

# Every death counts

Saving the lives of mothers,  
babies and children in South Africa



**health**

Department:  
Health  
REPUBLIC OF SOUTH AFRICA



UNIVERSITEIT VAN PRETORIA  
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YUNIBESITHI YA PRETORIA  
Faculty of Health Sciences



**Save the Children**



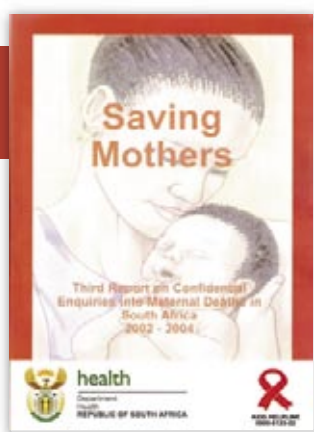
# THE REPORTS

Three South African mortality audit reports, *Saving Mothers*, *Saving Babies* and *Saving Children*, offer a review of the healthcare provided to mothers, babies and children. Information on cause of death and avoidable factors is published in these reports, which together create a health profile of mothers, babies and children who died in health facilities, giving insight into the quality of care they received in the South African health system. These reports synthesise audit information to help guide priority setting for the National Department of Health and all levels of health service delivery.

In *Every Death Counts*, the authors of these three reports have come together for the first time to present a unified call for action to save the lives of South Africa's mothers, babies and children.



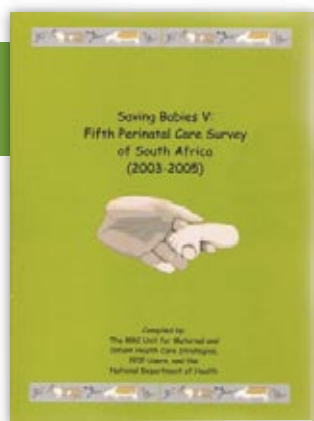
Photo: Eise van Rooyen, 2006



## Saving Mothers

### Confidential Enquiry into Maternal Deaths in South Africa (NCCEMD)

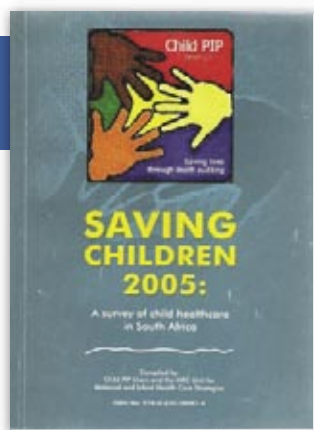
- Includes: Maternal deaths  
Inputs: 1,173 maternal deaths reported in 2004 (3,406 maternal deaths for 2002-2004)  
Frequency: One report for year 1998, and thereafter triennially  
Coordination: National Committee on Confidential Enquiries into Maternal Deaths in the office of the Minister of Health  
Report: [www.doh.gov.za/docs/reports/2004/savings.pdf](http://www.doh.gov.za/docs/reports/2004/savings.pdf)



## Saving Babies

### Perinatal Problem Identification Programme (PIIP)

- Includes: Stillbirths and pre-discharge neonatal deaths  
Inputs: 164 facilities reported information on 4,067 stillbirths and 2,887 neonatal deaths (576,065 births and 21,625 audited deaths for 2003-2005)  
Frequency: Annually 2000-2002, biennial since 2003  
Coordination: Compiled by the audit users and the Medical Research Council (MRC) Unit for Maternal and Infant Healthcare Strategies, with the National Department of Health  
Report: [www.ppip.co.za](http://www.ppip.co.za)



## Saving Children

### Child Healthcare Problem Identification Programme (Child PIP)

- Includes: Infants and children (up to 18 years), admitted to paediatric wards  
Inputs: 28 facilities across South Africa provided information on over 58,000 admissions with 4,228 audited deaths over 3 years (January 2005 – January 2008)  
Frequency: Annually since 2004  
Coordination: Compiled by the audit users and the MRC Unit for Maternal and Infant Healthcare Strategies, with the National Department of Health  
Report: [www.chip.org.za](http://www.chip.org.za)

Note: The strength of these audit reports lies in generating information for quality improvement at various levels and recommendations for action. As much as possible, data from these three reports has also been used. These facility-based audits are not necessarily designed to provide population-based estimates, therefore where data is not available or representative in the reports, other reputable sources have been used in this document.

# KEY MESSAGES

## FROM EVERY DEATH COUNTS



## The Situation

Each year in South Africa:

- At least 1,600 mothers die due to complications of pregnancy and childbirth<sup>1</sup>
- 20,000 babies are stillborn<sup>2</sup> and another 22,000 die before they reach one month of age<sup>3</sup>
- In total, at least 75,000 children die before their fifth birthday<sup>4</sup>

This toll of over 260 deaths every day is due to 5 major health challenges:

- ♦ Pregnancy and childbirth complications
- ♦ Newborn illness
- ♦ Childhood illness
- ♦ HIV & AIDS
- ♦ Malnutrition

South Africa needs to address these “Big 5” in order to meet the Millennium Development Goals (MDG) for maternal, newborn, and child survival and for combating HIV & AIDS by 2015. Maternal and child mortality in South Africa continues to be a challenge. Poverty is an important underlying cause of death that is related to each of the Big 5 health challenges.

“Everyone has a role to play...to provide every woman, newborn and child with essential care.”

## The Solutions

Inequity and socio-economic factors are important determinants of maternal and child health, but solutions do exist. Three reports, *Saving Mothers*, *Saving Babies* and *Saving Children* provide information on thousands of deaths each year, highlighting avoidable causes of death and make recommendations to strengthen quality of care provided to mothers, babies and children at the time when they need it most.

Better care requires improvement in both coverage and quality of care. In South Africa a high percentage of births take place in healthcare facilities, and high coverage for many primary healthcare interventions, such as contraception, antenatal visits, and immunisations for children have been achieved. However, gaps in the healthcare system require strengthening, such as referral links and quality of care. Highly effective interventions exist to address the Big 5 health challenges. Most of these interventions are part of healthcare packages already in policy in South Africa – what is required is consistent, high quality implementation, especially for the poorest citizens.

## Saving Lives

If these high-impact interventions reached all families in South Africa, then as many as 40,200 babies and children could be saved every year. Investment in solutions to address the Big 5 health challenges could also prevent a high proportion of deaths amongst mothers. More than half the mothers and children dying in our country are dying needlessly – we have the solutions now but they are not reaching those in most need, or they are not being implemented with the quality needed to save lives.

## Steps to Action

This report represents a unified call to action to save the lives of South Africa’s mothers, babies and children. It contains success stories of South Africans using audit data to make a difference in healthcare provision. Everyone has a role to play – government officials and policy makers, health managers, healthcare providers, and communities must all take steps to provide every woman, newborn and child with essential care.

Sources:

1 National Department of Health. *Saving Mothers*: third report on confidential inquiries into maternal deaths in South Africa, 2002-2004.

2 Stanton C, Lawn JE, Rahman H, Wilczynska-Ketende K, Hill K. Stillbirth rates: delivering estimates in 190 countries. *Lancet* 2006; 367:1487-1494.

3 WHO. Neonatal and perinatal mortality: regional, country and global estimates. Geneva, Switzerland: World Health Organization, 2006.

4 UN Interagency group (UNICEF, WHO, World Bank, UN Population Division) mortality estimate for South Africa for the year 2005, as presented in UNICEF. *State of the World's Children 2008*.

# SOLUTIONS EXIST TO SAVE LIVES IN SOUTH AFRICA

The lives of mothers, babies and children are being saved but more could be done with healthcare packages already in policy in South Africa. These packages aim to provide essential interventions throughout the lifecycle of mother, baby and child at the various levels of care. An effective continuum of care strengthens links between time periods of care received through the lifecycle; for example, good care in pregnancy builds towards a safer delivery, which builds to better postnatal and child care. A functioning continuum of care also requires links between the home and community, the primary health clinic, and district and regional hospitals, ensuring that appropriate care is available in each place and reducing delays, especially for the poor. A sensitive marker of a strong health system is the ability to make these linkages work for each person, providing the right care in the right place at the right time. Figure 1 provides an overview of the healthcare packages of most relevance to saving the lives of mothers, babies and children in South Africa.

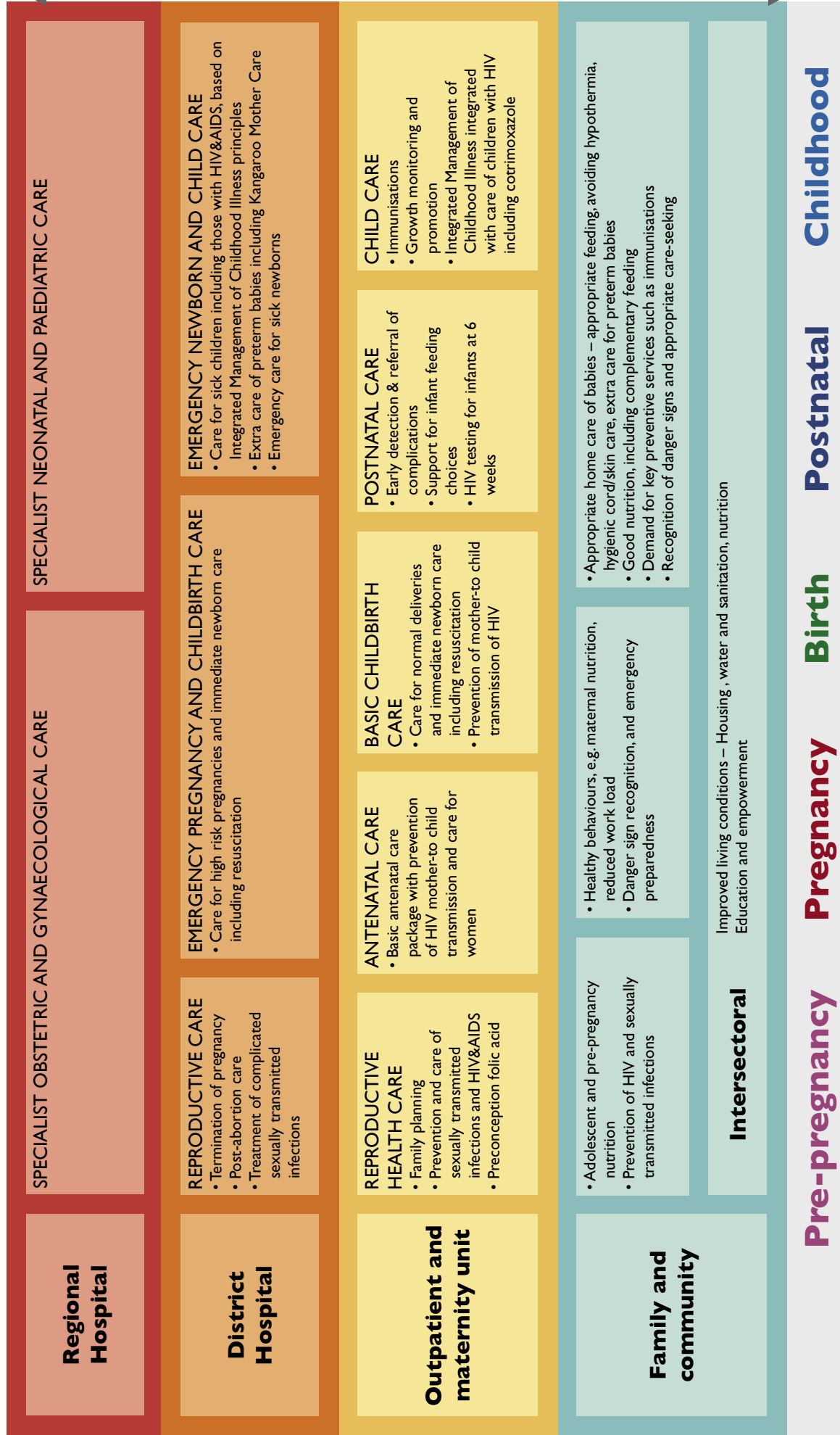
“ The lives of mothers, babies and children are being saved but more could be done with healthcare packages already in policy...”

Addressing the Big 5 health challenges involves strengthening the provision of healthcare packages within the continuum of care. The effectiveness of each package is dependent on whether it provides high-impact, evidence-based interventions, and on the coverage and quality of the service. For example, attending antenatal clinic once at any time will have much less effect than a first visit before 20 weeks and attending at least four times at appropriate intervals with high-impact interventions included in each visit. The relevant packages and some of the highest impact interventions for the Big 5 are shown in Table 1. Most of these healthcare packages have agreed upon guidelines and training packages for healthcare providers, but effective implementation and roll-out requires sustained commitment.

**Table 1: The healthcare packages and high impact interventions to address the Big 5 health challenges**

Big 5 health challenges	Packages	Priority high impact interventions within packages
<b>Pregnancy and childbirth complications</b>	Family/community	<ul style="list-style-type: none"> <li>Empowerment of mothers, knowledge of danger signs, family planning</li> </ul>
	Basic antenatal care	<ul style="list-style-type: none"> <li>Integrated package including birth preparedness, rhesus testing, sexually transmitted infection identification and management including syphilis, voluntary counselling and testing, PMTCT, tetanus toxoid vaccination</li> </ul>
	Basic intrapartum care	<ul style="list-style-type: none"> <li>Care by skilled attendant during labour, including partogram and fetal monitoring</li> </ul>
	Emergency obstetric care	<ul style="list-style-type: none"> <li>Correct management of complications where these arise, maternal life saving skills and neonatal resuscitation</li> </ul>
	Postnatal care	<ul style="list-style-type: none"> <li>Counselling on maternal and newborn danger signs, immediate breastfeeding or appropriate feeding</li> </ul>
<b>Newborn illness</b>	Integrated within all maternal and child care packages	<ul style="list-style-type: none"> <li>Routine care for all newborns including PMTCT (where indicated) and infant feeding counselling and support</li> <li>Management of birth asphyxia (including neonatal resuscitation)</li> <li>Care of preterm babies (including Kangaroo Mother Care)</li> <li>Appropriate treatment of infection and other neonatal complications</li> </ul>
<b>Childhood illness</b>	Household and community IMCI/ Preventive child healthcare	<ul style="list-style-type: none"> <li>Growth monitoring and promotion, immunisations</li> <li>Injury prevention</li> <li>Oral rehydration therapy</li> </ul>
	IMCI/Emergency care for sick children	<ul style="list-style-type: none"> <li>Pneumonia, diarrhoea and neonatal sepsis case management</li> <li>Care of HIV infected children</li> </ul>
<b>HIV &amp; AIDS</b>	Integrated within all packages	<ul style="list-style-type: none"> <li>Prevention of HIV infection including dual protection</li> <li>Provider-initiated testing for pregnant women, and if HIV positive, then ART to prevent mother-to-child transmission of HIV</li> <li>ART for mother where indicated</li> <li>Support for exclusive breastfeeding or alternative appropriate feeding choices</li> <li>Testing of HIV-exposed infants at six weeks and cotrimoxazole</li> <li>Care and treatment for HIV-infected children</li> </ul>
<b>Malnutrition</b>	Integrated within all packages, Integrated Nutrition Package	<ul style="list-style-type: none"> <li>Promotion of healthy diet</li> <li>Support for exclusive breastfeeding or alternative appropriate feeding choices</li> <li>Vitamin A supplementation</li> <li>Prevention and treatment of children with HIV &amp; AIDS</li> </ul>

**Figure 1: Integrated healthcare packages for maternal, newborn and child health according to when and where care is provided within the continuum of care**



Source: adapted from Kerber KJ, de Graft-Johnson JE, Bhutta ZA, Okong P, Starrs A, Lawn JE. Continuum of care for maternal, newborn, and child health: from slogan to service delivery. Lancet. 2007; 370:1358-1369.

# HOW MANY MOTHERS, BABIES AND CHILDREN ARE BEING REACHED WITH ESSENTIAL CARE NOW?

To provide the best care and save the most lives, both coverage of care and quality of services need to be high. Coverage of care means ensuring that every mother, baby and child receives services when they need them. Providing quality care means doing the right thing right, right away. Intersectoral solutions are also needed; improvements in socio-economic conditions can be expected to reduce maternal, newborn and child mortality.

In South Africa coverage of most of the packages is high but care during the postnatal period in particular needs to be strengthened. Quality and equitable access to care require new attention in all packages. Figure 2 illustrates coverage of care in South Africa, with each colour representing a package within the maternal, newborn and child health continuum of care. Coverage of key HIV interventions drops at the time of childbirth and postnatal care, when it is most crucial. Lack of population-based information on these and other programmes, particularly for tracking quality of care and equity, makes assessment challenging and underscores the need for better data for decision-making.



Photo: Chris Taylor 2007

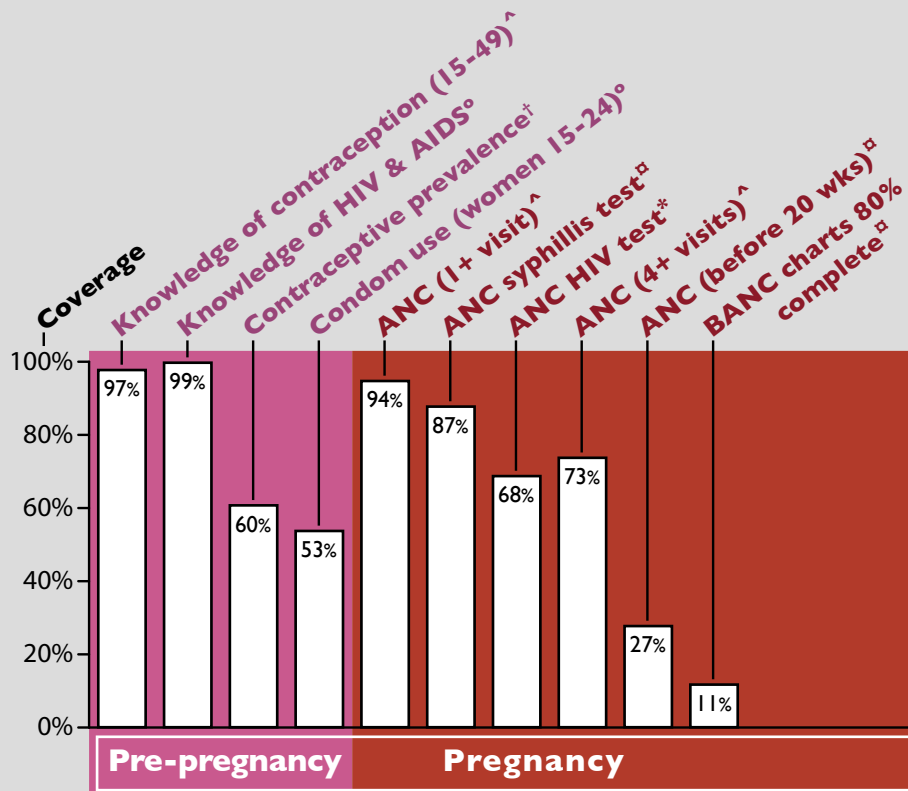
“ Providing quality care means doing the right thing right, right away. ”

**Figure 2: Coverage of key interventions for maternal, newborn and child health, by time period high-**

**Acronyms:**

- ANC** = Antenatal Care
- ARI** = Acute Respiratory Infection
- ART** = Antiretroviral Therapy
- BANC** = Basic Antenatal Care
- DPT-Hib** = Diphtheria, Pertussis, Tetanus and Haemophilus Influenzae B Vaccination,
- KMC** = Kangaroo Mother Care

Sources:  
<sup>^</sup>=National Department of Health, Medical Research Council, Measure DHS. 1998 South Africa Demographic & Health Survey. Calverton, MD: Measure DHS, 2002.  
<sup>o</sup>=National Department of Health, Measure DHS. 2003 South Africa Demographic & Health Survey, Preliminary Report. Calverton, MD: ORC Macro; 2004.  
<sup>†</sup>=UNICEF, State of the World's Children 2008.  
<sup>\*</sup>=Barron P et al. The District Health Barometer 2005/06. Durban: Health Systems Trust; 2007.  
<sup>□</sup>=Pattinson RC, et al. Report to UNICEF on the scaling-up of the Basic Antenatal Care quality improvement programme in two sub-districts per province in South-Africa (Draft). Pretoria: MRC Maternal and Infant Health Care Strategies Research Unit and the University of Pretoria; 2007.



# MISSED OPPORTUNITIES FOR SAVING LIVES

## Coverage gaps

The coverage gap is the difference between current coverage of a package and reaching every one who needs it. Coverage is relatively high for the packages of antenatal care, intrapartum care and childhood immunisation. However, routine postnatal care falls between maternal and child health packages. Coverage of HIV & AIDS interventions follow the characteristic cascade of diminishing service use and delivery during pregnancy, through childbirth to a low in the postnatal period when support to sustain feeding choices is especially crucial. This highlights missed opportunities for prevention of mother-to-child transmission, and care for HIV-positive mothers and babies which could be integrated and implemented through the existing packages in the continuum of care.

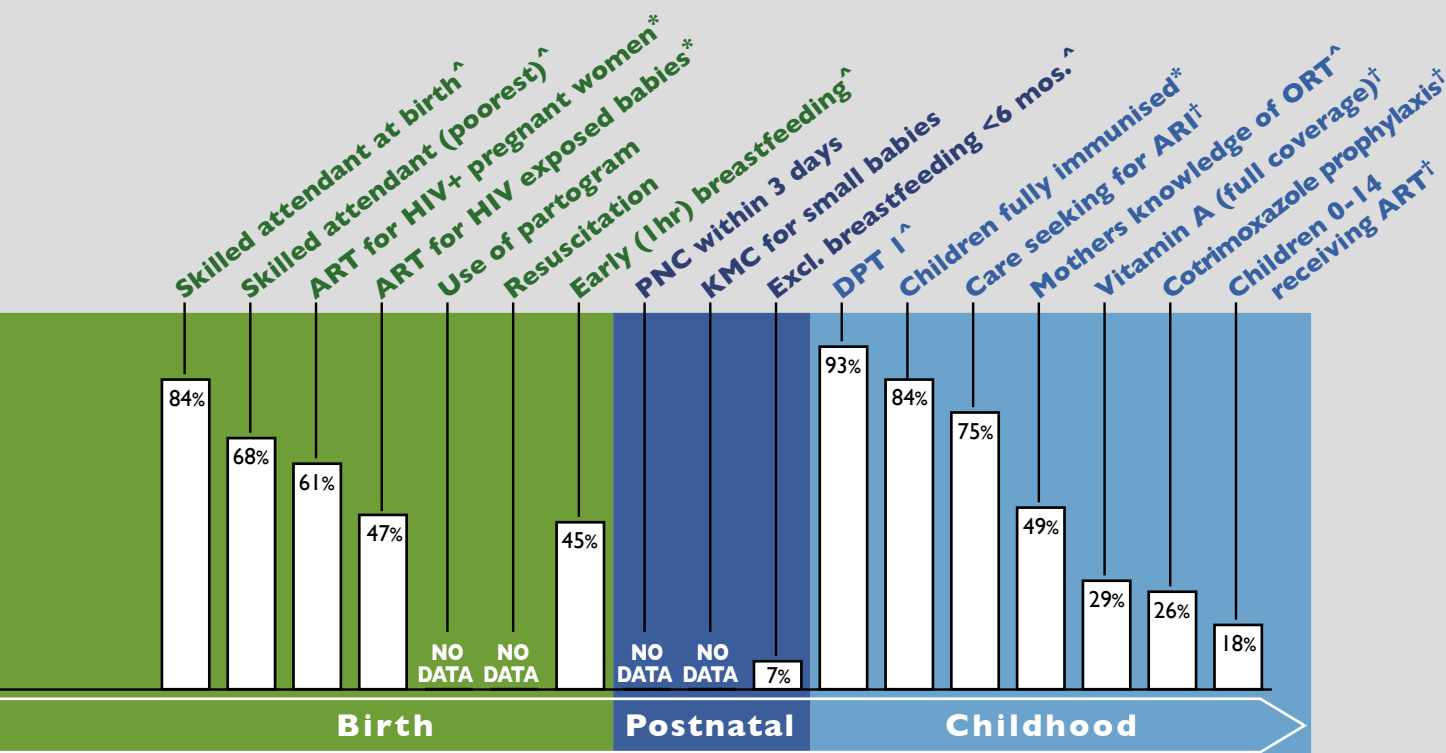
## Quality gaps

The quality gap is the difference between the coverage of the basic package and the right intervention at the right time, for example the gap between pregnant women receiving any antenatal care and those who receive antenatal care before 20 weeks. There are important opportunities to include high impact care in each of the key packages including antenatal, childbirth and childhood care, as well as improving the quality of interventions for HIV & AIDS through integration. Ingredients for quality service provision include the availability of people with the right skills, and the essential equipment and drugs. Quality care is particularly important during childbirth, which is the riskiest time for mothers and babies and when delays of even minutes can cost lives.

## Equity gaps

Equity gaps are hidden in national averages, which mask disparities in coverage between rich and poor, the public and private health sectors, between provinces, and among rural, urban, and peri-urban populations. Even for some primary health interventions such as immunisation, coverage is lower for the poorest families, requiring improved intersectoral solutions. For complex care, the gap between rich and poor is even greater. For example, as shown in Figure 2, skilled attendance during childbirth is a third lower among the poorest families compared to richer families. Increased investment to improve access to care must be systematically improved to reach the poorest families, particularly during childbirth and the postnatal period. According to the latest national District Health Barometer, primary health care expenditure is three and a half times more in the district with the highest spending compared to the lowest, and the per capita primary health expenditure is below the national average in seven of the ten most deprived districts.

Lighting the gap around the time of childbirth and postnatal care and cascading HIV interventions



# SPECIFIC STRATEGIES TO IMPROVE QUALITY IN EXISTING PROGRAMMES

Coverage and quality of care depend on the right actions by the right people. Avoidable deaths occur when coverage of essential interventions and quality of care given by healthcare managers and healthcare providers is low, or delays happen.

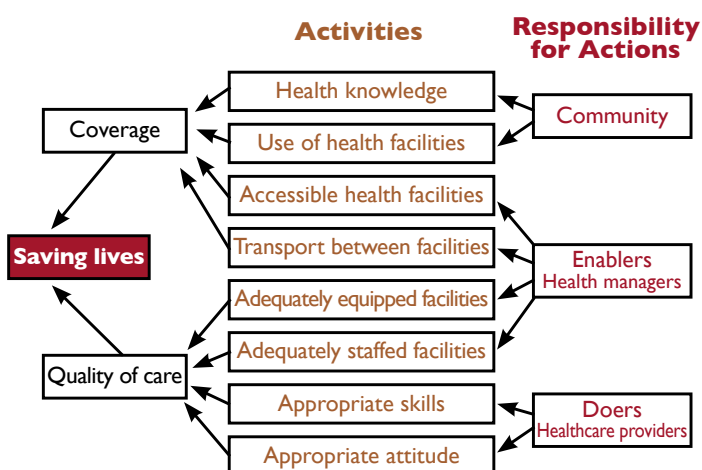
In the *Saving Mothers*, *Saving Babies*, and *Saving Children* audits, deaths are reviewed to determine whether there were specific modifiable factors linked with each death, and what could be done better. Based on this analysis, some of the common strategies throughout the reports include:




**Family/Community** engagement can avoid many deaths by ensuring that families are equipped with appropriate healthcare messages on danger signs and care-seeking. They also must be empowered to demand quality care.

**Policy makers and managers** are the *enablers*. It is their responsibility to provide adequate facilities in appropriate sites, maintain equipment and drugs, provide staffing norms and ensure positions are filled, and guarantee adequate transport between institutions.

**Healthcare providers** are the *doers*. It is crucial that they acquire and maintain adequate and appropriate skills for their position, and use these skills with a caring and respectful attitude toward their patients.

**Figure 3: People with the power to save lives by improving coverage and quality of care**



<b>SITUATION NOW</b> Modifiable factors from the three audit reports	 <b>Maternal deaths</b> <i>Saving Mothers</i> (NCCEMD)
	 <b>Stillbirths and newborn deaths</b> <i>Saving Babies</i> (PPIP)
	 <b>Infant and child deaths</b> <i>Saving Children</i> (Child PIP)
<b>SOLUTIONS</b> For The Big 5 Health Challenges	<b>Pregnancy and childbirth complications</b>
	<b>Newborn illness</b>
	<b>Childhood illness</b>
	<b>HIV &amp; AIDS</b>
	<b>Malnutrition</b>



	<b>Family/ Community</b>	<b>Policy makers and managers Enablers</b>	<b>Healthcare providers Doers</b>
	44% of maternal deaths had a modifiable factor related to family/community action, e.g. inadequate or no antenatal care	32% of maternal deaths had a modifiable factor related to policy maker or managerial action, e.g. lack of blood for transfusion, transport between health institutions	54% of maternal deaths had a modifiable factor related to healthcare provider action at the primary facility level; 48% at secondary level; and 37% at tertiary level, e.g. patient managed at an inappropriate level
	38% of stillbirths and early neonatal deaths had a modifiable factor related to family/community action, e.g. delay in seeking care during labour	19% of stillbirths and early neonatal deaths had a modifiable factor related to policy maker or managerial action, e.g. personnel not available or not sufficiently trained	35% of stillbirths and early neonatal deaths had a modifiable factor related to healthcare provider action, e.g. poor response to maternal hypertension
	25% of all modifiable factors in child deaths were related to family/community action, e.g. caregiver did not recognise severity of the illness	22% of all modifiable factors in child deaths were related to policy maker or managerial action, e.g. lack of senior doctors and nurses, and insufficient paediatric beds	53% of all modifiable factors in child deaths were related to healthcare provider action, e.g. IMCI not used in clinics, and poor assessment and management in hospitals

<ul style="list-style-type: none"> <li>• Knowledge of danger signs and risk factors during pregnancy</li> <li>• Ability to plan for place of delivery</li> </ul>	<ul style="list-style-type: none"> <li>• Functional referral routes and criteria for pregnant women</li> <li>• Appropriate and functional equipment in clinics and hospitals</li> <li>• Access to contraception and family planning</li> </ul>	<ul style="list-style-type: none"> <li>• Proper use and interpretation of partogram</li> <li>• Knowledge and use of appropriate obstetric protocols</li> <li>• Completion and certification of ESMOE course</li> </ul>
<ul style="list-style-type: none"> <li>• Postnatal visit within 3 days of discharge either at hospital or home</li> <li>• Knowledge of newborn danger signs</li> <li>• Appropriate feeding practices</li> </ul>	<ul style="list-style-type: none"> <li>• Functional referral routes and criteria for newborns, including emergency transport for newborns</li> <li>• Appropriate staffing, skills, equipment and guidelines for managing sick babies, including KMC</li> <li>• Adaption of IMCI to include newborn care</li> </ul>	<ul style="list-style-type: none"> <li>• Be able to resuscitate newborns and provide emergency care</li> <li>• Provide care to small babies, including KMC</li> <li>• Postnatal visit within 3 days of discharge</li> </ul>
<ul style="list-style-type: none"> <li>• Scale up community IMCI</li> <li>• Knowledge of danger signs in sick children</li> <li>• TB contact tracing</li> </ul>	<ul style="list-style-type: none"> <li>• Functional referral routes and criteria for sick children</li> <li>• Improve TB contact tracing</li> <li>• Appropriate and functional equipment in clinics and hospitals</li> </ul>	<ul style="list-style-type: none"> <li>• Use of IMCI case management and other standardised treatment guidelines correctly</li> <li>• Ensure that all HIV-infected children are identified and receive appropriate care</li> </ul>
<ul style="list-style-type: none"> <li>• Universal testing for HIV</li> <li>• Promotion of HIV prevention strategies</li> <li>• Accurate information provided to the community about communicable diseases</li> </ul>	<ul style="list-style-type: none"> <li>• Provider-initiated counselling and testing at all levels of care</li> <li>• Integration of PMTCT into routine antenatal care</li> <li>• Enable the implementation of the HIV &amp; AIDS Nation Strategic Plan</li> <li>• ART to be available in all delivery facilities</li> <li>• PCR testing and cotrimoxazole linked to 6 week immunisation visit</li> </ul>	<ul style="list-style-type: none"> <li>• PMTCT guidelines and HIV &amp; AIDS treatment guidelines to be known and followed</li> <li>• HIV testing and interventions to be clearly recorded</li> <li>• Ensure that all HIV positive pregnant women have a CD4 test and eligible women are fast tracked for ART</li> <li>• Counselling on infant feeding options</li> </ul>
<ul style="list-style-type: none"> <li>• Nutrition support for pregnant and lactating women</li> <li>• Community awareness for exclusive breastfeeding</li> <li>• Community-based growth monitoring programmes</li> </ul>	<ul style="list-style-type: none"> <li>• Implementation of the Integrated Nutrition Programme, ensuring nutritional support (macro and micro) at all levels of care</li> <li>• Availability of nutritional supplements</li> <li>• Ensure the Baby-Friendly Hospital Initiative is implemented at all maternity facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Follow Baby-Friendly Hospital Initiative protocols</li> <li>• Provide Vitamin A supplementation and appropriate infant feeding counselling and support</li> <li>• Identify and manage children who are at risk for malnutrition</li> <li>• Follow WHO 10 steps for management of severe malnutrition</li> </ul>

**Acronyms:** **ART**=Antiretroviral Therapy, **ESMOE**=Essential Steps in Managing Obstetric Emergencies, **IMCI**=Integrated Management of Childhood Illness, **KMC**=Kangaroo Mother Care, **PMTCT**=Prevention of Mother to Child Transmission of HIV, **TB**=Tuberculosis, **WHO**=World Health Organization

# SAVING LIVES WITH HIGH COVERAGE AND QUALITY OF CARE

We have the solutions to save lives but they are not reaching those in most need, or they are not being implemented with the quality needed. If the priority high-impact interventions reached all families in South Africa, at least 40,200 babies and children would be saved every year. This analysis is based on an updated version of *The Lancet* neonatal and child survival modelling using the latest information for South Africa.<sup>5</sup> Even more lives could be saved by improving the care already available in South Africa but not included in this analysis – for example neonatal intensive care. In addition a high proportion of women's lives could be saved with the same investment in solutions to address the Big 5.

Improving management of labour through timely interpretation of partograms could save most of the 7,300 babies dying each year as intrapartum stillbirths or early neonatal deaths. Halving the intrapartum deaths in normal sized babies (2,500 grams or more) would reduce stillbirths and early neonatal deaths by 20%, according to PPIP data. This reduction should be immediately attainable as safe childbirth is the core function of midwives and obstetricians.

<sup>5</sup> Updated analysis based on: Darmstadt GL, et al. Evidence-based, cost-effective interventions: how many newborn babies can we save? *Lancet* 2005; 365:977-988 and Jones G, et al. How many child deaths can we prevent this year? *Lancet* 2003; 362:65-71.

“We have the solutions to save lives but they are not reaching those in most need...”



Photo: Chris Taylor/Save the Children, 2008

## Important interventions not to be forgotten

### Fewer unwanted pregnancies in South Africa

South Africa has a relatively high uptake of family planning, with 62% of women using modern contraception and widespread knowledge of effective family planning practices. This is important because pregnancies that are “too early, too late, too many and too close” affect maternal, newborn and child health.

However, there is still room to improve. High rates of HIV infection point to a continued need to strengthen family planning programmes. Lack of integration between family planning and HIV prevention programmes, particularly for adolescents, is a missed opportunity. Greater outreach to poor populations is needed, especially those in rural areas where an unmet need for family planning remains high. Termination of pregnancy is legal in South Africa and deaths from unsafe abortion are declining, but occur still too often.

### Saving lives with immunisation

Immunisation is a success story of South Africa's primary health care with 84% of infants being fully immunised (BCG, hepatitis B, polio, DPT3-Hib, measles) during 2006. In October 2006, South Africa was declared polio free. In 2006, only 82 cases of measles were confirmed nationally, with only one death. Maternal and neonatal tetanus, a disease that still kills tens of thousands of Africans each year, has been eliminated in South Africa. However, ongoing vigilance is necessary to ensure that elimination status is maintained. New vaccines have also been introduced, in particular those against Hepatitis B and Haemophilus influenzae type B (HiB) infections.

# ACTIONS FOR HEALTH POLICY MAKERS TO SAVE THE LIVES OF MOTHERS, BABIES AND CHILDREN

Health policy makers have ensured that South Africa's goals are clear and many policies are in place. The task now is to track and manage progress in implementation of these policies, especially ensuring that the poorest families have access to quality care.

- 1** Invest in the implementation of the HIV & AIDS and STI National Strategic Plan 2007-2011, concentrating on provider-initiated testing, dual therapy in PMTCT and universal coverage of antiretroviral therapy, and supporting the integration of HIV & AIDS and nutrition programmes with maternal, newborn and child healthcare packages. This requires equitable and accessible healthcare services, prioritising single-parent families, orphans and vulnerable children. Sustained commitment to scale-up is the way to meet the nationally-agreed target of reducing mother-to-child transmission of HIV to 5%.
- 2** Ensure full implementation of the high impact packages outlined in this report, including high quality antenatal and intrapartum care; new policies for the provision of postnatal care visits and support after the first week after childbirth, community and facility-based IMCI and the Integrated Nutrition Programme. Increase funding for the highest burden districts, redressing the current imbalance of primary health care spending.
- 3** Provide an enabling environment through defined norms, standards and operational plan for human resources and equipment, effective referral, and investment in capacity-building and support for provincial and district managers.
- 4** Increase monitoring and evaluation efforts through the completion of maternal, perinatal and child mortality audits at all hospitals and request quarterly reports for management at the district and provincial level so these audits are linked to management action and promote higher coverage and quality of birth and death certification.
- 5** Develop and widely promote an agreed set of family health messages to save the lives of mothers, newborns and children, particularly recognition of danger signs and information regarding the care every family has the right to receive.

## The power of national policy change to give a healthy start in life

**Problem:** High numbers of babies with neural tube defects, one of the most common congenital abnormalities which cause long-term disability. The cost of successfully treating these babies is high for the health system and for families.

**Solution:** In 2003, the Department of Health launched the National Food Fortification Programme aimed at reducing micronutrient deficiencies in South Africa. The Department of Health programme and legislation followed extensive consultation with the public health and scientific community as well as the milling industry and consumer groups, resulting in fortification of maize meal and wheat flour with vitamin A, riboflavin, niacin, pyridoxine, folic acid, iron and zinc. The fortification programme is the most extensive in sub-Saharan Africa.

**Result:** According to data compiled at national level from Saving Babies and other sources, the birth prevalence of babies born with neural tube defects was reduced by over a third after folate fortification. This policy change along with the legalisation termination of pregnancy services have successfully contributed to making this costly condition rare.



Photo: Chris Taylor 2007

Source: Sayed AR, Bourne DE, Nixon J, Henderson B. Decline in the prevalence of Neural Tube Defects following folic acid fortification in South Africa. (2008) Birth Defects Research Part A: Clinical and Molecular Teratology. (In press)

# ACTIONS FOR HEALTH MANAGERS TO SAVE THE LIVES OF MOTHERS, BABIES AND CHILDREN

The South African District Health System provides the service delivery framework for delivering equal and appropriate access for all South Africans to all levels of care. Health managers at all levels are tasked with efficient and effective implementation. The following are the top priorities:

- 1 Implement the full HIV & AIDS and STI National Strategic Plan 2007-2011, encouraging capacity development of local staff and ensuring adequate facilities are available to provide high quality care. Oversee the integration of PMTCT within existing maternal and child health programmes.
- 2 Be accountable for the implementation and management of the high impact packages outlined in this report, including high quality antenatal and intrapartum care, community and facility-based IMCI and the Integrated Nutrition Programme.
- 3 Follow norms and standards, ensuring availability of appropriate, well-supervised staff, supportive training and adequate equipment and drugs, particularly in hard-to-serve areas.
- 4 Encourage all districts to establish procedures for monitoring and evaluating coverage and quality of care, and to making this data publicly available. Encourage all facilities to undertake mortality audit and address modifiable factors.
- 5 Ensure families can access care at the right time by improving referral criteria and patient transport systems at district, regional and provincial levels. This includes linking community-based programmes, which aim to improve knowledge and care-seeking behaviour, and to empower families and community members to take responsibility for their own health.

## Saving small babies with Kangaroo Mother Care



Photo: Elise van Rooyen, 2006

**Problem:** Complications of preterm birth account for 45% of all newborn deaths in South Africa. These small babies need extra care and warmth, and incubators often are not available.

**Solution:** Kangaroo Mother Care (KMC) is a method of caring for small babies where the baby is secured to the mother's front, promoting warmth and breastfeeding, and preventing infections. KMC has been shown to be more effective than incubator care for stable small babies. It is a low-cost and resource-efficient method that encourages early discharge and requires less nursing staff as the mother does most of the caring and only needs to be taught and observed.

**Result:** KMC implementation is one of the great success stories for the care of small babies in South Africa. KMC was first introduced into the Western Cape in the mid 1990's and has gradually been implemented in most provinces in South Africa using province-wide roll-outs. Neonatal mortality among babies in hospitals between 1-2 kg using KMC is 20% lower than in hospitals not using KMC. According to Perinatal Problem Identification Programme (PIIP) data, hospitals that have introduced KMC have seen a 30% reduction in neonatal mortality for babies 1-2 kg.

Source: Pattinson RC, Arsalo I, Bergh AM, Malan AF, Patrick M, Phillips N. Implementation of kangaroo mother care: a randomized trial of two outreach strategies. *Acta Paediatr* 2005; 94(7):924-927, and Pattinson RC, Bergh AM, Malan AF, Prinsloo R. Does kangaroo mother care save lives? *J Trop Pediatr* 2006; 52(6):438-441.

# ACTIONS FOR HEALTHCARE PROVIDERS TO SAVE THE LIVES OF MOTHERS, BABIES AND CHILDREN

The individuals providing services at every level are a vital ingredient in the health system. Healthcare providers can take specific actions to improve services by increasing availability of the best possible care, being competent and being family friendly.

- 1 Take every opportunity to encourage all patients (mother and child) to test for HIV infection and follow through with appropriate care, particularly PMTCT and ART if needed.
- 2 Be aware of and maintain competency in standard care protocols, including correct assessment of patients and lifesaving skills, especially during labour, childbirth (neonatal resuscitation) and the management of childhood illnesses.
- 3 Follow protocols for nutrition management (e.g. Baby-Friendly Hospital Initiative, WHO 10 Steps for management of severe malnutrition, Vitamin A supplementation) and identify malnourished babies and children at primary health clinics.
- 4 Supervisors at all levels, from unit managers to executives, must be accountable for quality of patient care and use results from maternal, perinatal and child mortality audits to improve quality of care.
- 5 Promote healthy home behaviours and appropriate care-seeking among families.

## Providers at Witbank Hospital take action to improve prevention of mother-to-child transmission of HIV

**Problem:** The Child PIP data revealed that nearly 89% of children dying in Witbank hospital in 2005 were either HIV exposed or infected and that 44% of the deaths were due to pneumocystis jiroveci pneumonia (PCP). The paediatric team at Witbank Hospital reviewed the PMTCT data, which showed that 71% of HIV infected mothers whose children were dying had not received nevirapine. When it was discovered that only 15% of mothers agreed to be tested, counselling practices were investigated. The low testing rate was thought to be due to poor understanding of HIV, and vertical transmission prevention on the part of both counselors and mothers, and because only opt-in, group counseling was offered.

**Solution:** The team then worked hard at improving counseling, which became individual and focused, with opt-out testing encouraged. Within a few months, 85% of mothers who came to Witbank Hospital were being tested.

**Result:** Healthcare providers at Witbank Hospital in Mpumalanga used audit data from the Child PIP to identify a significant problem, implement a solution and monitor change. The Child PIP data from the following year showed an almost 60% decrease in deaths due to PCP with a significant decrease of 37% in the inpatient death rate for children. The team at Witbank Hospital made a significant impact on child healthcare by making every death count, changing care and saving lives.

Source: Patrick M, Stephen C. Saving Children 2005: A survey of child healthcare in South Africa. Pretoria: MRC Unit for Maternal and Infant Health Care Strategies; 2007.



Photo: Marilyn Keegan, COHSASA/Photoshare, 2005

# ACTIONS

## FOR TRAINING INSTITUTIONS AND TRAINERS TO SAVE THE LIVES OF MOTHERS, BABIES AND CHILDREN

Coverage and quality of care depends on having enough staff with the right skills in the right places. This depends on training and sustaining adequate numbers of the right healthcare providers and on educational quality.

- 1 Review and update pre-service and in-service training for healthcare providers to incorporate the latest accepted guidelines for national maternal, newborn and child healthcare programmes, HIV and the Integrated Nutrition Programme, such as Basic Antenatal Care (BANC), emergency obstetric and neonatal care and Integrated Management of Childhood Illness (IMCI), emphasising thorough assessment of patients and key competencies (e.g. partogram usage, neonatal resuscitation, Kangaroo Mother Care, and the identification and management of severely ill children) in curricula and examinations.
- 2 Ensure that healthcare providers who are licensed, certified or registered by the standard setting bodies, such as the Health Professionals Council of South Africa, Colleges of Medicine (Obstetricians and Gynaecologists, Paediatrics) and Nursing Council, are being trained and examined to a sufficient standard to provide high quality, appropriate care for their patients.
- 3 Provide trainers with experience and involvement in mortality audit systems used to improve the quality of care, throughout their areas of responsibility.
- 4 Track the number of personnel trained and work with national policy makers on human resource policies to set norms and standards for human resource planning including innovative use of different cadres and delegation of tasks.
- 5 Ensure healthcare providers are able to counsel, maintain confidentiality and be respectful of patients and their families.

## Training programme improves quality of care for pregnant women

**Problem:** Antenatal care has been provided on specific days by designated primary healthcare nurses or midwives. A new policy where primary healthcare workers see all patients led to an acute skills gap as many of the healthcare providers were not familiar with the full requirements of antenatal care.

**Solution:** A specifically designed Basic Antenatal Care (BANC) quality improvement training package was developed by the Medical Research Council to fill this skills gap. After an initial pilot in South-west Tshwane and the Nelson Mandela Metro, and supported by the Medical Research Council, UNICEF and the National Department of Health, the BANC training package was introduced to two sub-districts in each province.

**Result:** The quality of antenatal care provided by these clinics before training was low, with an audit of nearly 3,000 antenatal cards showing that only 11% scored eighty percent or above. After implementation of BANC, there was a four-fold increase in the number of antenatal cards scoring 80% or more, in those sites that implemented the programme, illustrating that training can improve the quality of care at scale, as all provinces now have healthcare providers trained in BANC.

Source: Pattinson RC, Etsane E, Snyman JS, Bezuidenhout C, Sutton V, Ferreria T, Bergh AP, Makin, JD. Report to UNICEF on the scaling-up of the Basic Antenatal Care quality improvement programme in two sub-districts per province in South-Africa, Draft, Pretoria: MRC Maternal and Infant Health Care Strategies Research Unit and the University of Pretorium, 2007.



Photo: Chris Taylor/Save the Children, 2008

# MAKE EVERY DEATH COUNT

New attention to meeting national, regional and global development goals means that there is new impetus to reduce maternal, newborn and child deaths and also to improve the care provided at all levels within the District Health System. The target is 2015 and the time is short. Interventions to save lives are available and require action now.

## Policy makers...

Health policy makers have the opportunity to support the implementation of existing policies that save lives and investing in and being accountable for results.

## Health managers...

Managers have the ability to improve the healthcare environment by ensuring that facilities are well-equipped and adequately staffed, and that high impact interventions are implemented in a co-ordinated and integrated way. Having good provincial and district data for management is an important priority.

## Healthcare providers...

Providers can respond by reflecting on the quality of care they currently provide, ensuring competency in key life-saving skills and actively improving care for mothers, babies and children.

## Training institutions and trainers...

Healthcare educators are tasked with ensuring that clinical personnel are qualified to provide high quality services and develop the necessary communication skills.

## Families and communities...

Families should know their rights and demand quality care, protect themselves and their children from HIV & AIDS, support community health initiatives, and know how to seek care at the right time and the right place.

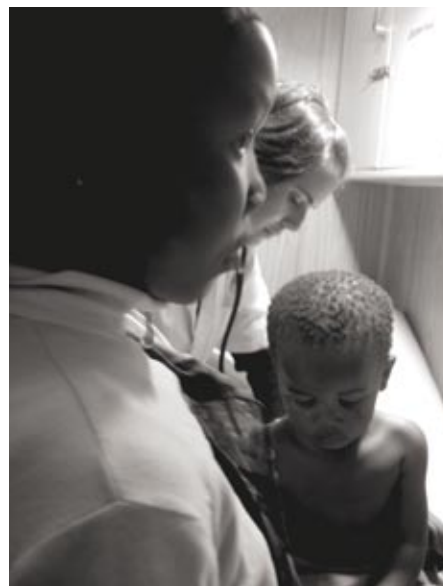


Photo: Sangini Shah/Photoshare, 2005

## Improving information for action

Data that is used in the proper context and in a way that makes sense to the user can be powerful – for strengthening policy, assessing progress, directing programmes, protecting the poor and mobilising commitment and resources. There is a lot of data in South Africa, such as the District Health Barometer; however, some important information is still missing or needs improvement. Data for action is important at district, provincial, and national level.

**Mortality rates:** It is important to improve vital registration coverage and accuracy of death certificates. Regular, reliable population-based surveys will be required to track neonatal, child and maternal mortality rates until vital registration is complete. Data is lacking on deaths that do not occur at a health facility.

**Cause of death, especially HIV status:** Cause of death information needs to be appropriately captured on death certificates. Cause of death data in vital registration and facility-based audit needs to be consistent and comparable. Cause of death data is missing for those dying outside facilities and may require special studies. The cause of many stillbirths is still unknown and late neonatal deaths are under-represented in current data collection. HIV & AIDS status is unknown for approximately half of all deaths – all facility-based deaths should have clinical staging if not HIV-testing.

**Postnatal care for mother and baby:** More information is needed on strategies for providing postnatal care, as well as data on the number and timing of postnatal visits within three days of birth, whether at home or at a health facility. Other indicators relating to uptake of healthy behaviours and quality of care during this crucial time period when mothers and babies are most at risk.

**Integrated Management of Childhood Illness:** While there is some data on numbers of staff trained and children seen, information is needed on coverage, outcomes and the quality of care provided.

**Equity:** Data should be disaggregated by province, district and urban/peri-urban/rural populations. There must be a focus on capturing information on mothers and children who die at home – often the poorest and most vulnerable in society.

**Increasing the coverage of audit:** NCCEMD, PPIP and Child PIP provide insight into gaps in the healthcare system, highlighting actions that can be taken to improve care, however there are still a number of sites not using PPIP and Child PIP and not fully participating in NCCEMD.

## How can you use this report and who is it for?

Each year in South Africa at least 1,600 mothers die due to complications of pregnancy and childbirth, 20,000 babies are stillborn and another 22,000 die before they reach one month of age. An additional 53,000 children die before their fifth birthday. This toll of over 260 deaths every day is related to 5 major challenges: pregnancy and childbirth complications, newborn illness, childhood illness, HIV & AIDS and malnutrition. More than half of these lives could be saved with full coverage of basic packages, even without intensive care.

The authors of the three mortality audit reports – *Saving Mothers*, *Saving Babies* and *Saving Children* – have come together to present a unified call for action to save the lives of South Africa's mothers, babies and children. Everyone has a role to play, from healthcare providers, health policy makers and managers, to families and communities. We all must work together to strengthen the District Health System by unlocking the talent and resources that should be available to all mothers, babies and children in South Africa. If you are reading this, you are that talent.

Use your talent in your national department or directorate, your province, your district, your institution and your community. Use your talent to improve the quality of care that mothers, babies and children receive in South Africa. By doing this, at the very least, you will honour those of our country's people who died earlier than they should have.



Photo: Chris Taylor/Save the Children, 2008

## References and more reading

More detail on the data used in this publication, audit reports and recommendations available at [www.childpip.org.za/everydeathcounts](http://www.childpip.org.za/everydeathcounts)  
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