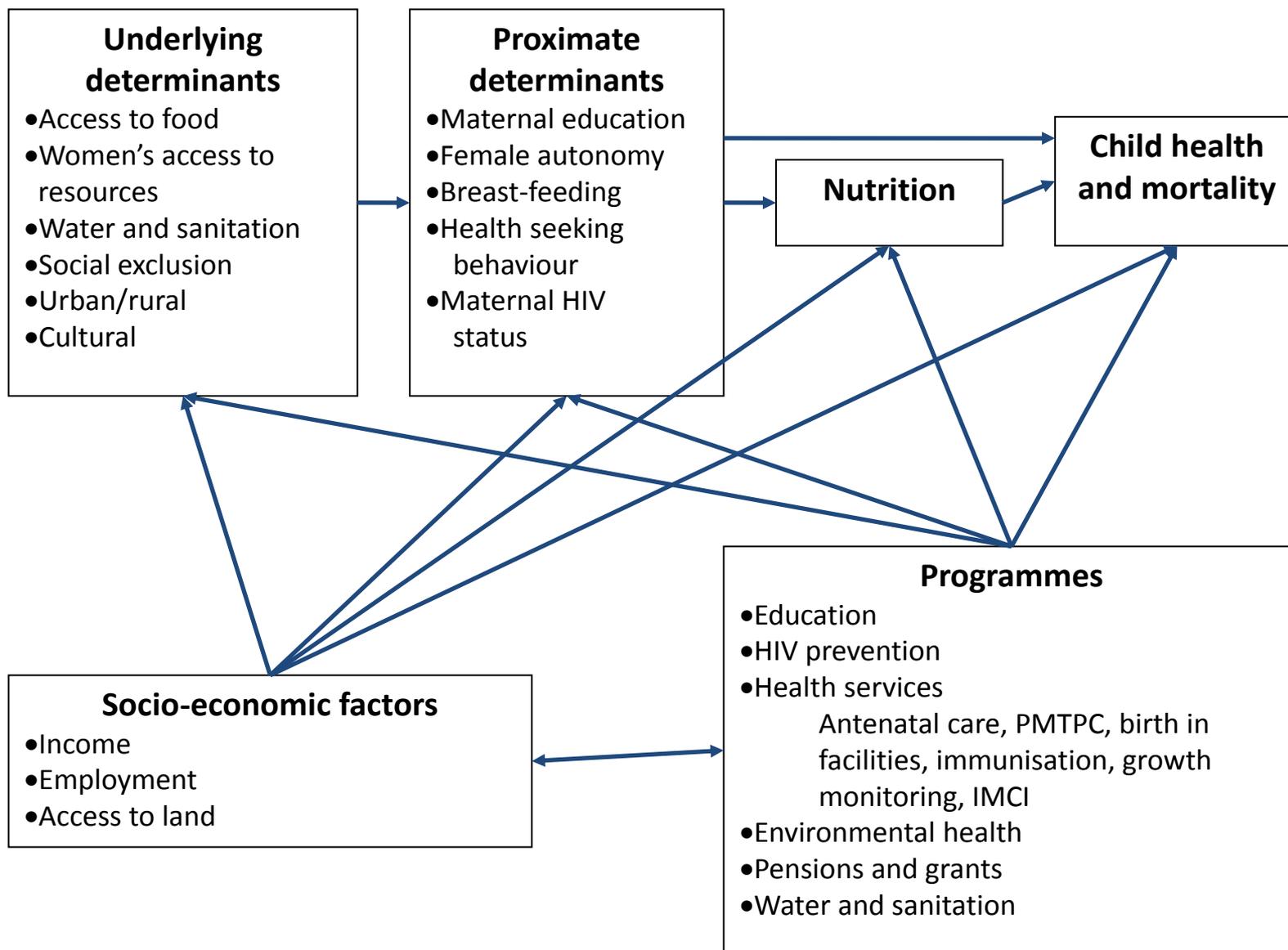
Figure 21: Factors influencing infant mortality in South Africa – deaths per 1,000 live births



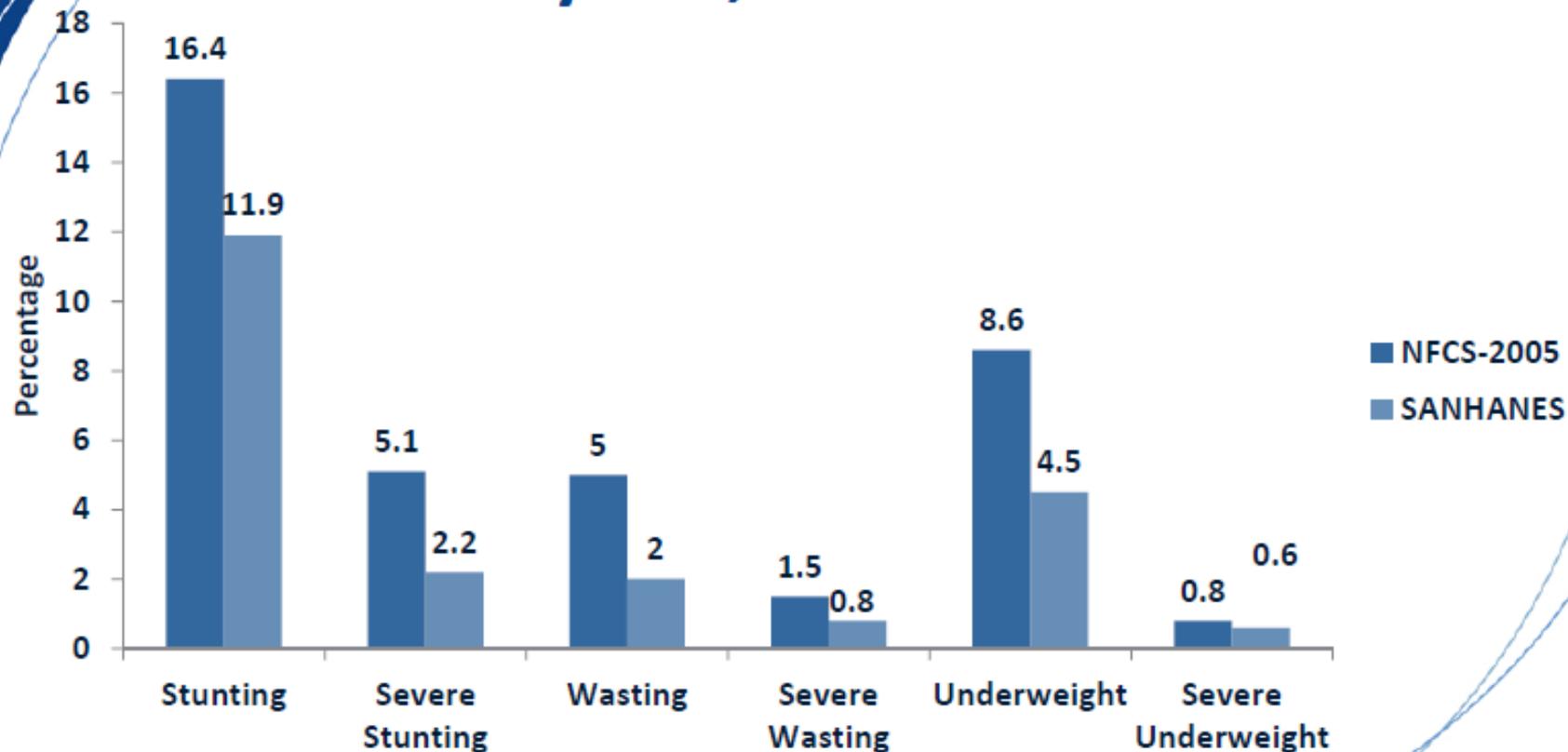
source: Department of Health (2002) *South African Demographic and Health Survey 1998*. Pretoria: DoH; World Health Organisation (2007) *World Health Statistics 2007*. Geneva: WHO. Both in: Bradshaw D (2008) *Determinants of health and their trends*. In: Barron P & Roma-Reardon J (eds) *South African Health Review 2008*. Durban: Health Systems Trust.

- Child mortality rates are four times higher in the poorest quintile (87 per 1 000) than in the wealthiest quintile (22 per 1 000).

Determinants of child health



Trends in the prevalence of undernutrition in children aged 4-6 years, SA 2005-2012



Trends in the prevalence of undernutrition in children aged 1-3 years, SA 2005-2012

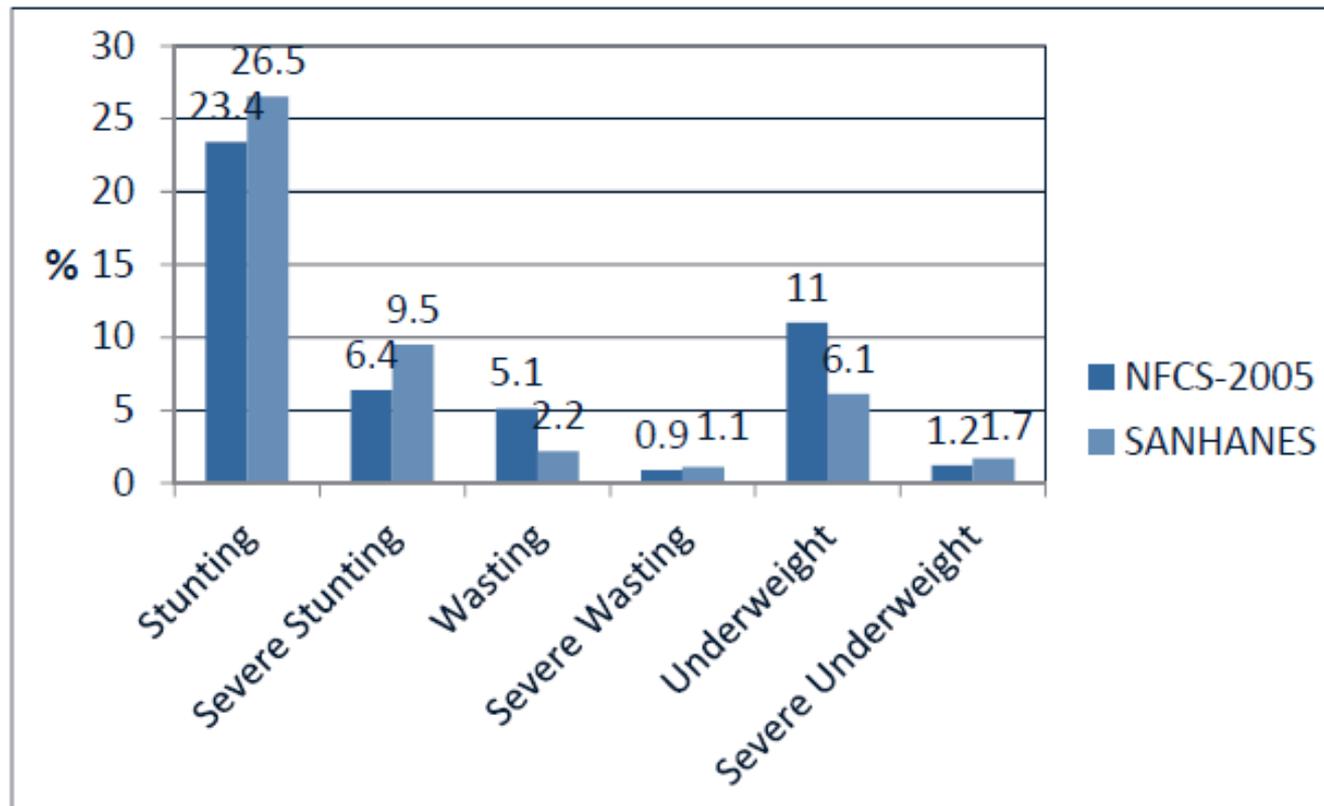
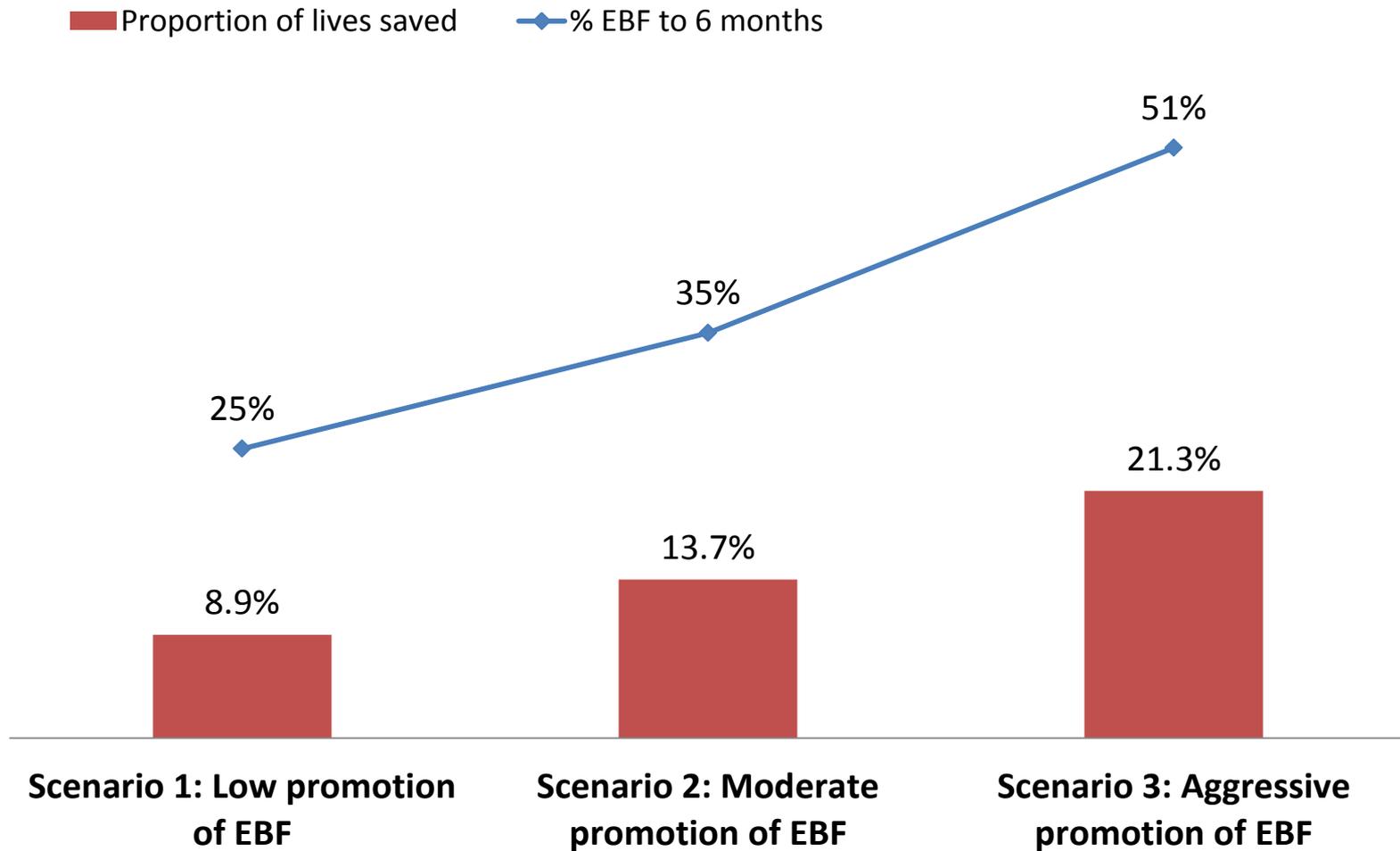


Table 1: Infant feeding rates as reported in the 1998 and 2003 SADHS.

Breastfeeding Practices	1998 SADHS	2003 SADHS	2008 HSRC
Exclusive breastfeeding			
0 – 3 months	10.4%	11.9%	
4 – 6 months	1%	1.5%	8%
0 – 6 months			25.7%
Not breastfed 0 to 3 months	16.6%	20.1%	
	1998 SADHS	2003 SADHS	
Inappropriate complementary feeding practices (<6 months)/ mixed feeding	70%	Not reported	51.3%

Breastfeeding rates in South Africa, and especially exclusive breastfeeding, remain very low.³ Obstacles to exclusive and continued breastfeeding include the perception of insufficient milk, compounded by fears of HIV transmission, marketing of breastmilk substitutes, misinformation, breastfeeding problems, returning to full time employment without supportive structures and lack of guidance and encouragement from health care personnel among other factors.^{4,5}

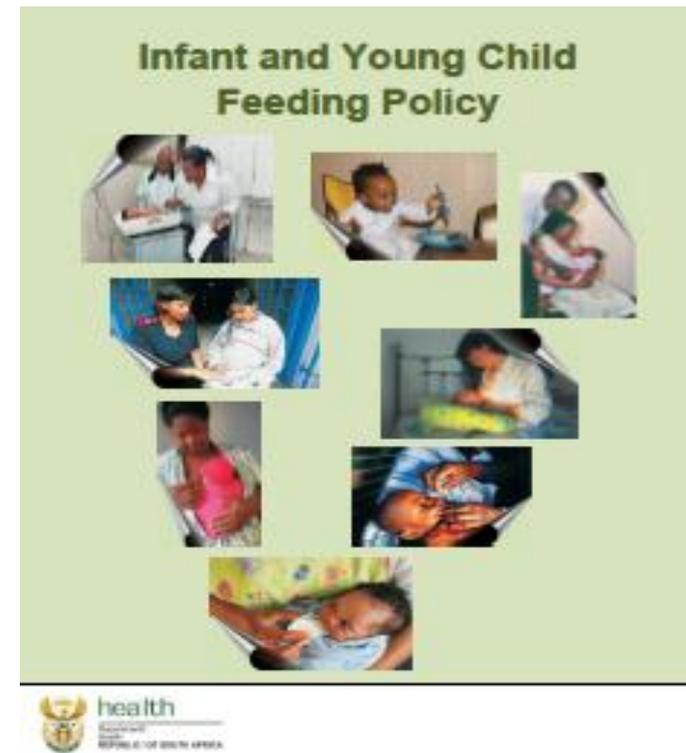
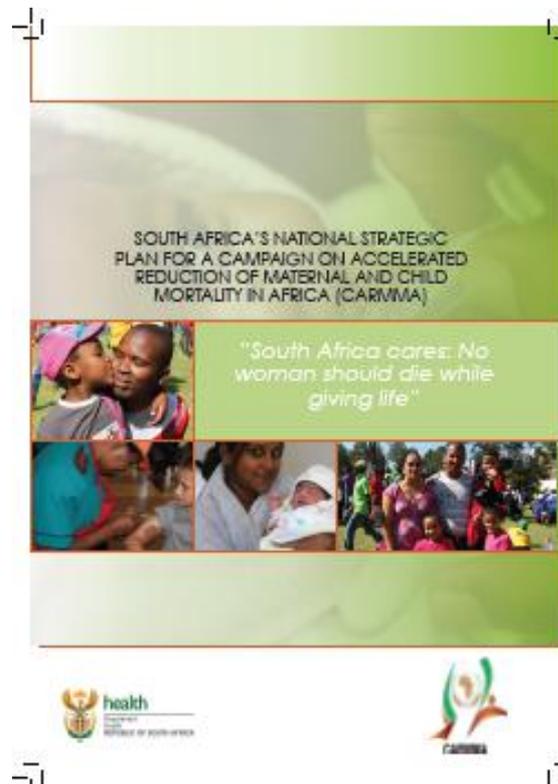
Modelling effects of promoting EBF in South Africa



Negotiated Service Delivery Agreement

Four key strategic outputs

- Increasing life expectancy
- **Decreasing maternal and child mortality**
- Combating HIV and AIDS and decreasing the burden of disease from TB
- Strengthening health systems effectiveness



Child survival interventions

Newborn care – Exclusive breastfeeding, PMTCT follow-up, resuscitation of newborns, care of ill/small newborns (incl. KMC), post-natal visits

Child Health – IYCF, Preventive services (EPI, Growth monitoring, Vitamin A), IMCI, early identification and management of HIV-infection, hospital care, School Health Services, Long term health conditions

Tshwane Declaration

- All South Africans, especially pregnant mothers, should be aware of the benefits of breastfeeding
- All mothers should receive support for initiating of breastfeeding as part of maternity care in all public and private health facilities
- Ongoing support for breastfeeding should be provided as part of postnatal care at community level, and in health facilities
- All HIV-infected mothers should be supported to safely breastfeed their infants.
- All mothers, including those who are working and studying, should receive ongoing support to exclusively breastfeed their infants for six months, and to continue breastfeeding until the child is two years of age.
- The Code on Marketing of Breastmilk substitutes should be fully implemented

Package of breastfeeding support

During pregnancy:

- good nutrition (including micronutrient supplementation), counselling on exclusive breastfeeding, HIV testing for all pregnant mothers and provision of PMTCT where indicated.

During labour:

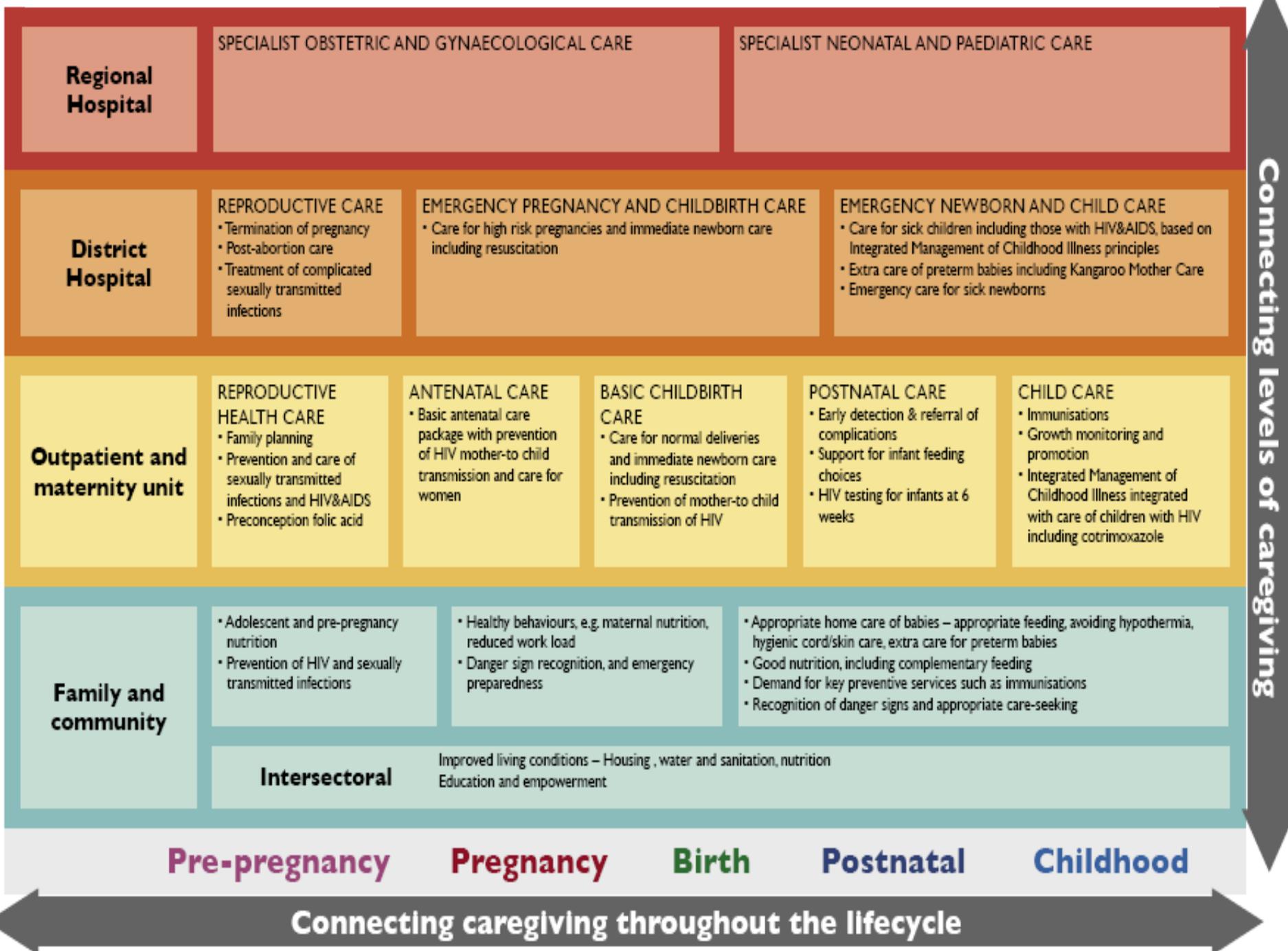
- physical, emotional, informational support reduce medical interventions that make the baby drowsy and less likely to initiate breastfeeding

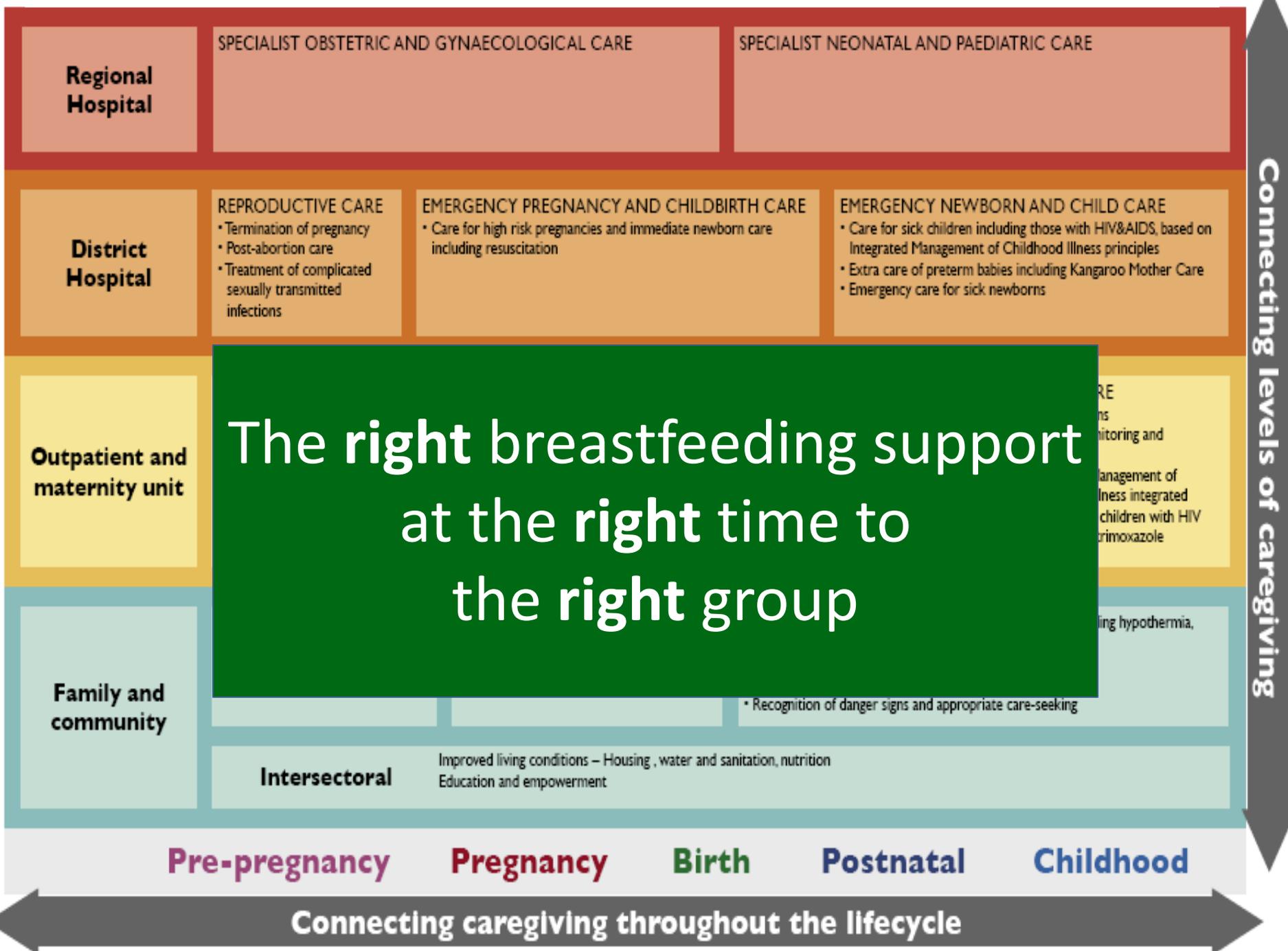
Postnatal period:

- Counselling on frequent and exclusive breastfeeding
- Observation for correct positioning and attachment
- Resolving breastfeeding problems
- Additional support for small and sick babies including KMC
- Support for the mother's health and nutrition
- PMTCT follow-up where needed

Early childhood:

- Ongoing support to exclusively breastfeed for six months
- Introduction of complementary feeds from six months with ongoing breastfeeding
- PMTCT follow-up where needed





Hospital Care: progress and gaps

Labour

- Physical, emotional, informational support reduce medical interventions that make the baby drowsy and less likely to initiate breastfeeding.

Postnatal

- BFHI
- Care of small and sick infants – KMC, Integrated approach to sick and small newborns, Milk banks
- Allowing mothers to stay with their infants

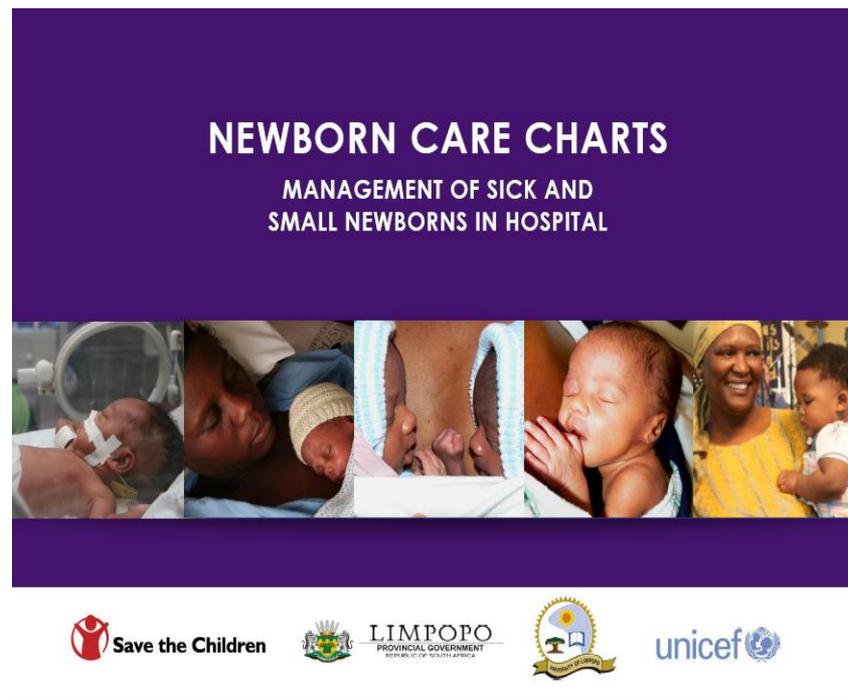
Kangaroo Mother Care



- Complications of preterm birth account for 45% of newborn deaths
- KMC facilitates skin to skin contact, promotes warmth, breastfeeding and growth and prevents infection
- Infants can be discharged from nurseries and hospitals much earlier
- 30% reduction in deaths for infants between 1 and 2 kg
- BUT many hospitals still do not provide KMC

Improving Newborn Care

- Integrated approach to newborn care in hospitals
- Integrates programmes: BFHI, PMTCT, KMC, Newborn resuscitation, care of ill newborns
- Practical guidelines and approaches that local teams can use to improve newborn outcomes



Hospital Care: progress and gaps

- Ensuring that breastfeeding is supported as part of efforts to improve newborn care, and reduce newborn mortality.
- Management of severe malnutrition
- Supporting breastfeeding

Primary Health Care

Antenatal

- The vast majority of pregnant women attend Antenatal Care
- High rates of HIV testing
- PMTCT is working well – 2.7% transmission rate
- Little known about frequency and quality of breastfeeding counselling

Postnatal

- Routine post-natal visits have increased substantially
- PMTCT follow-up

Child Health Services

- Preventive Services - Road to Health Card
- Integrated Management of Childhood Illness

IMPORTANT: Always bring this booklet when you visit any health clinic, doctor or hospital

ROAD TO HEALTH GIRLS

Child's first name and surname:

Date of Birth:

DD/MM/YYYY

This booklet must be issued at birth by the health services concerned. If birth takes place at home, the first opportunity after delivery should be used to issue the booklet. The booklet must be issued **FREE OF CHARGE**, irrespective of delivery taking place at a public or private health facility. The booklet may not be used to obtain a birth certificate or a child grant.

IMPORTANT: Always bring this booklet when you visit any health clinic, doctor or hospital

ROAD TO HEALTH BOYS

Child's first name and surname:

Date of Birth:

DD/MM/YYYY

This booklet must be issued at birth by the health services concerned. If birth takes place at home, the first opportunity after delivery should be used to issue the booklet. The booklet must be issued **FREE OF CHARGE**, irrespective of delivery taking place at a public or private health facility. The booklet may not be used to obtain a birth certificate or a child grant.

- Breastfeed exclusively (give infant only breast milk and no other liquids or solids, not even water, with exception of drops or syrup consisting of vitamins, mineral supplements or medication);
- Breastfeed as often as the child wants, day and night;
- Feed at least 8 to 12 times in 24 hours;
- When away from the child leave expressed breast milk to feed with a cup;
- Avoid using bottles or artificial teats (dummies) as this may interfere with suckling, be difficult to clean and may carry germs that can make your baby sick.



Why is exclusive breastfeeding important?

- Other foods or fluids may damage a young baby's gut and make it easy for infections (including HIV) to get into the baby's body;
- Decreases the risk of diarrhoea;
- It decreases risk of respiratory infections;
- It decreases risk of allergies;

If you have chosen to formula feed your baby, discuss safe preparation and use of formula with the health care worker

Integrated Management of Childhood Illness 2011



THEN CHECK FOR FEEDING AND GROWTH:

First ask mother if she knows her HIV status. If she is HIV-positive and has chosen not to breastfeed, use the alternative chart (p. 35).

ASK:

- How are you feeding the baby?
- How is feeding going?
- How many times do you breastfeed in 24 hours?
- Does your baby get any other food or drink?
 - If yes, how often?
 - What do you use to feed your baby?

IF BABY:

Has any difficulty feeding, or
Is breastfeeding less than 8 times in 24 hours, or
Is taking any other foods or drinks, or
Is low weight for age, or
Is not gaining weight

AND

Has no indications to refer urgently to hospital:

THEN ASSESS BREASTFEEDING:

- Has the baby breastfed in the previous hour?
- If baby has not fed in the last hour, ask mother to put baby to the breast. Observe the breastfeed for 4 minutes. (If baby was fed during the last hour, ask mother if she can wait and tell you when the infant is willing to feed again).
- Is baby able to attach?
not at all poor attachment good attachment

To check ATTACHMENT, look for:

- Chin touching breast
- Mouth wide open
- Lower lip turned outward
- More areola visible above than below the mouth
(All these should be present if attachment is good)
Then also check POSITIONING (p. 38)

- Is the baby suckling well (that is, slow deep sucks, sometimes pausing)?
not at all not suckling well suckling well
- Clear a blocked nose if it interferes with breastfeeding.

LOOK, LISTEN, FEEL:

- Plot the weight on the RTHC to determine weight for age.
- Look at the shape of the curve. Is the child gaining weight?
- Look for white patches in the mouth (thrush).

Classify FEEDING in all young infants

<ul style="list-style-type: none"> • Not able to feed. or • No attachment at all. or • Not suckling at all. 	NOT ABLE TO FEED	<ul style="list-style-type: none"> ➢ Treat as possible severe bacterial infection (p. 31) ➢ Give first dose of ceftriaxone IM (p. 37). ➢ Test for low blood sugar, and treat or prevent (p. 16) ➢ Refer URGENTLY to hospital—make sure that the baby is kept warm
<ul style="list-style-type: none"> • Not well attached to breast. or • Not suckling effectively. or • Less than 8 breastfeeds in 24 hours. or • Receives other foods or drinks. or • Thrush 	FEEDING PROBLEM	<ul style="list-style-type: none"> ➢ Advise the mother to breastfeed as often and for as long as the infant wants, day and night ➢ If not well attached or not suckling effectively, teach correct positioning and attachment (p. 39) ➢ If breastfeeding less than 8 times in 24 hours, advise to increase frequency of feeding ➢ If mother has a breastfeeding problem see advice for common breastfeeding problems (p. 39) ➢ If receiving other foods or drinks, counsel mother about breastfeeding more, gradually stopping other foods or drinks, and using a cup ➢ If thrush, teach the mother to treat for thrush at home (p. 38) ➢ Follow-up in 2 days (p. 42)
<ul style="list-style-type: none"> • Less than 1.8kg in first week of life. or • Weight less than birth weight at or after one week of age or • Low weight for age. or • Weight gain is unsatisfactory. or • Weight loss following discharge of LBW infant 	POOR GROWTH	<ul style="list-style-type: none"> ➢ Advise the mother to breastfeed as often and for as long as the infant wants, day and night ➢ If less than 2 weeks old follow-up in 2 days (p. 42) ➢ If more than 2 weeks old follow-up in 7 days (p. 42)
<ul style="list-style-type: none"> • Not low weight for age and no other signs of inadequate feeding 	FEEDING AND GROWING WELL	<ul style="list-style-type: none"> ➢ Praise the mother for feeding the infant well

COUNSEL THE MOTHER

Teach Correct Positioning and Attachment for Breastfeeding



- Seat the mother comfortably
- Show the mother how to hold her infant:
 - with the infant's head and body straight
 - facing her breast, with infant's nose opposite her nipple
 - with infant's body close to her body
 - supporting infant's whole body, not just neck and shoulders.
- Show her how to help the infant attach. She should:
 - touch her infant's lips with her nipple.
 - wait until her infant's mouth is opening wide.
 - move her infant quickly onto her breast, aiming the infant's lower lip well below the nipple.
- Look for signs of good attachment and effective suckling. If the attachment or suckling is not good, try again.
- Most of the common breastfeeding problems expressed by mothers are related to poor positioning and attachment.

To check ATTACHMENT, look for:

- Chin touching breast.
 - Mouth wide open.
 - Lower lip turned outward.
 - More areola visible above than below the mouth.
- All these should be present if attachment is good



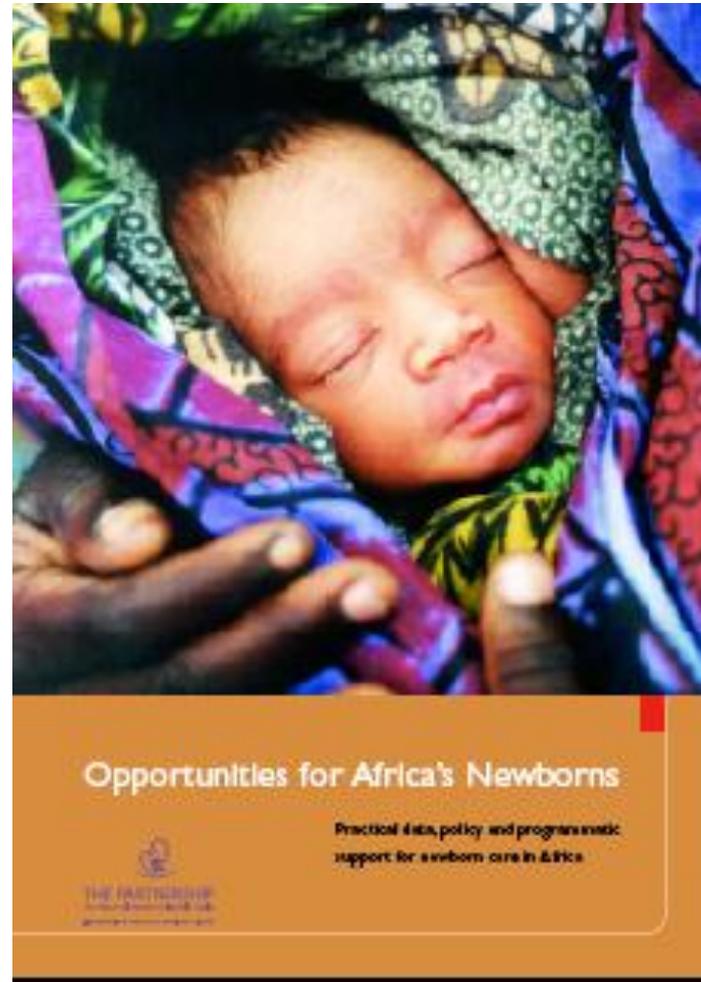
Good attachment



Poor attachment

Successful community strategies for promoting breastfeeding

- Existing community groups
- Community mobilisation events
- Mass media
- Home visits by peer counsellors and CHWs



Community level: PHC Outreach teams

- Establishment of PHC outreach teams including CHWS
- Key roles will be to provide a comprehensive MCH package of services – supporting breastfeeding
- Supported by PHC facility services – management of ill children, PMTCT follow-up, growth monitoring and promotion.
- Ensure that CHWs have skills and tools required to do this – and not too many other tasks!

Ensuring that all health care workers (especially CHWs) support breastfeeding through a set of simple standardised messages around breastfeeding

Conclusion

- Progress has been made in reducing preventable child deaths, but many children still die unnecessarily.
- Undernutrition contributes to mortality and morbidity – sub-optimal breastfeeding remains an important contributor.
- New data highlight the linkages between maternal and child health, and between nutrition, survival and long term developmental outcomes.
- Improving maternal and child survival is regarded a national priority, and strengthening of EBF is understood to be a key component.
- The challenge is to ensure that every mother and child receive a comprehensive, integrated package of health and nutrition interventions, which includes breastfeeding promotion and support.