Literature Review on Maternal Health, Soul City
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1. Background to promotion of maternal health

From state resources to public health concern

For centuries, caring for pregnant women and newborn babies was considered a private affair, the realm of midwives and mothers. The creation of public health programmes to care for mothers and children has its origins in late 19th century Europe where healthy mothers and children were seen as economic, political and military resources for states who believed that unhealthy children threatened their cultural and military aspirations. Over time, medical, charitable and governmental authorities increasingly saw the health of mothers and children as a legitimate cause in its own right. At the same time, workers and women's movements and organizations also took up the cause of women and children's health. The advent of the 20th century saw considerations of maternal and child health assume the status of a public health priority, with corresponding responsibilities for the state (World Health Report, 2005).

Women and children as vulnerable groups and targets of population control

The United Nation's Universal Declaration of Human Rights in 1948 spelt out the roles and responsibilities of governments and states to "provide special care and assistance" for mothers and children. The Constitution of the World Health Organization (WHO) declared that one of its core functions was "to promote maternal and child health and welfare". The 1950s saw development agencies characterizing mothers and children as vulnerable groups, "priority targets" of their national health plans and policy documents (World Health Report, 2005). However, in a large number of countries with high fertility rates, this translated into population policies and programmes focused on reduction of fertility growth and population control. In this context, women's health services consisted of mainly maternal and child health services with an emphasis on contraceptive services aimed at limiting population growth (Ravindran, 2005; Cooper et al, 2004).

The notion of mothers and children as vulnerable groups was also central to the primary health care movement launched at Alma Ata in 1978 (World Health Report, 2005). This approach emphasized health as a human right, highlighting equity in resource distribution, expanded access through decentralized services aimed at promoting local health needs and community involvement, and the provision of preventive and promotive health care (Cooper et al, 2004).

Health of mothers and children is an issue of rights

Changes in the political climate and lobby and pressure from civil society organizations (particularly women's organizations) have led to several human rights treaties and programmes of action making specific mention of state obligations to promote maternal health and women's sexual and reproductive health and rights. These agreements and treaties have also highlighted how the promotion of gender equality, poverty reduction and sexual and reproductive health and rights go hand in hand.

Legally binding to all state signatories, the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW), adopted in 1979, charges states with the responsibility to ensure appropriate maternal health services. Specifically, Article 16 (e) of CEDAW provides that state parties shall ensure men and women "the same rights to decide freely and responsibly on the number and spacing of their children and to have access to the information, education and means to enable them to exercise these rights". Article 14 of CEDAW also calls on governments to make special efforts to ensure that rural women are not disadvantaged, specifically with regard to "access to adequate health care facilities, including information, counselling and services in family planning" (World Health Report, 2005; Center for Reproductive Rights, no date).

Promoting Safe Motherhood

Reducing maternal mortality has been seen by governments and international agencies as one of the key areas in which to promote women's maternal health. Although, reducing maternal mortality at times requires different strategies to promoting maternal health, they are integrally related.

Placing a concern for women's rights center stage in order to promote safer motherhood was undoubtedly one of the outcomes of the International Conference on Population and Development (ICPD) held in Cairo in 1994. The landmark Programme of Action (POA) embodied a historic shift from concerns with population control and fertility regulation to the promotion of women's human and reproductive health and rights within a development context. The POA was a twenty- year plan that called for governments to provide universal access to reproductive health services (maternal and child health care being a subset) within the framework of primary health care by the year 2015.

Considering maternal health and maternal mortality specifically, the ICPD POA called on governments, donours and members of the international community to cut the number of maternal deaths in half by 2000, and in half again by 2015.

At the same time, the ICPD POA urged governments, donours, members of the international community to:

> "recognize the linkages between high levels of maternal mortality and poverty and promote the reduction of maternal mortality and morbidity as a public health priority and reproductive rights concern; [and] ensure that … women have ready access to essential obstetric care, well-equipped and adequately staffed maternal health-care services, skilled attendance at delivery, emergency obstetric care, effective referral and transport to higher levels of care when necessary…"

Key actions for the further implementation of the ICPD POA, 62 (A,B) cited in Family Care International, 2000.

The women's rights perspective enshrined in the ICPD POA was consolidated in Beijing during the 1995 Fourth World Conference on Women (FWCW) Platform for Action. Most notably for the discussion on maternal health, the Platform for Action defined sexual rights as "the human rights of women include their right to have control over and decide freely and responsibly on matters related to their sexuality,

including sexual and reproductive health, free of coercion, discrimination and violence" (FWCW Platform for Action, 96 in Family Care International, 2000).

These are landmark agreements and important tools in turning around contexts in which women's lack of sexual and reproductive decision-making power leads to unwanted and mistimed pregnancies, unsafe abortions and maternal morbidity and mortality.

Contested terrain

Women's right to control their bodies, sexuality and reproduction, and to self-determination and autonomy in all spheres of life have been constant battlegrounds throughout the ages. The political recognition and respect for women's rights that was achieved during these two international policy meetings, along with other international human rights treaties, was the outcome of extensive lobbying and alliance building between the women's movement and other members of civil society, sympathetic governments and donour agencies.

However, conservative political and religious forces have fought hard to deny women these rights, and are seeking to undermine women's sexual and reproductive health and rights now. This has resulted in governments (especially the USA) limiting and withdrawing funding from effective programmes that support women's sexual and reproductive health and rights; censoring or distorting information and research on comprehensive health interventions and issues; and reneging on previous international agreements involving sexual and reproductive health and rights (Gita and Sen, 2005).

At the same time, macro economic policies promoted by the World Bank and the International Monetary Fund (IMF), have resulted in the promotion of health sector reforms which essentially promote the privatisation of health care and the limitation of health services to an essential package, a far cry from the comprehensive sexual and reproductive health services provided through the primary health care services, as agreed to in the ICPD POA (Ravindran and de Pinho (ed), 2005).

The Millennium Development Goals

Heads of state and governments, convened at the United Nation's Millennium Summit, adopted a Declaration which aims to halve the proportion of people living in extreme poverty by 2015. The Declaration sets out eight Millennium Development Goals[1] (MDGs) which aim to reduce poverty and promote development, promote human rights and democracy, protect the environment, and promote peace and security. All the MDGs are to various degrees interrelated and mutually reinforcing. Goal five is to improve maternal health, whose target is to reduce by three quarters, between 1990 and 2015, the maternal mortality ratio (Freedman et al, 2005 and World Health Report, 2005).

Critics of the MDGs, although welcoming the fact that maternal mortality and the promotion of gender equality and women's empowerment are still on the international agenda, point out that reducing sexual and reproductive health to decreasing maternal

[1] The MDGs are eradicate extreme poverty and hunger; achieve universal primary education; promote gender equality and empower women; reduce child mortality; improve maternal health; combat HIV/AIDS, malaria and other diseases; ensure environmental sustainability and develop a global partnership for development.

mortality is a significant step backwards from the ICPD POA. This shift in policy could result in funding for comprehensive reproductive health care falling off the investment priorities of government and international development aid (Ravindran, 2005; Simwaka et al, 2005).

2. Scope of the topic

▪ What is maternal health?

Maternal health has been defined as safe motherhood, narrowly defined to mean ensuring that all women receive the care they need to be safe and healthy through pregnancy and childbirth (Family Care International, 2000).

Although most initiatives and programmes state the need to promote maternal health, progress to achieve this is most often measured in terms of maternal mortality. WHO defines a maternal death as "the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes" (WHO, 1992 cited in Freedman et al, 2005).

Maternal Outcome Indicators

Goals for reducing maternal mortality are often expressed in terms of a reduction in the maternal mortality ratio. The *maternal mortality ratio* is the number of maternal deaths per 100 000 live births and measures the risk of a woman dying once she is already pregnant (Penn-Kekana and Blaauw, 2002).

The *maternal mortality rate* is the number of maternal deaths per 100 000 women aged 15 – 49 in a given period and measures a woman's risk of dying from pregnancy related causes and her risk of being pregnant at a particular period of time (Panos, 2000).

The *lifetime risk* is a measure of the probability of death over a woman's reproductive life. It assumes that most women have more than one pregnancy in their lifetime and is therefore a more realistic assessment of the risk an individual woman faces because of her reproductive capacity (Panos, 2000).

Process indicators in Maternal Health

Collecting information and data on maternal mortality ratios and rates is difficult and costly. In addition, the indicators often do not register change over a short period of time, nor do they provide clear indications as to what actions should be developed to improve the situation. In response to these difficulties, a series of process indicators have been developed. These include:

- Percentage of women who attend antenatal care;
- Percentage of women who deliver in an institution
- Percentage of women who have a skilled attendant at birth
- Caesarian section rate
- Comprehensive and essential obstetric services per 500,000 population (Penn-Kekana and Blaauw, 2002).

Maternal health from a sexual and reproductive health and rights perspective
The definitions of reproductive health and rights makes it clear that it is difficult to disentangle maternal health from reproductive health, of which maternal health is one facet.

The ICPD POA defined *reproductive rights* as the rights of couples and individuals to:

- Decide freely and responsibly on the number, spacing and timing of their children, and to have the information, education and means to do so;
- Attain the highest standard of sexual and reproductive health, and make decisions about reproduction free of discrimination, coercion and violence.

The ICPD POA defined *reproductive health* as

> "a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity, in all matters relating to the reproductive system and to its functions and processes. Reproductive health therefore implies that people are able to have a satisfying safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. Implicit in this last condition is the right of men and women to be informed and to have access to safe, effective, affordable and acceptable methods of family planning of their choice, as well as other methods of their choice of fertility regulation which are not against the law, and the right of access to appropriate health-care services that will enable women to go safely through pregnancy and childbirth and provide couples with the best chance of having a healthy infant" (Family Care International, 2000).

The ICPD POA promoted a rights based approach to sexual and reproductive health, built on existing international human rights agreements[2] and recognizes sexual and human rights as important ends in and of themselves. The main components of a rights based approach to sexual and reproductive health services are the promotion of:

- gender equity and equality;
- sexual and reproductive rights and
- client-centred sexual and reproductive health care.

The full range of reproductive health services to be provided through the primary health care system as spelt out in the ICPD POA includes:

- Family planning counselling, information, education and communication (IEC) services;
- IEC and services for prenatal care, safe delivery and post-natal care;
- Prevention and appropriate treatment of infertility;
- Abortion, including prevention of abortion and the management of complications arising from abortions[3];
- Treatment of reproductive tract infections, sexually transmitted infections and other reproductive health conditions; and

[2] These include among others, the right to life, the right to health care, the right to non-discrimination and the right to reproductive self determination (Center for Reproductive Rights, no date).
[3] As specified in paragraph 8.25 of the Programme of Action which states inter alia: 'in no case should abortion be promoted as a method of family planning...In circumstances where abortion is not against the law, such abortion should be safe'.

- IEC and counselling as appropriate on human sexuality, reproductive health and responsible parenthood.

The definition of 'comprehensive' reproductive health services also included referrals for further diagnosis and treatment as required for family planning services, complications of pregnancy, delivery and abortion, infertility, reproductive tract infections, breast cancer and cancers of the reproductive system, and sexually transmitted infections (STIs), including HIV/AIDS (Ravindran, 2005).

Approaching maternal health through the lens of sexual and reproductive health and rights includes:

- ✓ promoting women's empowerment,
- ✓ the adoption of a life cycle approach to women's health (which highlights the different health needs of women throughout their life cycle),
- ✓ a recognition of the broader dimensions of reproductive health and rights
- ✓ a recognition of the need for comprehensive sexual and reproductive health services
- ✓ The need for health services to be women centred and to be geared towards their needs and priorities first and foremost.
- ✓ a recognition of the need for poverty reduction, the right to education, housing, clean water, electricity and transport.

3. Why is it important to improve maternal and reproductive health?

The argument and rationale for the international community and governments to invest in preventing death and disability associated with pregnancy and childbirth is four fold.

- Women are human beings and as such have human rights. They have value in and of themselves because they exist and not only because they are reproducers of children, families, communities and cultures. They are citizens of countries with entitlements to the services that the state can and should provide, and should demand accountability from the people and institutions whose duty it is to fulfill these rights. Women's right to life, to health care and to non-discrimination has been codified in multiple international covenants. Governments have committed themselves to promote the sexual and reproductive health and rights of women in international agreements, plans and programmes of action (Freedman et al, 2005 and Lule et al, 2005).

- The health of infants and older children are put at risk in cases of maternal mortality and pregnancy related complications. Malnutrition in mothers accounts for a substantial proportion of neonatal malnutrition (Freedman et al, 2005). The risk of death for children under five years is doubled if their mothers die in childbirth. At least 20% of the burden of disease among children under five is attributable to conditions directly associated with poor maternal and reproductive health, nutrition and quality of obstetric and newborn care (Lule et al, 2005). Orphans are less likely to attend school and may live in households with less health and development than average (World Health Report, 2005).

- When a woman dies, the social and economic well-being of families and communities is jeopardized. Women are generally the ones that fulfill the unpaid

reproductive roles in the family and the home – the cooking, cleaning, caring for children and other family members. Frequent or too early pregnancies, poor maternal and reproductive health and pregnancy complications affect a woman's ability to fulfill these roles. In addition, morbidity or death will also affect a woman's ability to earn an income, and would contribute to a decline in her family's economic status (Lule et al, 2005).

- Strengthening maternal and reproductive health services can also benefit the health system as a whole, enhancing access and use of a broader number of reproductive health care services (Lule et al, 2005). Maternal mortality has generally been accepted as an indicator of how well a health system is functioning (Penn-Kekana and Blaauw, 2002).

4. What is the nature and size of the problem?

Complications during pregnancy and childbirth are the leading causes of death, disease and disability amongst among women of reproductive age in developing countries. Every day at least 1,600 women die from complications of pregnancy and childbirth, amounting to at least about 585,000 women dying each year (WHO, 1996 cited in Family Care International, 2000).

4.1. Women's lifetime risk of maternal death

Maternal mortality is the health indicator with the most disparity between developed and developing countries, with almost all maternal deaths (95%) occurring in Africa and Asia (UNFPA, 2004). Sub-Sahara has the highest maternal mortality in the world, where 1 in 16 women face a lifetime risk of maternal death, compared to 1 in 55 in South East Asia, 1 in 75 in the Caribbean, 1 in 140 in South America and 1 in 4,000 in Northern Europe (Panos, 2000).

However, a woman's risk of dying as a result of pregnancy within Africa varies, with East and West Africa showing the highest indices (1 in 12) (Panos, 2000). Table One below reveals that Sierra Leone and Guinea are amongst the least safest countries for women, where 1 in 7 women face the risk of maternal death, followed by Angola (1 in 8) and Ethiopia, Mozambique and Niger (1 in 9). Botswana and South Africa find themselves in the mid ranges, with 1 in 65 and 1 in 85 women respectively facing the risk of maternal death.

Adolescents face particularly high risks of maternal mortality. Worldwide, pregnancy is the leading cause of death for young women aged 15 – 19, with complications from childbirth and unsafe abortions being the major contributory factors. Social and physiological reasons contribute to the fact that young women aged 15 – 19 are twice as likely to die in childbirth as those in their twenties, and girls under 15 are five times as likely to die in childbirth as compared to those in their twenties (UNFPA, 2004).

Table One: A woman's lifetime risk of maternal death from selected African countries

A woman's lifetime risk of maternal death – selected countries in Africa	
Sierra Leone	1 in 7 women
Guinea	1 in 7 women
Angola	1 in 8 women
Ethiopia	1 in 9 women
Mozambique	1 in 9 women
Niger	1 in 9 women
Mali	1 in 10 women
Uganda	1 in 10 women
Senegal	1 in 11 women
Benin	1 in 12 women
Nigeria	1 in 13 women
The Gambia	1 in 13 women
Zambia	1 in 14 women
Guinea-Bissau	1 in 16 women
Mauritania	1 in 16 women
Tanzania	1 in 18 women
Ghana	1 in 18 women
Kenya	1 in 20 women
Malawi	1 in 20 women
Central African Republic	1 in 21 women
Sudan	1 in 21 women
Lesotho	1 in 26 women
Swaziland	1 in 29 women
Gabon	1 in 32 women
Namibia	1 in 42 women
Botswana	1 in 65 women
South Africa	1 in 85 women
Egypt	1 in 120 women
Tunisia	1 in 140 women
Mauritius	1 in 300 women

Source: The State of the World's Mothers 2000, a report by Save the Children, US; Maternal Health Around the World, wall chart, 1997, Geneva, WHO cited in Panos, 2000 and NGO Networks for Health, 2000.

4.2. Maternal Mortality Ratio

The global maternal mortality ratio was estimated to be 400 per 100,000 live births in 2000. MMR are highest in Africa (830), followed by Asia (330), Oceania (240), Latin America and the Caribbean (190) and the developed countries (20) (UNFPA, 2004). Table Two below reveals that although South Africa fares relatively well in comparison to a large number of African countries, it is still considered to have a high level of maternal mortality.

Despite fifteen years of the Global Safe Motherhood Initiative (to be discussed later), overall maternal mortality levels have remained pretty much the same. Although a few countries like Sri Lanka, Malaysia, Thailand and Egypt to name a few, have managed to decrease their maternal mortality ratios, the great majority of high mortality countries have not demonstrated any real inroads into decreasing maternal mortality. In some countries where levels of malaria and HIV prevalence are high, the number of maternal deaths has increased, along with an increase in maternal mortality

ratios. Malawi provides a dramatic example of significant increase in maternal mortality, increasing from 752 maternal deaths per 100 000 live births in 1992 to 1 120 in 2000 (Freedman et al, 2005; World Health Report, 2005).

Table Two: Selected low and middle income countries by level of maternal mortality

Region	Very High (500+)	High (200 – 500)	Medium (50 – 200)	Low (<50)
Africa	Central African Republic Mozambique Eritrea Guinea-Bissau Chad Nigeria Guinea Zambia Malawi Gabon Kenya Niger Mali Senegal Mauritania Tanzania Uganda Benin Sudan	Madagascar Togo Cameroon Zimbabwe Botswana Namibia Ghana South Africa	Mauritius	
South Asia		Bangladesh India	Sri Lanka	
East Asia and Pacific	Lao PDR	Cambodia Indonesia Papua New Guinea Myanmar	Philippines Vietnam Korea, Dem Rep China	Thailand Malaysia Korea, Rep
Middle East and North Africa		Yemen, Rep Morocco Algeria	Egypt, Arab Rep Syrian Arab Rep Lebanon Libya Tunisia	Jordan Iran, Islamic Rep Oman
Latin America and the Caribbean		Bolivia Peru Dominican Republic	Guatemala Brazil Ecuador Nicaragua El Salvador Jamaica Honduras Colombia Panama Venezuela Mexico	Argentina Costa Rica Cuba Uruguay Chile
Eastern Europe And Central Asia			Turkey Georgia Kazakhstan Kygyz Republic Tajikistan Turkmenistan Estonia Russian Federation	Latvia Azerbaijan Moldova Romania Armenia Ukraine Lithuania Bulgaria Hungary Bosnia Herze. Czech Rep Poland Croatia

Source: Constructed from data from the World Development Indicators Report, World Bank, 2002, Washington, DC: The World Bank cited in Lule et al, 2005

4.3. Maternal Morbidity

Maternal mortality is not the only adverse consequence of pregnancy. In addition to maternal deaths, over 300 million women currently suffer from long or short-term illness brought about by pregnancy and childbirth (World Health Report, 2005). Each year, over 50 million women experience pregnancy related complications, 30% of which experience long term illness or disability, often because they are unable to access care, receive poor quality care or because their pregnancies exacerbate already existing malnourishment or illness. Some of the results include severe anaemia, reproductive tract infections, pelvic inflammatory disease, infertility, prolapse and obstetric fisulae[4] (Panos, 2000).

5. Why do women die?

5.1. Direct and indirect determinants of maternal mortality

The main ***direct determinants*** of maternal mortality globally are well known. More than 70% of maternal deaths are due to five major complications, which include:

- severe bleeding or haemorrhage[5] (25%);
- infection or sepsis[6] (15%);
- complications from unsafe abortions[7] (13%);
- eclampsia[8] (12%) and
- obstructed labour[9] (8%).

These complications can occur at any time during pregnancy and childbirth, often without any prior warning and often require immediate access to emergency obstetric care (Lule, 2005).

However, a growing proportion of maternal deaths can be attributed to ***indirect***[10], ***non-obstetric conditions***. The main indirect determinants in many countries include anaemia, malaria, hepatitis, diabetes, tuberculosis and HIV/AIDS (Lule et al, 2005 and UNFPA, 2004).

[4] Severe damage to the birth canal causing holes between the birth canal and the bladder or rectum, resulting in continuous leaking of urine or faeces (Panos, 2000).
[5] Severe bleeding has a number of causes, including a small piece of placenta being retained in the uterus or the uterus failing to contract (Panos, 2000).
[6] This can be caused by unclean delivery practices or from damaged tissue in the woman's body.
[7] Unsafe abortion is defined as a procedure for terminating an unwanted pregnancy by a person lacking the necessary skills or in an environment lacking the minimal medical standards, or both (Panos, 2000:9).
[8] Convulsions and coma occurring during pregnancy, labour or soon after childbirth. It is associated with hypertension (raised blood pressure) (Panos, 2000).
[9] Obstructed labour occurs when the foetus cannot descend through the birth canal. It is usually the result of the foetus being in the wrong position or the pelvis being too narrow (a result of childhood nutrition or the mother not having developed sufficiently because she is too young) (Panos, 2000).
[10] Pre-existing diseases or diseases that develop during pregnancy (not related to obstetric conditions) that are aggravated by the physiological effects of pregnancy (Lule et al, 2005).

5.2. Underlying determinants of maternal health

Health is not just a medical issue based on biological factors and medical interventions. Health is also a social issue, and where we live, what we do, who we interact with, and the nature of these interactions and relationships, all affect our health. Health is thus a product of the interaction between our biology, and the physical, socio-economic, cultural and political environment in which we live an act ie it is socially determined. Thus differences in people's health status arise from biological differences and from differentials in socio-economic status. Social class, race and ethnicity, gender and a range of other social determinants may influence many dimensions of health, ranging from risk and vulnerability, to health seeking behaviour, access to health services and long terms health and social consequences (Ravindran (ed), 2001).

Social determinants of health play a large role in women's ability to achieve maternal and reproductive health. It is therefore important to consider the role of social, cultural, health system and economic factors that impact on maternal health, and ultimately maternal mortality. A women's decision to seek health care could be affected by the influence of her partner or other family members; social norms; her education; her status in society; the distance she lives from the clinic, how sick she is; her previous experiences with the health system and how she expects be treated by health care providers, her level of decision making power in the household, her access to credit, land and income (Lule et al, 2005).

Social determinants of maternal health operate at various levels including:

- Individual level (age, birth order, parity, marital status, sexual practices, health status eg nutrition, malaria, HIV/AIDS, education, employment, decision-making power)
- Household level (the social and economic status of the household within the community, the household's access to resources; distribution of power within the household)
- Community level (level of development, urban or rural, stratified or homogenous, having health resources or not, cultural and gender norms, inheritance norms, norms of place of residence after marriage)
- National level (size of the country, population, level of development, type of governance, structure of the health system, extent to which dependent on the global market, nature of health policies and content of health sector reform packages)
- International (global economic scenario and dominant economic ideologies, balance of power between various geo-political forces, health sector reforms, international human rights regime) (Ravindran (ed), 2001).

6. What has been the response of the international governments, health bodies and civil society?

6.1. Safe Motherhood Initiative

In 1987, the Safe Motherhood Initiative (SMI) placed the reduction of maternal mortality on the map. Launched in Nairobi by an inter-agency group[11], it aimed to raise awareness and mobilize action to reduce maternal mortality with an initial target to halve maternal deaths by 2000. The Initiative has promoted a range of strategies to reduce maternal mortality, beginning with an emphasis on training and promoting traditional birth attendants, risk assessment of pregnant women and provision of antenatal care to later emphasizing as the primary strategies:

- the need for professionally trained midwives or other health professionals with midwife skills to assist births and (skilled assistant at birth)
- pregnant women's access to a comprehensive emergency facility.

This constant development and refinement of its approach has led it to adopt what is now called the Making Pregnancy Safer Programme in 2001 with the goal to reduce maternal deaths from 1990 levels by 75% by the year 2015 (Panos, 2001; Penn-Kekana and Blaauw, 2002).

The 1987 Call to Action explicitly stated that attempts to promote safe motherhood needed to recognize that women's lower status in society – as evidenced in their relative lack of decision-making power, their unequal access to employment, education, basic health care, finances and other resources – is the root cause of women's ill-health and that of their children (World Health Report, 2005).

Key Action Messages to reduce maternal mortality emerged from a 1998 global Technical Consultation on Safe Motherhood in Sri Lanka. These included:

- Ensure skilled attendance at delivery
- Delay marriage and first birth
- Realise the power of partnerships
- Prevent unwanted pregnancy and address unsafe abortion
- Measure progress
- Improve access to good quality maternal health services
- Recognize that every pregnancy faces risks (Leljestrand and Gryboski, no date).

6.2. The White Ribbon Alliance

In 1999, a group of international NGOs agreed to work together and with their partners throughout the world to make or keep safe motherhood a priority for international organizations and governments. The White Ribbon Alliance for Safe Motherhood in an international coalition of organizations formed to promote increased public awareness of the need to make pregnancy and childbirth safe for all women, in developing and developed countries. The White Ribbon Alliance aims to foster grassroot efforts that complement the work of the SMI.

[11] The WHO, the World Bank, the United Nations Population Fund (UNFPA), the United Nations Children's Fund, the International Planned Parenthood Association (IPPF) and the Population Council

Acting as a catalyst for action, since its launch, many countries have initiated their own White Ribbon Alliance activities in collaboration with international and local NGOs and governments. The Alliance focuses on forming local alliances who then develop action plans based on promoting and achieving the Key Action Messages of the Safe Motherhood Initiative in local settings.

It uses the white ribbon as an organizing symbol, aimed at uniting individuals, organizations and communities who are working together to make pregnancy and childbirth safe for all women. The white ribbon is dedicated to the memory of all women who have died in pregnancy and childbirth (White Ribbon Alliance for Safe Motherhood, 2000).

7. Maternal Health in South Africa

7.1. Background and Context

Under apartheid, South African health policies and services were racially segregated and extremely inequitable on geographic and racial grounds. The white minority received the greatest proportion of health resources, consisting of mainly curative, high technology, hospital-based services in urban areas. Women's health services consisted of mainly maternal and child health services, specifically contraceptive services which aimed at limiting population growth, particularly of the black population. All other primary health care services, including other reproductive health services, were poorly developed and inaccessible to the majority of the population, especially for people living in the rural areas (Cooper et al, 2004).

In 1994, in a bid to improve access to health care, the Department of Health adopted the Primary Health Care approach. This approach included the promotion of a district based health care system providing comprehensive services, including reproductive health services. It also restructured its health programmes and administration. In 1995, the Directorate of Mother, Child and Women's Health (MCWH) was established within the Department of Health, aiming to increase women's access to appropriate health services, promote gender equality and ensure women's optimal reproductive and sexual health (Cooper et al, 2004). The National MCWH directorate is responsible for overall policy development, coordination and facilitation of the re-organization of maternal health. Similar units were established at provincial level exist to oversee the planning, implementation, supervision, monitoring and evaluation of integrated MCWH services at provincial level. District health teams, in the process of being established, should perform similar functions at district level (CALS, 2003/4).
In a major policy shift, free primary-level health services were introduced, targeting women and children, including free health care for all pregnant and breastfeeding women and for all children under six (Fonn et al, 1998; Cooper et al, 2004).

Table Three below provides a snap shot of some of the major legislative and policy changes related to reproductive health introduced in South Africa post 1994. Specific policy initiatives will be discussed in more detail in appropriate sections below.

Table Three: Selected legislative and policy changes in South Africa post 1994 related to reproductive health

Year	Legislation/Policy
1994	o Free public health services for pregnant women and children under six. o Government signs the ICPD Programme of Action.
1995	o Government ratifies the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). o Government signs FWCW Platform for Action.
1996	o South African Constitution and Bill of Rights adopted, which outlaws discrimination on the basis of sex, gender and sexual orientation; enshrines right to health care, including reproductive health care. o Choice on Termination of Pregnancy Act passed, proving the legal framework for the provision of legal abortion services at primary and other health care levels.
1997	o Maternal death made a notifiable condition. o Establishment of the National Committee on Confidential Enquiries into Maternal Deaths (NCCEMD).
1998	o New Population Policy introduced, moving away from previous policy of population growth. o South African National AIDS Council formed. o Domestic Violence Act passed.
1999	Prevention of Mother to Child Transmission (PMTCT) HIV programmes introduced in the Western Cape.
2000	National Guidelines for Cervical Screening Programme launched.
2001	o PMTCT programme introduced in Gauteng. o Adolescent and Youth Health Policy Guidelines launched.
2002	o National Contraception Policy Guidelines launched. o A comprehensive PMTCT programme was adopted and PMTCT services rolled out nationally. o Government approves the provision of HIV post exposure prophylaxis (PEP) to rape survivors in public health facilities.
2003	Government approves plan to provide anti-retroviral drugs to people living with AIDS through public sector health services.
2004	Sexual assault legislation under review to amend the definition of rape and enforce heavier sentences.

Source: Adapted from Cooper et al, 2004

However, the legacy of apartheid continues to be reflected in current socio-economic conditions and in people's health problems. In spite of the fact that South Africa is classified as a middle-income country, nearly half of the population is characterised as poor and as a result suffers ill health. A significant percentage of the population is unemployed, ranging from 28% to 41%, depending on the definition used (SAHR, 2005). Just under half of the population lives in poorly serviced rural areas. Mortality and morbidity rates are high compared to other middle-income countries, and preventable communicable diseases and diseases associated with poverty are common. A case in point is the HIV/AIDS pandemic, where the rates of HIV infection in South Africa are amongst the highest in the world (Penn-Kekana and Blaauw, 2002).

7.2 Maternal and sexual and reproductive health: current status

South African women's ability to exercise their sexual and reproductive rights and to achieve optimum sexual and reproductive health is one of contradictions. On the one hand, South Africa has an enabling legislative and policy framework that promotes gender equality, the right to health and enshrines women's SRHR. However, at the same time, traditional gender norms and practises which promote the unequal status of

women, combined with the levels of poverty experienced by the majority of women in South Africa, specifically black women, contribute to a situation whereby women bear the disproportionate burden of reproductive health problems, are seen to be primarily responsible for contraception and childcare, and have less power to negotiate when, with whom and why to have sex. Women bear the brunt of the HIV/AIDS pandemic, both in terms of levels of infection as well as shouldering the burden of care of those living with HIV/AIDS. At the same time, indices of violence against women in South Africa are amongst the highest in the world, and this combined with HIV/AIDS and poverty, contributes to women's poor sexual and reproductive health status.

A brief exploration of women's sexual and reproductive health status will be provided, followed by a specific discussion of adolescent and women's maternal health in South Africa.

7.2.1. Adolescent Sexual and Reproductive Health

South Africans begin having sexual relations in their mid-teens; however, there is not agreement as to what age boys and girls begin to have sex. The South African Policy Guidelines for Youth and Adolescent Health (2001) indicates that the national average age of sexual debut is 14 for boys and 15 for girls. The Reproductive Health Research Unit's (RHRU) National Survey of HIV and Sexual Behaviour among Young South Africans (RHRU, 2003) reveals that sexual experience increases with age, with 48% of 15 – 19 year olds reporting having sex, increasing to 89% for 20 – 24 year olds, with little difference noted between the genders (RHRU, 2003). However, gender differences can be seen in the number of sexual partners among sexually experienced young people, with 45% of young women indicating that they had only had one sexual partner, compared to 25% of young men (RHRU, 2003).

The teenage pregnancy rate in South Africa is high. The South African Demographic and Health Survey (SADHS, 1998) reveals that 16.4% of teenage girls surveyed aged 15 – 19 had ever been pregnant, increasing to 35.1% by the age of 19. It is alarming to note that up to 53% of these pregnancies were either unplanned (36%) or unwanted (17%). The RHRU survey (2003) reveals that among the 68% of women who reported ever having had sex, about half (49%) reported having been pregnant at some point, two thirds of which (66%) indicated that they did not want to be.

The high teenage pregnancy rate can be partly explained by a low use of contraceptives before the birth of the first child. The high contraceptive prevalence of 64.4% amongst 15 – 19 year olds after the birth of their first child indicates many young women initiate contraception as part of antenatal care after an unintended pregnancy (SADHS, 1998). Despite the availability of contraceptive services and government's commitment to providing accessible and youth friendly services, barriers to accessing such services remain. These include clinic staff's disapproval of young girls being sexually active, inconvenient clinic opening times, lack of privacy, lack of transport money (especially for youth that are poor and those living in rural areas) and ignorance of existing youth friendly initiatives (Cooper et al, 2004; DoH, 2001).

Other factors contributing to the high teenage pregnancy rate include high levels of sexual coercion experienced by young girls, their limited ability to negotiate safer sex and their socialization into seeing men as the sexual decision-makers. Among sexually experienced young people, 6% reported having been forced to have sex, with young women being much more likely to report their first sexual experience as unwanted (28%) compared to young men (1%) (RHRU, 2003).

South Africans in the youngest age groups are most at risk of contracting sexually transmitted infections (STIs) and HIV/AIDS. Studies have revealed that 60% of all HIV infections occur in the 15 – 24 year old age group (DOH, 2001 (a). However, it is young women that are particularly vulnerable to HIV infection, 77% of those living with HIV/AIDS in the 15 – 24 year old age group are young women (UNAIDS, 2002). Intergenerational sex (between young girls and older men) is common in South Africa. Older men's resistance to wearing condoms[12], and the fact that it is more likely for older men to be HIV positive than younger men, contribute to a young girl's increased risk of HIV infection. In the context of poverty, young girls having sex in exchange for groceries, school fees, clothes and/or luxury goods contributes to the dangers of these relationships (Holland-Muter, 2004).

7.2.2. Contraceptive Use, Fertility and Infertility

The ability to control the number, spacing and timing of children is basic for women's health and rights, especially when it comes to preventing pregnancies that are too early, too close, too late or too many – all of which are important determinants of maternal morbidity and mortality.

Even before 1994, South Africa had a high contraceptive prevalence compared to other sub-Saharan African countries, thanks to apartheid government policies of population control of Africans. Since 1994, public sector contraceptive services have been integrated into primary health care services. The majority of women (84%) obtain their contraceptive method from the public sector (Cooper et al, 2004 and Smit et al, 2003/4). Three-quarters of South African women have used a contraceptive method, and 61% of sexually active women currently use a contraceptive method (SADHS, 1998).

However, a wide variation of contraceptive prevalence and method used exists across provinces, urban/rural setting, age, education, marital status and 'race'. Western Cape has the highest contraceptive prevalence at 73.7% compared to the lowest in Mpumalanga, at 53.2%. Urban settings have a higher contraceptive prevalence (66%) compared to rural settings (52.7%). The 20 – 24 age group has the highest contraceptive prevalence (68%), decreasing to 64.3% and 62.9% for the 25 – 29 and 30 – 34 age groups respectively. Education plays a key role in contraceptive use, women with an education higher than grade 10 had a 78.1% contraceptive prevalence, compared to 43.7% of women with grades 1 – 5 education, and 33.1% of women with no education. Racial disparities were revealed in that Indian and White women had a higher contraceptive prevalence (80.1% and 74.9% respectively) compared to 57.6% of African women (Smit el al, 2003/4).

[12] The Nelson Mandela/HSRC survey (2002) indicated that 47.9% of respondents aged 15 – 19 used a condom at last intercourse, compared to only 28% of 30 – 34 year olds.

The injectable is the most commonly used contraceptive method in South Africa. However, there is a variation of contraceptive use among 'racial' groupings, with White and Indian women using mainly the contraceptive pill, and African women using the injectable, varying between 60 – 95% in the least resourced areas (the highest level in the world). Factors contributing to the predominance of one method include health care workers promoting the injectable over and above other methods and the limited range of contraceptive choice available in the public sector (Smit et al, 2003/4).

A large percentage of South African women assume full responsibility for contraception, with just over 30% of all married women interviewed indicating they never discussed the issue with their partners at all (SADH, 1998).

High levels of contraceptive use have contributed to a decline in the total fertility rate, 3.3 in 1991, declining to 2.9 in 1999 and 2.8 in 2004 (SADHS, 1998 and SAHR, 2005). However, racial disparities exist, the fertility rate for African women being 2.9 children per women, compared to White women's fertility rate of 1.7 children per women (SAHR, 2005).

Mistimed and unwanted births are important issues to be considered. In the five years preceding the 1998 South African Demographic and Health Survey, women indicated that 36% of the births reported were mistimed and 17% as not wanted at all (almost one in every five births). The percentage of births reported as unwanted rises with age, 13% of women aged 19 and younger reporting unwanted births compared to 43% of women 40 and older. The gap between wanted pregnancies and total fertility rates is greater for rural women, African women and uneducated women (SADHS, 1998).

Although there are no reliable prevalence figures on infertility in South Africa, it is estimated that 15 – 20% of couples report difficulties in contraception, a large proportion of which is the result of untreated STIs. Social stigma, isolation and domestic violence are only some of the consequences experienced by infertile women (Cooper et al, 2004).

7.2.3. Termination of Pregnancies

Unwanted pregnancies and women's inability to access safe, economic and legal abortion services are important determinants of maternal mortality, in both South Africa and the world. The passing of the Choice on Termination of Pregnancy Act, (CTOP, 1996) in South Africa opened the door for women and girls to access safe, economic and legal abortions. CTOP makes provision for women and adolescent girls to access a TOP on demand within the first 12 weeks, without the need for medical or parental consent. Midwives may perform a TOP up to and including 12 weeks of gestation, medical practitioners may perform a TOP up to the 20th week of gestation and in very limited circumstances after the 20th week (Smit et al, 2003,4).

The Deparment of Health commissioned a National Incomplete Abortion Study to evaluate the impact of CTOP on women's health in 2000. It found that while the incidence rate of incomplete abortions remained unchanged, there had been an immediate impact of reducing morbidity from unsafe abortions (RRA, 2004).

The Reproductive Rights Alliance (RRA) monitoring of the TOP services provided reveals that since 1997 – February, 2004 (RRA, 2004):

- 344,477 women and girls had undergone a TOP at public health facilities, 89% of whom were above the age of 18. The number of first and second trimester TOPs has increased each year, increasing from 29,080 in 1998 to 69,686 in 2004. This increase could be attributed to an increase in online facilities and women's increased knowledge of the services provided. More than three quarters (76.4%) of the total TOPs provided took place in the first trimester of pregnancy.
- 62% of designated facilities are online (193 facilities), 77% of them from the public health sector and 23% from the private sector. The number of designated facilities providing the service varies between provinces, as does the number of facilities actually providing the service.
- Out of the public health facilities providing TOP, 90% are hospitals with the remainder being PHC clinics or community health centres. Hospitals are generally located in the urban areas, so women from rural areas continue to be disadvantaged with poor access to TOP services.
- Access to TOP has been uneven across the provinces, with Gauteng providing the majority of the services (42%), followed by KZN and Western Cape (12%). Mpumalanga, Limpopo and Northern Cape provide the least services (5%, 5% and 4% respectively).

Significant challenges continue to provide obstacles to women's access to safe, legal TOP services. These include inequities in access to services (urban/rural and provincially) and a wide spread ignorance of the services where available. Negative moral and religious attitudes of both community members and health care workers have undermined women's access to TOP. Health care workers providing the service also report a lack of managerial support and negative attitudes from colleagues, clients and the broader community.

A RHRU study of the provision of second trimester TOPs in 2003 found that there was resistance to providing second trimester services on the basis of socio-economic reasons and there was a reluctance to perform procedures where the woman was further than 16 weeks of gestation. Poor staffing in gynaecological wards was also a contributing factor to poor second trimester service provision (RRA, 2004).

All of these barriers contribute to a continuance of unsafe abortions, contributing to maternal morbidity and maternal in South Africa. However, legalized access to safe TOP services has resulted in a vast improvement in maternal health and women's reproductive health status due to a reduction in abortion-related mortality. A comparison of data from the 1998 national incomplete abortion survey and the Confidential Enquiries into Maternal Deaths (1998 – 2001) suggests a possible range of 51.2% to 94.8% reduction in deaths from unsafe abortions (Jewkes 2005 cited in SAHR, 2005).

7.2.4. STIs and HIV/AIDS

Sexually transmitted infections (STIs) are an important cause of reproductive health morbidity in South Africa, especially for women. The first comprehensive national baseline survey of STI prevention and management services in public health facilities,

conducted in 2002 – 2003, revealed that just over 2 million symptomatic people are treated for STIs at public PHC facilities annually in South Africa. Estimates from additional studies, including the private and public sector and symptomatic and asymptomatic people, indicate that a staggering 8.4 million STI infections amongst the adult population occur each year. The STI baseline survey also revealed that in six provinces, more than 10% of STI clients were under 18 and about 35% were males. Considering that STIs are a well-known risk factor for HIV infection, and have in fact fuelled the spread of HIV, such high levels are extremely worrying (Ramkissoon et al, 2003/4 and Cooper et al, 2004).

South Africa currently faces one of the worst HIV/AIDS pandemics in the world, whose mode of transmission is fundamentally heterosexual. Estimates range from 5,300,000 adults and children living with HIV/AIDS (UNAIDS, 2004) to 6.29 million at the end of 2004 (StatsSA cited in SAHR, 2005). It is estimated that 11% of the total population is HIV positive; of which 18.5% are adults between the ages of 15 – 49 are HIV positive[13] (SAHR, 2005). It is estimated that about 525,000 people were living with AIDS defining conditions, and 44% of total deaths in South Africa can be attributed to AIDS related causes in 2004[14] (SAHR, 2005).

Due to the fact that HIV/AIDS pandemic is a result of inequalities in society and at the same time deepens existing inequalities, the pandemic features distinctive racial, class, age and gender distributions. Women make up 57% of the 5,100,000 adults between the ages of 15 – 49 who are HIV positive (UNAIDS, 2004). Young people aged 15 – 24 are especially at risk of HIV infection, accounting for 60% of all HIV infections. However, young women make up 77% of those living with HIV/AIDS in the 15 – 24 age group (UNAIDS, 2002). Racial disparities are also revealed with 16% HIV prevalence for Africans, 6.8% for Coloureds, 5.6% for Whites and 2.7% for Indians between the ages of 15 – 49 years in 2004 (StatsSA cited in SAHR, 2005).

Surveillance data of pregnant women over the past 15 years has demonstrated a dramatic increase in HIV prevalence, from less than 1% in 1990 to 29.5% in 2004 (SAHR, 2005), explaining in part why HIV/AIDS has become one of the leading causes of maternal mortality in South Africa. It is clear that HIV/AIDs is an enormous threat to reproductive health status, affecting maternal health, fertility, and contraceptive needs (Cooper et al, 2004).

Voluntary Counselling and Testing (VCT) has become a routine part of antenatal care. However, clients that attend primary health care clinics or hospitals for other services have to actively request to be serviced. The largest provision of VCT services is in the most urbanized provinces where there is better infrastructure, more staff and fewer social and cultural constraints (Doherty et al, 2004/5).

Prevention of Mother to Child Transmission (PMTC) programmes have been extended to a universal rollout. The baseline STI survey of STI and HIV services in July 2002 estimated that 29% of PHC facilities were providing PMTCT services (Doherty et al, 2004.5). South Africa currently has one of the biggest PMTCT

[13] ASSA 2002 model.
[14] ASSA 2002 model.

programmes in the world and is one of the few countries with PMTCT+ services, where women's access to care and treatment continues after their baby has been born.

An Operational Plan for Comprehensive HIV and AIDS Care, Management and Treatment for South Africa has been developed, however, implementation has been slow and uneven. No central, official source of data on the implementation of the national plan is available. The Joint Civil Society Monitoring Forum reported that out of the approximately 525,000 South Africans who could immediately benefit from ARVs, only 42,000 people are on treatment (SAHR, 2005).

The gendered impact of HIV/AIDS can also be seen in that in addition to the direct effects of HIV infection on women's health, the pandemic is disproportionately affecting women and girls in their gendered roles of caregivers within families and communities. The fact that young girls and women are bearing the burden of care has implications for their time available for education and income generating activities, as well as contributing to increased stress levels and burnout (Cooper et al, 2004).

7.2.5. Violence against women and girls

Gender based violence underlies some of the sexual and reproductive health problems experienced by women, including unwanted pregnancies, HIV and other sexually transmitted infections.

Domestic and sexual violence is rife in South Africa, with statistics revealing a systematic pattern of women abuse. The SADHS (1998) reveals that 12% of women have ever been assaulted by a current or ex partner. When asked whether this had occurred during pregnancy, 4% reported that it had. This was more common amongst women in urban areas, living in the Western Cape and Gauteng, and Coloured and White women. Violence has been associated with adverse pregnancy outcomes, including miscarriages, preterm birth and low birth weight.

One in five currently married women reported economic abuse. There is less economic abuse amongst more educated women and white women were six times less likely to report it than African women. It is more common in non-urban areas, and amongst women living in the Free State and KZN (SADHS, 1998). Lack of financial autonomy influences a women's health seeking behaviour, one consequence being having resources available for transport.

A frightening statistic is that a woman is killed by her intimate partner every six hours. This is the highest rate (8.8 per100,000 female population 14 years and older) that has been reported in research throughout the world. Legal guns and alcohol play a significant role in these crimes (MRC, Policy Brief No 5, 2004).

Examining the relationship between HIV/AIDS and violence against women, it is disturbing to note that women who have experienced physical or sexual violence in their lifetime are one and half times more likely to be HIV positive than women who have never been abused (Steinberg et al, 2002).

7.3. Maternal Health in South Africa

7.3.1. South African Government Response

Since 1994, the South African government has demonstrated strong political will to improve maternal health and reduce maternal mortality by making maternal health a public health priority.

In 1997, the government made deaths during pregnancy, childbirth and puerperium notifiable events. In addition, the Minister of Health appointed a National Committee on Confidential Enquiries into Maternal Deaths (NCCEMD) to collect data, monitor and report on maternal deaths, and make key recommendations to reduce maternal mortality. These recommendations have to be implemented over a three-year period, be feasible (affordable and practical) and measurable. Reports on progress made on fulfilling the recommendation forms the content of the following comprehensive report, published three years later (Pattinson ed, 2002). Two comprehensive reports and two interim reports have been produced by the NCCEMD to date[15]. These reports and recommendations are central to informing government policy on reducing maternal mortality.

The National Directorate of Maternal, Child and Women's Health has formulated a series of national maternity policies and guidelines and lay the foundation for how maternity services should be provided. Provinces are expected to adapt these according to their specific provincial needs (Smit et al, 2003/4). These include:

- ✓ Guidelines for Maternity Care in South Africa: A manual for clinics, community health centres and district hospitals, 2001
- ✓ Saving Mothers: Policy and management guidelines for common causes of maternal deaths
- ✓ National maternity case record and guidelines for completing the national maternity case record.

A key policy document, the Guidelines for Maternity Care in South Africa outlines the central pillars on which South Africa's Safe Motherhood Programme is based:

1. **Choice on contraception**: to ensure that individuals and couples have the information and services to plan the timing, number and spacing of pregnancies.
2. **Antenatal care**: the identification of risk factors and early diagnosis of pregnancy complications and appropriate management, and health education.
3. **Clean and safe delivery**: to ensure that all health workers have the knowledge, skills and equipment to perform clean and safe delivery and provide postpartum care to mother and baby.
4. **Essential Obstetric Care**: to ensure that essential care for high risk pregnancies and complications is made available to all women who need it.

[15] Saving Mothers: Report on Confidential Enquiries into Maternal Deaths in South Africa, 1998; interim yearly reports for 1999 and 2000 which were compiled into the triennial report, Saving Mothers: Second Report on Confidential Enquiries into Maternal Deaths in South Africa, 1999 – 2001. The third comprehensive Saving Mothers report is in the process of being finalized and is due to be released shortly.

5. **Choice on termination of pregnancy**: to provide women who have unwanted pregnancies with a legal, safe and acceptable choice (DoH, Guidelines for Maternity Care in South Africa, 2002:5).

These services are to be provided through clinics, community health centres and district hospitals, the organization of which will be discussed below. However, in spite of these initiatives, maternal mortality remains high and is in fact increasing. Implementation of policy seems to be one of the major obstacles (Penn-Kekana and Blaauw, 2002).

7.3.2. Health Care Services and Staffing

The South African Guidelines on Maternal Health Services and Staffing, as illustrated in Table Four below, outlines the levels of care and their corresponding functions/services and staffing requirements. It also establishes clear supervision and referral patterns for maternal health services (Penn-Kekana and Blaauw, 2002).

Table Four: South African Guidelines on Maternal Health Services and Staffing

Level of Care	Staffing Requirements	Services Provided
Clinic[16]	▪ Midwives with Perinatal Education Programme (PEP) training ▪ Enrolled nurses and nursing assistants ▪ Visiting medical officer	▪ ANC for low and intermediate risk women, including on-site routine blood testing. ▪ Postnatal checks, including contraception ▪ Referral of problems to hospitals ▪ Management of emergencies
Community Health Centre[17] Midwife Obstetric Unit	▪ Same as above plus ▪ Advanced midwives ▪ Visiting or resident medical officer	▪ As above plus ▪ Treatment of the common problems of pregnancy ▪ 24-hour labour and delivery service for low risk women ▪ Vacuum extraction
District Hospital (Level one)[18]	▪ Above plus ▪ Social workers ▪ Full time medical officers ▪ Visiting specialist obstetricians	▪ ANC for high risk women ▪ Treatment of pregnancy problems, including admissions ▪ 24 hour labour and delivery service for intermediate and high risk women ▪ Vacuum extraction, caesarian section and manual removal of placenta ▪ Regional and general anaesthesia ▪ Blood transfusion ▪ Postnatal care, incl complications and postoperative care ▪ Postpartum sterilization ▪ Referral centre for clinics and

[16] Clinics normally function on weekdays only during working hours. ANC is one of the many other services it provides, including child health, chronic diseases, family planning etc.

[17] CHC is a 24-hour comprehensive obstetric unit run by midwives. Where it stands alone as a maternity service it might be called a midwife obstetric unit (MOU). More often the maternity section will run alongside other services such as emergency care, minor ailments, chronic diseases and promotive services.

		CHC in district ▪ Supervision of clinics, CHC in district ▪ Referral of complicated problems to level 2 and 3 hospitals
Regional Hospital (Level two)[19]	▪ As above plus ▪ Full time specialist obstetricians	▪ All level one functions ▪ Management of severely ill pregnant women ▪ Specialist supervision of care of pregnant women ▪ Prenatal diagnosis ▪ Referral centre for level 1 hospitals in the region ▪ Supervision and support of level 1 hospitals
Tertiary or Central Hospital (Level three)	▪ As above plus ▪ Full time specialist obstetricians, including sub-specialty skills eg fetal medicine	▪ All level 1 and 2 functions ▪ Specialist combined clinics eg cardiac and diabetic pregnancy clinics ▪ Management of extremely ill or difficult obstetric patients ▪ Supervision and support for level 1 and 2 hospitals ▪ Responsibility for policy and protocols in the regions served

Source: Department of Health, 2002 (2nd edition)

In a rapid appraisal of maternal health services in South Africa, Penn-Kekana and Blaauw (2002) point out that in practice, maternal health services provided fall short of the policy guidelines due to lack of sufficiently trained staff, lack of facilities and equipment.

7.3.3. Women's maternal health status in South Africa

7.3.3. a) Process Indicators in Maternal Health

Ante Natal Care

The provision of free antenatal care (ANC), delivery and postnatal services greatly improved women's access to maternal care services. The SADHS (1998) reveals that 95.1% of women attend ANC at least once in their pregnancy and just over 73% of women attended four or more antenatal visits, 5.3 being the average. Women who were less educated or had more babies were less likely to attend ANC, and 10.7% of white women did not attend antenatal care services at all (Smit et al, 2003/4).

Trained health personnel provided the majority of ANC, with 65.5% of nurses and midwives and 28.7% of doctors providing care to pregnant women. However, doctors

[18] This level one hospital may be called a district hospital as it would normally be the base hospital for a health district. The definition is more apt for rural areas, as in urban areas, the functions provided in this level hospital are often integrated into larger hospitals.

[19] Level two hospitals may be called a regional hospital as it is the base hospital for a health region, which will include a number of districts. Level 2 hospitals frequently include level one functions and may be base hospitals for nearby clinics and community health centres.

were more likely to provide ANC services in urban areas (40%) and to white women (82%) (SADHS, 1998).

Births Assisted by Trained Health Personnel

One of the Safe Motherhood Initiative's central strategies to reduce maternal mortality is the promotion of skilled attendance at birth. This is mainly due to the fact that most maternal deaths occur close to time of delivery and that the major causes of maternal death require medical interventions (UNFPA, 2004).

"Skilled attendant" refers to people with midwifery skills (including doctors, midwives and nurses) who have been trained to *profiency* in the skills necessary to manage normal deliveries and recognize, diagnose, manage or refer obstetric complications (UNFPA, 2004:20).

Skilled health care providers assisted a large proportion of births (84.4%), with more than half (54.4%) attended by nurses and midwives and 30% by doctors. This proportion of assisted births has reportedly increased to 92% in 2003[20]. Relatives assisted 11% of births, whereas traditional birth attendants (TBA) assisted a mere 1.4% (SADHS, 1998). Although it is clear that South Africa does not have a similar tradition of using TBA like the rest of Africa, more women visit traditional healers during their pregnancies for medicine and protection from witchcraft (Penn-Kekana and Blaauw, 2002).

However, these global figures cloak significant rural/urban, provincial, racial and economic disparities in the proportion of births attended by trained health personnel. While 14% of women give birth without the assistance of trained health personnel nationally, this rises to 23% in non-urban areas. Provincial variations reveal that 25% of women in the Eastern Cape and 23% of women in Mpumalanga give birth without trained health professionals in attendance. In addition, 16% of African women and 27% of the poorest women give birth without the assistance of health professionals (Penn-Kekana and Blaauw, 2002). Poorly educated women (primary or less) were most likely to receive assistance from relatives or to have unassisted births (Smit et al, 2003/4).

A higher proportion of trained personnel assisted deliveries in urban compared to rural areas (93% and 76% respectively). Provincially, a higher proportion of deliveries were attended by health professionals in the Western Cape (96%) and Gauteng (94%) compared to Eastern Cape (75%) and Mpumalanga (76% (Penn-Kekana and Blaauw, 2003/4; Smit et al, 2003/4). Women were more likely to be assisted by a trained health professional if they attended antenatal care, than if they did not (SADHS, 1998).

[20] The Minister of Health in a recent speech at the official opening of the 5th Annual Congress of Midwives indicated that the forthcoming SADHS, 2003 reveals an increase from the 84.4% of births attended by health professionals in 1998 to 92% in 2003 (http://www.doh.gov.za/docs/sp/2005/sp1129.html, last accessed 2 February, 2006).

Table Five: Trained Assistant at birth by area, province, ethnic group and asset quintile (%), South Africa 1998

Background characteristic	Doctor	Nurse/midwife	Total skilled provider	No health professional
Total	**30**	**54**	**84**	**14**
Area				
Urban	42	51	93	5
Non-urban	18	58	76	23
Province				
Western Cape	44	52	96	8
Gauteng	43	51	94	5
Northern Cape	39	52	91	8
Free State	31	57	88	11
KZN	34	49	83	15
North West	31	57	88	10
Limpopo	14	65	79	18
Mpumalanga	21	55	76	23
Eastern Cape	18	57	75	25
'Race'				
African	25	57	82	16
Coloured	40	55	95	5
Indian	53	46	99	
White	89	10	99	
Asset Quintile				
1	15	56	71	27
2	18	62	80	19
3	29	60	89	10
4	40	55	95	8
5	72	26	98	

Source: Adapted from Penn-Kekana and Blaauw, 2002:34 and Smit et al, 2003/4:64

Place of Delivery

Nationally, 75% of women give birth in a public health facility, 9% in a private health facility, while 14% of women give birth at home (Penn-Kekana and Blaauw, 2002).

Table Six below reveals that 23% of rural women give birth at home. The provinces with the highest proportions of women giving birth at home are Mpumalanga (23%) and the Eastern Cape (25%). More women who had no education gave birth at home (36%) compared to women with higher education (3%). The proportion of home deliveries was highest amongst the non-urban African women (23%) and lowest among White and Indian women (1% and 0% respectively). Women who do not receive antenatal care are more likely to give birth at home (37%) than those who do (32%) (SADHS, 1998).

Table Six: Place of Delivery by area, province, ethnic group, mother's educational level, no of ANC visits (%), South Africa 1998

Background characteristic	Delivery at a health facility	Delivery at home	Don't know/missing
Total	**83.4**	**14.3**	**2.3**
Area			
Urban	92.6	6	1.5
Non-urban	74.4	22.6	3.0
Province			
Western Cape	95.8	3.2	1.0
Eastern Cape	73.9	25.3	0.8
Northern Cape	87.6	10.2	2.2
Free State	86.4	12.6	1.0
Kwa-Zulu Natal	83.6	13.7	2.8
North West	86.0	12.3	1.7
Gauteng	92.7	5.8	1.5
Mpumalanga	75.7	22.6	1.8
Limpopo	74.9	19.1	5.9
Mother's Education			
No education	59.5	35.6	4.9
Sub A – Std 3	71.3	24.7	4.0
Std 4 – 5	79.0	18.6	2.4
Std 6 – 9	87.9	10.1	1.9
Std 10	94.4	4.6	1.0
Higher	96.9	2.9	0.1
Race			
African	81.1	16.4	2.6
African urban	91.0	7.2	1.8
African non-urban	73.6	23.2	3.2
Coloured	93.7	5.3	1.0
Indian	99.0	0.0	1.0
White	99.0	1.0	0.0
Antenatal care visits			
None	62.9	36.5	0.6
1-3 visits	78.9	20.0	1.1
4 or more visits	86.8	12.3	0.9

Source:SADHS, 1998

Characteristics of Delivery

The SADHS, 1998 notes that 16% of women in South Africa had a caesarian section. As usual, there were variations depending on urban/rural location, race and level of education. Urban women have more caesarian sections (19%) than non-urban women (12%). Western Cape (22%), Gauteng (19%) and KZN (18%) were the provinces where the most caesarian sections were conducted, while Mpumalanga (10%) had the least. White women have an extremely high rate of caesarian sections (41%), as do women with a Standard 10 and higher education (52%) (SADHS, 1998).

7.3.3 b) Outcome Indicators

Maternal mortality rate and maternal mortality ratio (MMR)

During 1999 – 2001, a total of 2,777 maternal deaths were reported in South Africa (DoH, 2001).

Table Seven below shows the distribution of maternal deaths per estimated 100,000 women of reproductive age per province. Free State and Mpumalanga have the highest number of maternal deaths per 100,000 women of reproductive age, steadily increasing from 1998 to 2001 (15 and 11 respectively). Although Eastern Cape, Limpopo and Western Cape provinces have well below the national average of deaths per 100,000 women of reproductive age, it is argued that the figures from Eastern Cape and Limpopo are probably a result of under reporting of maternal deaths (DoH, 2001 (b)). On the whole, the figures demonstrate a steady increase in maternal deaths per 100,000 women of reproductive age.

Table Seven: The relationship between the population in the province and maternal deaths reported (1999-2001)

Province	Women of reproductive age (15 – 49 years)	Maternal deaths/ 100,000 women of reproductive age			
		1998	1999	2000	2001
Eastern Cape	1,869,588	3.00	5.08	6.42	5.51
Free State	787,132	11.94	10.04	12.20	15.00
Gauteng	2,218,558	5.90	6.22	7.71	8.29
Kwa-Zulu Natal	2,537,616	7.30	9.79	9.25	9.44
Limpopo	1,478,305	1.83	4.26	5.95	4.19
Mpumalanga	841,490	7.84	8.56	15.21	11.41
North West	981,050	5.91	5.50	11.72	6.32
Northern Cape	243,336	9.04	7.40	11.92	11.10
Western Cape	1,199,551	2.83	2.83	4.17	3.50
Total	**12,192,357**	**5.54**	**6.60**	**8.49**	**7.79**

Source: (Pattinson, ed, 2nd Saving Mothers Report, 2001)

The 1998 Demographic and Health Survey estimated a MMR of 150/100,000 for the whole country. The 2nd Saving Mothers Report (2001) argues that there appears to have been an increase in the number of maternal deaths, and a more realistic MMR would be between 175 – 200/100,000 live births. This could partly be attributed to an improvement and increase in reporting of maternal deaths, but is mostly due to an increase in maternal deaths due to non-pregnancy related infections (mainly AIDS) (DoH, 2001 (b)).

The health information system in South Africa does not allow for the MMR for each province to be calculated, but it has been possible for a number of provinces, excluding deliveries in private institutions and home births. Table Eight below reveals that Mpumalanga and North West have MMR above national figures, at 281/100,000 and 289/100,000 respectively. The MMR for Gauteng has increased from 67/100,000 in 1998 (1st Saving Mothers Report) to 112/100,000; as has the MMR for Free State, increasing from 135/100,000 in 1998 to 199/100,000 (1st and 2nd Saving Mothers Report).

Table Eight: Maternal Mortality Ratio for provinces with accurate delivery data for 2000 and/or 2001 (institutional based data only)

	Number of deliveries	No. deaths	MMR (est)
Free State	44,201	96	199
Gauteng	113,825	169	112
Kwa-Zulu Natal	168,238	243	
Limpopo	92,529	62	
Mpumalanga	42,506	124	281
North West	36,900	112	289
Northern Cape	16,080	27	
Western Cape	146,087	92	54

Source: (Pattinson, ed, 2nd Saving Mothers Report, 2001)

7.3.4. Who is at greater risk of dying?

The findings about which grouping of women is at greater risk of dying from the 1st and 2nd Saving Mothers Report are similar. The 1st Saving Mothers Report revealed that women aged 30 years and over were at a greater risk of dying due to maternal causes than younger women, and that women in their first pregnancy and those with five or more children were at greater risk of maternal death. African women accounted for the majority of maternal deaths (92%), followed by Coloured women (4.4%), and less than 1% amongst White and Indian women (Smit et al, 2003/4).

The 2nd Saving Mothers Report revealed that older women, especially women 35 years and older were at a significantly higher risk than women under 35. Women in their first pregnancies or who had 5 or more pregnancies were also at risk of maternal death (DoH, 2001 (b)).

Both the 1st and 2nd Saving Mothers Reports revealed that most of the deaths occurred during the postpartum period, decreasing from 62% in 1998 to 46% (1999-2001).

The majority of deaths occurred in Level 2 hospitals (35.6%) (DoH, 2001 (b)).

7.3.5. What are the major causes of death?

The Saving Mothers Reports divides the causes of maternal deaths into:

- Primary Obstetric Causes of Maternal Deaths (direct and indirect causes)
- Avoidable Factors, Missed Opportunities and Substandard Care (patient orientated; administrative and health care provider problems).

a) Primary Obstetric Causes of Maternal Deaths

The "big five" primary causes of maternal deaths account for 85% of all deaths and are described in Table Nine below. The 2nd Saving Mothers Report notes that deaths resulting from AIDS were probably significantly under-reported. It outlines how 17% of maternal deaths occurred in women who definitely had AIDS, but the HIV status of women was unknown in 63.6% of maternal deaths. Considering that there were 258 cases of tuberculosis, pneumonia and meningitis (considered to be AIDS defining conditions), AIDS may account for as much as 27.6% of maternal deaths.

Direct causes of death were responsible for 60% of deaths, while indirect causes were responsible for 38% of deaths. It is important to note that there has been a marked increase in indirect deaths from 1998 (34%), mainly due to the AIDS epidemic (DoH, 2001 (b)).

Table Nine: Top Five Primary Causes of Maternal Deaths (85.4% of all deaths)

Causes	% of Deaths
1. Non-pregnancy related infections (mainly AIDS)	31.4% (17 – 27.6%)
2. Complications of hypertension in pregnancy	20.7%
3. Obstetric haemorrhage	13.9%
4. Pregnancy related sepsis (includes septic abortions and puerperal sepsis)	12.4%
5. Pre-existing medical conditions	7.0%

Source: (Pattinson, ed, 2nd Saving Mothers Report, 2001)

b) Avoidable Factors, Missed Opportunities and Substandard Care

Both Saving Mothers Repots (1998 and 1999 – 2001) highlight that pregnant women's behaviour on the one hand (patient orientated missed opportunities), and breakdowns within the health system on the other (administrative and health care provider problems), contributed to maternal deaths.

Table Ten below provides a global breakdown of patient orientated factors and health system factors that contributed to maternal deaths, comparing results from 1998 and 1999-2001. In just over half of the maternal deaths, there was a missed opportunity to prevent death related to the behaviour of the women herself or within her community, an increase from levels recorded in 1998 (49%). Administrative problems contributing to maternal deaths accounted for 42% of cases. This is a significant increase from 1998's 33%, indicating a steady deterioration of maternal health services over the last few years. In over half the cases, there were health care worker related avoidable factors in the management of the event that led to the women's death, mostly at the primary level of care. These levels appear to have increased as well, although a direct comparison cannot be made as a slightly different method was used to calculate the proportions (DoH, 2001 (b); Smit et al, 2003/4).

Table Ten: Avoidable factors, missed opportunities and substandard care for all cases and a comparison with 1998

Category	% of avoidable factors in assessable cases	
	1999-2001	1998
Patient orientated	54.1	48.8
Administrative factors	41.5	33.2
Health Care provider problems @ ▪ Primary level ▪ Secondary level ▪ Tertiary level	 73.3 67 46.7	 56.8
Resuscitation	27.4	28.8

Source: (Pattinson, ed, 2nd Saving Mothers Report, 2001)

Barriers to seeking health care at community, household and individual levels

The most common problems associated with how women's behaviour contributed to maternal deaths in the 2nd Saving Mothers Report were not attending antenatal care

(22%) and a delay in seeking medical help (33%). Although the report states that the specific reasons for this are unknown, it postulates that the delay in seeking medical attention is probably related to women having transport problems in getting to the health care facility.

A range of investigations in South Africa have suggested that decisions to attend antenatal care, delays in booking, or not booking at all were the consequence of:

- **Transport problems**: difficulties in getting transport as well as limited financial resources to pay were highlighted as important factors influencing women's health seeking behaviour.

- **Gender roles and responsibilities** (work and family): lack of time to attend ANC as a result of multiple tasks and responsibilities in the home and community. Women continually prioritized their family and household responsibilities over their own health needs, eg one participant indicated that looking after her husband's informal business and cooking for his workers left her with no time to go to the clinic. Although in some cases partners did encourage women to go to the clinic to book, they were not available to take care of young children or take on household duties. Women highlighted difficulties and the cost involved in hiring babysitters; especially considering the length of time women have to spend at the clinic. Family members influence was also mentioned in a range of studies.

- **Difficulty in getting time off work**

- **Lack of motivation**. This was often experienced in the case of unwanted pregnancies, when in an unstable relationship with the child's father and the difficulties involved in seeking care (financial and opportunity costs). Other reasons included wanting to hide their pregnancies or wanting to wait until they 'really' knew (mainly rural and older women). A major influence on women's motivation was the expectation of poor quality of care, discussed in more detail below.

- **Expectations/experiences and perceptions of poor quality of care:** One of the most important factors in influencing women's decision to attend ANC were their perceptions of the role of antenatal care. Although it is true that some women lack knowledge of the benefits of antenatal care, many women regarded ANC as beneficial solely because *it was regarded as a means to avoid mistreatment* at the hands of the health care workers should they arrive unbooked! Several qualitative studies on women's experiences of labour wards revealed an environment "strongly characterized by humiliation of patients and physical abuse" (Penn-Kekana and Blaauw, 2002:22). Prime targets of abuse were young women, women who did not book and poor women.

  Practices such as not allowing a woman to move, being restricted to a supine position during labour, not being allowed a companion during the birthing process, and not being offered fluids during labour are functional to health care workers' needs and not those of the women patients.

Undoubtedly, government initiatives such as the Pregnancy Education and Hands on Programme which facilitates and supports community awareness, empowerment and participation in maternal health issues are very important and contribute to increasing women's ability to recognise the danger signs of complications in pregnancy and the importance of antenatal services. However, quality of care studies have revealed that on the whole, women's own needs are not being met by the services provided. They complain of being given very little information, of not being treated with dignity and being treated as *objects* of care, who need to receive information and obey, rather than subjects who have value and who should be able to influence and take part in the process of their care. The disrespect and uncaring attitudes of health care workers undermine women's motivation to attend ANC services, to the point where some would rather deliver at home. Although there is abuse and general neglect throughout the process of antenatal care and delivery, most of the abuse and neglect were reported to be at the time of delivery. Women are often ignored if they are in pain, and neglect is experienced to the point where women deliver without assistance and have to clean up after themselves.

It is argued that women's attendance of antenatal care services might improve if services were geared to meet women's own perceived needs, on their terms (Fonn et al, 1998; Abrahams, 2001; Penn-Kekana and Blaauw, 2002; Mbombo, 2003; Loveday, 2005 and Lule et al, 2005)

- A series of health system barriers that made it difficult for women to attend antenatal care were also highlighted, namely the booking system, the time services were available, long distance to the clinic and the time it took to travel to the clinic. Health care workers' negative attitudes were also highlighted. (Abrahams, 2001 and Loveday, 2005).

Studies have revealed that women's decisions about when to go the service when in labour are influenced by a variety of factors, including the time of day or day of the week. Women who had given birth before often expressed an unwillingness to spend a long time "walking around in the facility" and therefore tried to stay at home as long as possible.

Transport to the facility was a major obstacle – involving difficulties in arranging transport and the financial costs involved, especially at night or during the weekend. Expected abuse and neglect on the part of health care workers also influenced women to delay going to the clinic for as long as possible (Abrahams, 2001 and Penn-Kekana and Blaauw, 2002).

Barriers to providing optimum maternal care at health service level

Administrative problems that contributed to maternal deaths have increased from 33% in 1998 to 42% in 1991-2001, indicating a steady deterioration in maternal health services. In spite of the existence of national maternity guidelines, there has been an uneven development of plans at a provincial level. An in-depth assessment of 141 public sector PHC facilities in 2002 revealed that only 62% had maternity care guidelines available (CALS, 2003/4; Smit et al, 2003/4).

Considering that one of the key strategies of reducing maternal mortality is the promotion of skilled attendants at birth, it is a concern that the lack of appropriately trained staff accounted for 22% of the administrative problems. The 2nd Saving Mothers Report posed the question 'was it because of lack of training that health workers did not follow the protocols or were there other reasons?' (DoH, 2001(b):6). Nursing training has been revised to consist of a four-year basic course, one year of which is mid-wifery, the quality of which is internationally recognized. A number of initiatives have been implemented to improve the quality of midwifery skills through in-service learning, the two main ones being the Perinatal Education Programme (PEP) and the Decentralised Education Programme for Advanced Midwives (DEPAM). In addition, the Department of Health recently made one-year community service a prerequisite for registration of all doctors in order to address the skills shortage in rural areas (Penn-Kekana and Blaauw, 2002). Building staff capacity is an ongoing priority for the Department; however, issues of brain drain, demotivation, inadequate staffing, constant rotation amongst wards and poor working conditions undoubtedly contribute to poor health care worker performance. The issue of lack of personnel, however, was rarely mentioned as an avoidable factor. This may be due to staff viewing inadequate staffing as normal or the lack of information available to the assessor for them to allocate it as an avoidable factor (DoH, 2001 (b)).

Transport problems between institutions contributed to 13% of maternal deaths. This undoubtedly contributed to delays in referring patients (17%) or where they were managed at an inappropriate institution (17%), these last two referring to health care provider orientated problems. Problems with transport varied between provinces, the least problems being experienced in Gauteng and the Western Cape, while Mpumalanga and Eastern Cape experienced the most difficulties (DoH, 2001 (b)). Data from the 2000 National Primary Health Care Survey reveals that 23% of clinics do not have access to an ambulance (Penn-Kekana and Blaauw, 2002).

A lack of health care facilities that includes intensive care facilities, availability of blood for transfusions, drugs and laboratory facilities contributed to 11% of maternal deaths (DoH, 2001 (b)). The government is in the process of addressing this with a Clinic Building Programme (CALS, 2003/4).

Considering that AIDS is the leading course of maternal deaths in South Africa, one of the biggest challenges that the Department faces is moving beyond VCT and PMTCT services and integrating the provision of ARV drugs into maternal health services (Smit et al, 2003/4). The Department is currently considering moving the management of the PMTCT programme to the Maternal and Child Health Directorate (Cullinan, 2005).

Transmission of HIV from mother to child can be avoided at three points:

1) *During pregnancy*

2) *During labour and delivery.*
   ARV therapy (HAART) can reduce the transmission of HIV during the antenatal period, labour and delivery by reducing viral loads to non-detectable levels. The administration of short-course ARV during labour can reduce the rate of transmission during delivery, involving treatment for the mother, the baby or both.

In addition, a number of obstetric interventions are thought to reduce vertical transmission, including vaginal cleansing; elective Caesarean section; reducing interval from amniotomy (rupture of membranes) to delivery and finally, avoiding episiotomies or the use of forceps to assist delivery.

3) *Through adjusting feeding of the newborn*.
Exclusive feeding patterns are known to reduce HIV transmission. Either exclusive breastfeeding or exclusive formula feeding is promoted for the first six months (Besser et al, 2002).

A rapid assessment of the effects of the introduction of PMTCT on the overall provision of obstetric services, and to evaluate changes in clinical obstetric practice made in response to concerns about HIV transmission (concentrating on labour and delivery practices) was conducted in March 2002. On the whole, it was found that labour, delivery and postpartum wards are generally understaffed and morale amongst nursing staff is low. Rapid turnover of nurses contributes to absolute staff shortages, and the need to train new staff and absenteeism. Of concern, it was found that only 20% of the district or regional hospitals had obstetricians, while none of the MOUs or PHC facilities had specialists on site. Several facilities had insufficient numbers of medical staff, and the rate of turnover was generally worse for doctors compared to nurses. Counsellors are the backbone of PMTCT programmes. However, only some facilities had counselors in the delivery facility, and only during weekdays. Lay counsellors were found to exhibit factual misunderstandings and misrepresented policy, especially around feeding options (Besser, 2002).

On the whole, there seemed to be a good uptake of the modified obstetric practices promoted for HIV positive women. Most sites have not changed their indications for Caesarian section for HIV positive women, although in one site well HIV positive women were allowed to deliver vaginally, while sick HIV positive women were delivered by Caesarian section. Assisted vaginal deliveries were generally uncommon, while the routine rupture of membranes has now been discontinued for all HIV positive patients. The prolonged rupture of membranes is a significant factor in the vertical transmission of HIV. Management of these patients varied between facilities – ranging from conservative treatment (treating HIV positive and negative women alike) to having specific criteria for HIV positive women, moving more quickly to inducing labour, assessing for Caesarian section or transferring patients to the hospital. Routine episiotomies were not performed at any of the sites surveyed, nor were routine vaginal douches offered (although it was practiced at some sites) (Besser, 2002).

Considering HIV testing, counselling and testing during labour, women arriving in labour were generally separated from family and/or friends, allowing for questions about HIV status to be asked privately. Confidentiality thereafter was more difficult as wards are not conducive to privacy. Counselling and testing was seldom offered to women who were already in labour, however some units offered testing to women post partum. Most sites discharged women after a mere six hours, including HIV positive women, after having been given a mere ten minutes of education and support on the topic of infant feeding (Besser, 2002).

However, it has come to light that many of the babies saved by nevirapine from getting HIV from their mothers at birth are being infected with the virus later, particularly in communities where health systems are weak and there is little support for mothers. The Good Start study, commissioned by the DoH to assess its PMTCT programme, has found that the PMTCT programme works in the hospitals, but problems begin once the mothers and babies leave the hospital. Research revealed that three weeks after birth, only 9% of babies born in Paarl (Western Cape); 12% of babies born in Umlazi (Kwa-Zulu Natal) and 14% of babies born in Rietvlei (Eastern Cape) were HIV positive. However, between three and 36 weeks of age there was an almost 20% increase in HIV transmission in Rietvlei, the site in the poorest area and with the weakest health service. This meant that almost 30% of babies born to HIV positive mothers in Rievlei became positive by the time they were nine months old, the same proportion that would be infected without any drug treatment. Most children infected after birth, would have got HIV when their mothers mixed breastfeeding and formula feeding. In all three sites, more mothers who opted for exclusively formula feeding were able to stick to the regimen than mothers who opted for exclusively breastfeeding. Babies most at risk of HIV infection were those born to mothers with high viral loads, who had low birth weight and lived in poor socio-economic areas. Researchers proposed more effective counseling of mothers on safer feeding options for their babies, a consistent supply of formula milk and ARV therapy for mothers with high viral loads. The creation of an environment in which women would be able to safely disclose their status was also seen as important, as this would diminish the possibility that women would be pressured by their families to mix breast and formula feeding (Anso and Cullinan, 2005).

The Department has developed Guidelines for Use of HIV ARV Therapy in Pregnancy. Part of the national comprehensive plan for appropriate palliative and terminal care, it aims to reduce transmission of HIV from mother to child and to reduce the viral load in the woman in order to improve her health. The guidelines emphasize the need to provide detailed information on safe sexual practices and to emphasize early presentation at a health care facility in cases of medical and obstetric problems. Women are generally provided with ARVs after the first trimester (DOH, 2005).

Barriers to providing optimum maternal care at health care provider level

Considering the findings of the 2nd Saving Mothers Report, poor health care worker performance occurred in more than half of the cases of maternal deaths, with the majority happening at primary health care level. The biggest problem was the failure of health care workers to follow standard protocols (40%), mostly at level two hospitals (44%). Problems were also experienced with health care workers' ability to make an initial assessment (24%) and recognizing when there was a problem (34%). Again, this mostly occurred at primary health care level (49% and 50% respectively). The wrong diagnosis was made in 11% of the cases (mostly at primary level), while lack of continued monitoring of patients and lack of response to abnormalities in the monitoring occurred in a total of 22% of the cases (mostly at the secondary level of care).

A significant deterioration was revealed in health care workers' decisions to refer patients (9% in 1998 increasing to 17% in 1999-2001) and managing maternal health

problems at the inappropriate level of care (9% in 1998 to 17% in 1999-2001). These problems may have occurred as a result of lack of transport, problems in appreciating the severity of the condition or not having an identified referral hospital that will accept the patient (DoH, 2001 (b)).

The main findings of the 2nd Mothers Report are as follows:

1. There has been an increase in the number of maternal deaths notified in South Africa.
2. Non-pregnancy related infections (mainly AIDS) is the most common cause of maternal death.
3. Avoidable factors, missed opportunities and substandard care are associated with more than half of the maternal deaths.
4. Lack of transport is the major avoidable factor related to health care administrators.
5. Substandard care by health care providers is associated with maternal deaths in more than half the cases and is most prevalent in the primary level of care (Pattinson, ed,2001:9).

The ten key recommendations to address some of these problems are:

1. Guidelines on the management of important conditions causing maternal deaths must be displayed and used in all institutions where women deliver. These guidelines have been developed.
2. Criteria for referral and referral routes must be established and utilized appropriately in all provinces.
3. Emergency transport facilities must be available for all pregnant women with complications (at any site).
4. Blood must be available at every institution where caesarian sections are performed.
5. Establishing staffing and equipment norms per level of care must be performed for every health institution concerned with the care of pregnant women.
6. The distribution of the public sector Termination of Pregnancy (TOP) services (especially with respect to second trimester TOPs) must be expanded and the sites must be advertised to the public.
7. Correct use of the partogram should become norm at each institution conducting births. A quality assurance programme should be implemented, using an appropriate tool.
8. Skills in anaesthesia should be improved at all levels of care. Regional anaesthesia should be promoted at all sites performing caesarian sections.
9. Contraceptive use must be promoted through education and service provision, especially for those who are 35 years of age or older, or those with five or more pregnancies.
10. Counselling and voluntary HIV testing should be made available for all pregnant women (DoH, 2001 (b)).

8. Community or Advocacy Actions to improve maternal health

In South Africa, it is disturbing to note that, although there was an effort to promote the establishment of a White Ribbon Alliance a few years ago, these efforts seem to have come to nought. It was not possible to identify a particular NGO that focused specifically on the issue of decreasing maternal mortality and promoting maternal

health, especially from a rights-based approach. Instead, NGOs focus on issues such as HIV/AIDS; violence against women, monitoring of access to abortion services, cervical cancer etc. This represents a large gap in civil society action.

Maternal health, particularly approached from a health systems perspective, seems to be the focus of attention of research and academic NGOs/institutions. These include the Medical Research Council's Maternal and Infant Health Strategies Research Unit; several units within the School of Public Health from the University of the Witwatersrand, including the Centre for Health Policy, the Reproductive Health Research Unit and Masters students from the Masters in Public Health; Health Systems Trust; the Effective Care Research Unit (East London Hospital Complex and Universities of Witwatersrand and Fort Hare) and the School of Public Health from the University of Western Cape to name a few.

There are examples of individual projects that aim to improve maternal health through a range of strategies. One such example is the joint project between the Reproductive Health Research Unit, Population Council and the Kwa-Zulu Natal's Department of Health. Called the **Men in Maternity Project**, the initiative aims to promote men's positive involvement in the antenatal and postnatal care of their partners. The operations research project is investigating the impact of involving men in couple counseling sessions with their pregnant partners. Men have expressed interest to get involved in pregnancy care and to attend counseling sessions, believing that this would increase their knowledge about pregnancy and delivery. However, they did not express a similar interest in being present during labour and delivery, claiming that it was not their place, but that these issues should be dealt with during counseling. It was found that men's working hours and clinic opening times were incompatible, and so the project agreed for the clinics to write a letter requesting time off from the employers for men to attend couple counseling. Interventions also included training of clinic staff, the development of IEC materials promoting male involvement and changes to the management information system (registers for recording attendance at couple counseling sessions, two registers to record management of maternal syphilis infection and general ANC attendance) (RHRU, 2001).

Better Births Initiative

In South Africa, the Better Births Initiative (BBI) was established in order to improve obstetric practices and quality of care. The principles of BBI are:

- humanity – women treated with respect;
- benefit – care that is based on the best available evidence;
- commitment – health professionals committed to improving care and action and
- effective strategies to change current practices.

The programme consists of structured workshops for labour ward staff and managers[21] and was implemented at ten government maternity units in Gauteng. Results demonstrate improvements in practice, including not restricting oral fluids,

[21] There is a presentation on the principles of an evidence-based approach to care and a video presentation on childbirth companions. Health care workers reflect on their current practices and compare them with evidence of effectiveness from a reference booklet. If they decide their practices need to change, a strategy is developed and charts are provided to monitor progress towards change (Nzama et al, 2005).

allowing companionship and avoiding routine use of enemas, perineal shaving and episiotomies. However, no improvements were seen in practices that restrict mobility and enforce the supine position (Hofmeyr, 2005).

At an international level, apart from the Saving Mothers Initiative and White Ribbon Alliance activities described in Section 6, a range of communication strategies and organizational initiatives exist to promote maternal health.

Communications Strategies
Communication tools and strategies have been used to address life-threatening complications during pregnancy and childbirth. Two such examples are worth mentioning.

The Bangladeshi television series **"Eyi Medh Eyi Roudro"** (Now Cloud, Now Sunshine) aimed to encourage people to attend health services, with the message "Come with your family for health care". The TV drama featured many popular performers and revolved around stories in both urban and rural areas. It highlighted health care facilities and centred on the people of various villages, focusing on their health and happiness. Although the drama centred on the personal lives of the characters, each with a distinct philosophy of life that impacted on his/her attitude toward health and health services, the series also included a call for action from local health care centres. The 30-minute drama was followed by Health Talk, a segment focusing on health topics including breastfeeding, diarrhea, pregnant women's health, antenatal and postnatal care, child vaccination, nutrition etc. These topics were also addressed in the drama. Health Talk also had quizzes, with the added bonus of performers awarding prizes to winners (The Communication Initiative, Programme Experiences, Eyi Megh Eyi Roudra).

Measuring the impact of the series, a 2002 telephone survey of 2010 married men and 2010 women aged 15 – 49 from urban and rural areas revealed that 27% of the respondents had watched the drama, 56% women and 43% men. Most of the audience was based in the urban areas (70%). Significant knowledge shifts resulted, for example, 43% of viewers stated that they had learned something from the quiz sessions, such as how to take care of pregnant women (28%), health-related information (26%), child immunization and proper care of children (42%) and family planning (15%). Considering changes in attitudes amongst health care providers, 86% commented that they had learned something from the drama, 71% of which committed to providing 'sincere services' to patients, 26% committed to be patient when providing services and 12% committed to providing quality services to pregnant women. Intentions to change behaviour were also demonstrated when male viewers said the show had inspired them to give up "bad habits" such as untidiness (34%), smoking (20%), rude behaviour towards their wives (13%) and going to brothels (7%). Seventy percent of female viewers had received ANC services during their last pregnancy, compared to 48% of non-viewers. More non-viewers (58%) had taken "no preparations" for their pregnancy compared to 41% of viewers (The Communication Initiative, Impact data, Eyi Megh Eyi Roudra).

The **DIORO approach**[22] was based on indigenous cultural practices in Mali, including a song, a singer/storyteller (griot) and the adaptation of a traditional clothing (pendelu), in a successful campaign to increase communication around pregnancy in the household (particularly between husbands and wives), and to improve health seeking behaviour during pregnancy.

Research had revealed that one of the most important cultural obstacles to women's maternal health care-seeking behaviours was the lack of discussion about pregnancy within the household, particularly between husbands and wives[23].

The Africare staff in Mali identified the *pendelu*[24] as the ideal means to facilitate communication between husbands and wives about pregnancy during a pilot IEC campaign. However, the *pendelu* was modified and the traditional white cotton fabric was dyed a bright green, in order to change it's meaning to symbolize pregnancy and to remind the husband of his role of protector, advisor and supporter. At the same time, it was decided to use a *griot* (a combination of oral historian, praise singer and social mediator) to promote discussion about the sensitive topic of pregnancy and the *pendelu*. Griots enjoy a socially sanctioned privilege of being able to say directly to anyone what nobody else in the community would dare to say, are social commentators, and use the power of words to influence people's behaviour. The Project team provided the key maternal health care messages to a local griot, who then composed the melody and the words for the song to be used in the IEC campaign.

The IEC campaign was conducted in seven villages in the Dioro district, beginning with a general maternal health discussion session led by one of the project team members, traditional birth attendants explained the importance of ANC and deliveries assisted by qualified attendants. A video drama illustrating how lack of communication between husband and wife led to a miscarriage was then shown, followed by discussion. The griot would then perform the song about the green pendelu (with discussion and interaction with the participants), after which project staff presented the green pendelu and took more discussion. Men and women had different sessions, with the men going first, and after receiving the men's permission, sessions were held with the women. The pendelu was then distributed to the women.

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[22] The name DIORO is both the name of the district in Mali in which the approach was developed, and is also a French acronym, standing for "let's take dynamic initiatives to get NGOs, government agencies and communities to work together for sustainable development" (Clemmons and Coulibaly, no date provided).

[23] Previously, women considered talking about pregnancy with their husbands, mother-in-laws and other women extremely shameful and embarrassing (especially first time pregnancies). This impacted on their health seeking behaviour as it was difficult to ask their husbands for financial assistance to attend ANC services, or have somebody to talk to in the event of difficulties with their pregnancies. Men also preferred talking about pregnancies and other problems related to sexuality with a friend or someone other than his wife.

[24] Traditionally, Malian women wear a long, very loose-fitting robe of light cotton (a boubou in French). A long wrap-skirt (pagne) is almost always worn under the boubou , covering the body from waist to ankles. Only married women get to wear a little pagne (pendelu – a short cloth undergarment) underneath the pagne because it is also used to wipe away body fluids after sex. Women will wear the pendelu in front of her husband in the bedroom, or have it lying close by, to attract his attention, arouse his desire and to promote a more emotional intimacy. The pendelu is seen as both a symbol of marital roles, duties and privileges and is also used in non-verbal communication between husband and wife (Clemmons and Coulibaly, no date provided).

The impact survey revealed that the campaign dramatically increased communication levels between husbands and wives, with 66% of all survey participants saying they had discussed pregnancy and maternal health issues after the campaign. The green pendelu was felt to be the most successful element of the campaign (84%), with news of the green pendelu (and its association with pregnancy) reaching 89% of the population. When asked what they would do if their wife wore a green pendelu, 32% of husbands said they would talk with their wife about it, 42% said they would lighten their wife's workload and 50% said they would make sure she 'eats right'. Pregnancy was also viewed more positively, the pendelu being associated with happiness, pride, responsibility and confidence (Clemmons and Coulibaly, no date provided).

9.Key areas or issues of concern

- Complications during pregnancy and childbirth are the leading causes of death, disease and disability amongst women of reproductive age in developing countries.

- Africa and Asia have the highest maternal mortality ratios.

- In South Africa, there are large disparities in maternal mortality between women from different economic backgrounds; urban/rural; different 'races'. Women most at risk of maternal death are older women especially women over 35 years and older, women in their first pregnancy or who had five or more pregnancies. African women account for the majority of maternal deaths.

- Maternal mortality and morbidity is avoidable and preventable. Maternal mortality exists because of neglect and the lack of political will to address the issue.
  - There has been an increase in the number of maternal deaths in South Africa.
  - Non-pregnancy related infections (mainly AIDS) are the most common cause of maternal death.
  - Lack of implementation of policy contributes to the problem, along with health system deterioration.
  - Health administration and poor health care worker performance contribute to a large percentage of maternal deaths. There is a need to increase budgets (improve health facilities, transport, improve working conditions) and provide capacity building of health care workers (especially on the rights of women, gender relations, Batho Pele principles and patients' rights).
  - Lack of transport (women to the health care facility and between different levels of care) significantly contributes to maternal deaths.

- A more effective and concerted response to HIV/AIDS is necessary to deal with why women are dying during pregnancy.

- Women's health seeking behaviour contributes to a large percentage of maternal deaths.
  - Lack of transport (financial means to pay, unavailability of transport, especially at night and weekends).
  - Women lack of information about their bodies, sexuality and reproductive systems, nutritional needs, recognizing danger signs.

- Lack of support from spouse in promoting attendance at antenatal care, sharing of household responsibilities and childcare.
- Lack of support from family members (especially partner) and the community in ensuring transport, sharing of household tasks and responsibilities.
- HIV/AIDS and VAW during pregnancy contribute to her maternal morbidity and mortality.

- Problems outside the health sector include lack of access to basic services (housing, water, electricity, transport) and increased poverty and unemployment, all of which contribute to poor health status, and ability to achieve maternal health.

10. Implications for health communication messages

Women and young girls
Educational messages that highlight:
- Information about their bodies, sexuality, sexual and reproductive health systems
- Promotion of women's rights, sexual and reproductive rights, right to health care, to increase empowerment of women and their ability to decrease the levels of unwanted or mistimed pregnancies.
- Awareness of the particular health needs of adolescents.
- Early danger signs of pregnancy related complications.
- High risk groups in terms of maternal mortality – women over 35, first birth and women who have five children or more.
- Existence of the Choice on Termination of Pregnancy Act – dangers of unsafe abortions, considering that a large percentage of women died due to unsafe abortions.

Changes in gender relations
Promote that all members of the family (men and women, boys and girls) share household tasks and responsibilities, including childcare. Men to participate in the childcare and household duties to liberate women from this burden and give her time to attend antenatal care, and to not put an unnecessary stress and burden on her body.

Men to accompany women to contraceptive services, antenatal care and during labour.

Improved Transport:
Promote communities to work together to pool resources to arrange emergency transport for women with complications. Examples include organizing assistance from taxi associations and the development of community transport networks. In short, to promote the idea that the community has a responsibility to ensure that women do not die or experience morbidity as a result of lack of transport.

The promotion of community saving schemes/stok vels to assist women in paying for transport costs or the promotion of state transport subsidies for women who are about to give birth.

Health Care Providers
Promotion of respect for women clients, recognition of women's dignity and input in caring for her health. Promotion of the acceptance of birthing companions, women

choosing the birthing position, need for analgesics. Need for kindness and recognizing the stress and anxiety of birthing process.

Department of Health
Establishment of waiting centres before labour for women who live far from the health facility and who experience transport problems.

11. Key stakeholders/role players
Attached as Appendix A, includes a table containing names, positions, contact details and other information.

12. Key documents and resources

- World Health Organization. **World Health Report 2005: Make Every Mother and Child Count**, Geneva.

- Task Force on Child Health and Maternal Health, Millennium Project. 2005. **Who's Got the Power? Transforming health systems for women and children**, New York.

- Proceedings of the Conferences on Priorities in Perinatal Care in Southern Africa, organized by the Maternal and Infant Health Strategies Research Unit from the Medical Research Council.

- Health Systems Trust. Health Status Indicators – Reproductive health www.hst.org.za/healthstats/113/data

- South African Health Review 2003/4 – particularly Chapter 5 on Reproductive Health and Chapter 7 on Maternal Health, published by Health Systems Trust.

Government Reports and Policies

- SA Demographic and Health Survey (1998). Latest SA DHS (2003) about to be released.
- District Health Information System (DHIS) Database of National DOH
- Saving Mothers 1998. Report on Confidential Enquiries into Maternal Deaths in South Africa, Department of Health.
- Saving Mothers 1999 – 2001: Second Report on Confidential Enquiries into Maternal Deaths in South Africa, Department of Health.
- Saving Mothers 2002 – 2004: Third Report on Confidential Enquiries into Maternal Deaths in South Africa, Department of Health (about to be released).
- Guidelines for Maternity Care in South Africa: A manual for clinics, community health centres and district hospitals. Department of Health.

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Appendix A: Key Role Players / Stakeholders in Maternal Health in South Africa

Name	Position/Institution	Contact details	Blurb
Government			
Dr Loyiso Mpuntsha	Director of Maternal Child Health Directorate	(012) 312 0189 Cell phone: 082 555 9330 Email: MpuntL@health.gov.za	
Mickey Masasa	Deputy Director of Maternal Child Health Directorate	(012) 312 3232 Cell Phone: 083 4779825 Email:MasasM@health.gov.za	
Pulani Tlebere	Technical Advisor Women's Health and Genetics Directorate National Department of Health	012 212 0408 TlebeP@health.gov.za	
Dulcie Tsotetsi	Assistant Director, Maternal Health, Gauteng Province	(011) 355 3309	
Nontuthuzelo Dolly Nyasulu	Maternal, Child and Women's Health Co-ordinator Department of Health, KZN	dollyl@social.mpu.gov.za	Member of NCCEMD, founder member of the Society of Midwives of South Africa A lot of international work
Practitioners			
Dr. Norma French Mbombo	University of Western Cape, Midwife	021-9592794 Vuyo (9592794) or Nandipha (9593074) nmbombo@uwc.ac.za	Area of expertise is women's experiences of maternal health services. has conducted research on women's health seeking behaviour from a rights perspective.
Debbie Jackson	University of Western Cape, Midwife		Extensive involvement in maternity health services. Working on PMTCT
Deliwe Nyathikazi	President of Society of Midwives of South Africa Director of Maternal, Child and Women's Health. Limpopo Province	nyathikaziN@dhw.norprov.gov.za 015 290 9128	Active in midwifery and government circles. Very well connected.
Elgonda Bekker	Young Midwifery Leadership Programme member International Committee of Midwives University of the Free State	elgondab@mweb.co.za	Activist midwife in both national and international circles.

Dr Annalize de Villiers	Senior Research Officer MRC Research Unit for Maternal and Infant Health Care Strategies	annelize@kalafong.up.ac.za	Has worked on improving quality of care in maternity services and community education for years. Also a lot of PMTCT work. Leading light in the South African Midwives Congress
Barbara Hanranran	Clinic Manager Linkwood Maternity Unit	Tel (h) 011 485 5895 Cell : 083 500 0062 (w) 011 485 3250 barbara@linkwood.co.za	Has done a great deal in a number of provinces trying to improve the quality of care given by midwives Manages a private midwife led birthing center.
Dr Patrick Godi	Head of Obstetric Services Rob Ferriera Hospital Mpumalanga	013 741 3031	Years of experience of providing obstetric services in a poor rural province.
Vivienne Black	Runs the Pregnant Women's ARV Clinic at Johanneburg General Hospital.	v.black@rhrujhb.co.za Cell: 083 321 6974	Works in ARV clinic that has the most pregnant women, researcher at RHRU Does a lot of training on challenges of treating pregnant women with AIDS
Sheila Clow	Assistant Professor Nursing and Midwifery , UCT	sclow@uctgsh1.uct.ac.za	
Researchers			
Bob Pattinson	Director Medical Research Council Maternal and Infant Health Strategies Research Unit; Clinical Head, Department of Obstetrics and Gynaecology, University of Pretoria	(012) 318-6858 (no answering machine) Tel/Answ/Fax: (012) 373-0825 Prof Pattinson [matinfru@up.ac.za]	Editor of the CCEMD reports, Facilitator of Gauteng Provincial MCWH Coordinators and Assesors Coordinates annual Conference on Priorities in Perinatal Care in Southern Africa.
Jack Moodley	Director MRC/UN Pregnancy Hypertension Unit; Head of Department of Obstetrics and Gynaecology, University of KZN		Chairperson of CCEMD; Assesor of KZN Provincial MCWH Coordinators
Loveday Penn-Kekana	Researcher, Centre for Health Policy, School of Public Health, University of the Witwatersrand	(011) 242 9920 Cell: 084 836 7656 Email: loveday.penn-kekana@nhls.ac.za	She has extensive knowledge of maternal health issues in South Africa – both from policy, systems perspective as well as from women's rights point of view. She is currently working on a four country research project which aims to develop

			theoretical frameworks and methodologies to better understand health system functioning. Was part of conducting a rapid appraisal of maternal health services in SA.
Justus Hofmeyr	Head of Effective Care Research Unit (East London Hospital Complex and Universities of Witwatersrand and Fort Hare, Eastern Cape)	(043) 708 2134 gjh@global.co.za	Better Births Initiative Improving experience of birth in poor communities Works in the Eastern Cape.
Dr Eddie Mhlangu	Head of Community Obstetrics at Medical School, University of KZN.		Former head of Maternal and Child Health at NDOH.
Marion Loveday, Jane Roberts	Health Systems Trust	(031) 307 2954 – HST Marion Loveday: (033) 342 8910; 082 459 5044; marian@hst.org.za	Marion Loveday was part of a research project to determine factors influencing the utilisation of and barriers to utilisation of maternal health services, including PMTCT in SA.
Anna Voce	Senior Researcher Division Public Health Medicine School of Family and Public Health Medicine Nelson R Mandela School of Medicine	(t) 031 260 4493 (f) 031 260 4211 voceas@ukzn.ac.za	Has done extensive research on maternal health services in KZN and Limpopo.
Rachel Jewkes	Medical Research Council	rachel.jewkes@mrc.ac.za	Conducted a range of research projects on women's experiences of maternal health care services, impact of legalisation of TOP, and violence against women.
Busi Kunene	Researcher, Reproductive Health Research Unit (RHRU), University of the Witwatersrand	031 261 8840 b.kunene@rhru.co.za	Heads a programme of work looking at improving maternal health services. Works closely with the KZN Provincial Department of Health
Nokuzola Mzolo	Centre for Rural Health	(031) 260 1569 031 260 6273	Active Advanced Midwife and Researcher. Has a lot of experiences of the challenges facing maternal and new born health services and communities, especially in KZN and Limpopo

Professor Hugh Philpott	Centre for Rural Health	hughp@iafrica.com	Currently retired, but has worked extensively in maternal health services. Designed a partogram (method of measuring progress of labour and determining when an intervention should take place).
David Wood	Perinatal Education Programme, University of Cape Town		
Non Governmental Organizations			
Dean Peacock	Engender Health	(011) 646 7325 072 461 7751 DPeacock@engenderhealth.org	Country officer, but also plays a key role in Men as Partners programme from PPASA
Saiqa Mullick	Population Council	011 325 0518	Has worked on programmes to improve male involvement, develop protocols for maternal and new born care and to improve the integration of reproductive health and maternal health services mainly in KZN.