CENTRE FOR SEXUAL AND REPRODUCTIVE HEALTH

ENHANCING MATERNAL SURVIVAL – A RESEARCH PRIORITY IN LOW-INCOME COUNTRIES

A THEMATIC DAY, SPONSORED BY SIDA /SAREC

June 2002

by

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Contents

Acronyms and abbreviations

AIDS	**Acquired Immune Deficiency Syndrome**
ART	**Antiretroviral Therapy**
ARV	**Antiretroviral Drugs**
DFID	**UK Department for International Development**
EmOC	**Emergency Obstetric Care**
GDP	**Gross Domestic Product**
HIV	**Human Immunodeficiency Virus**
IHCAR	**Div. of International Health, Karolinska Institutet, Stockholm, Sweden.**
JSI(UK)	**John Snow International UK**
MCH	**Maternal and Child Health**
MTCT	**Mother to Child Transmission of HIV**
MDG	**Millennium Development Goal**
MH	**Maternal Health**
SIDA	**Swedish International Development Agency**
SAREC	**Department for Research Co-operation within SIDA**
SMI	**Safe Motherhood Initiative**
STI	**Sexually Transmitted Infection**
TA	**Technical Assistance**
TBA	**Traditional Birth Attendants**
TB	**Tuberculosis**
WHO	**World Health Organisations**

1. INTRODUCTION

This thematic day was organised by the Div. of International Health, Dept. of Public Health Sciences, Karolinska Institutet, Stockholm, Sweden and sponsored by SIDA/SAREC with an open invitation to interested parties. Gillian Barber, Maternal and Reproductive Health Adviser, John Snow International (UK) attended on behalf of the Department for International Development DFID(UK). The venue was the Norrbacka Building, Karolinska hospital, Stockholm.

The day consisted of a series of presentations of research undertaken in sub-Saharan Africa around the areas of maternal health, survival and mortality. The intention was to review what has been learned specifically about maternal survival, consider the next steps and how to put the lessons into action.

The event was challenging and stimulating, providing an excellent overview of the state of contemporary knowledge and a more limited emphasis on where more work needed to be carried out. Perhaps inevitably most speakers slipped into the language of mortality rather than survival but the message was unaffected.

Each session was followed by opportunities for discussion but a final integrating session would have been useful to pull out key strands and explore their interconnections and implications. There were some clear themes that emerged from the presentations (addressed in the 'Key Issues' section of this report) but no real attempt was made to interrogate these for their wider relevance or how ideas might be rolled out in country or elsewhere. To a degree, the long-term operationalisation and sustainability within the locale of the studies might have been more specifically considered within individual presentations. This wider relevance and consideration of next steps may still be worth examining post conference.

Proceedings are being produced.

1.1 Participants

This was an open meeting attended by approx 70 participants, from the research and practice background from European and African regions. No participant's list is available.

2. KEY ISSUES RAISED AT THE CONFERENCE

Investment in maternal health and survival is not secure despite the Millennium Development Goals (MDGs), and must remain high on the international and national agenda notwithstanding the prominence of HIV, TB and malaria. Sustainability needs to be supported by ongoing commitment and by continuing support, supervision, good governance and accountability. Finance cannot be made available then the activity left to its own devices.

There is a need for maternal health care to become more integrated with reproductive health and HIV provision rather than remaining as vertical programmes. Antenatal care has the potential for becoming a women's health service as these links are strengthened, and made firmer between primary health care and hospital services. The new emphasis within antenatal care is on identification and management of intercurrent and pregnancy specific health problems, some preventative care, raising awareness of danger signs and planning ahead for emergency care. Close links with referral services and transport arrangements are essential for this to work

Community stakeholders want to be involved, need to be taken into account in service planning and delivery, and are able to make a difference. Communities can become partners in care and can make appropriate choices.

HIV and AIDS are having a major impact on maternal health:

- The childbearing woman who is HIV positive is affected substantially by malaria, TB and respiratory infection, anaemia, reduced immune response making postpartum infection more likely and any intervention dangerous, especially caesarean section and abortion;
- Services for women are affected by general overburden caused by HIV and AIDS and by loss of health care workers;
- Activities to reduce Mother–to-Child Transmission (MTCT) of HIV may have negative impact on women in short or long term. Aspects of care may be designed for the wellbeing of the fetus or newborn infant and may threaten the health of the woman herself.

Health workers are the cornerstones of health care systems and are essential to sustainable improvements. Midwives are key providers and need competency based education and standards, financial, practical and statutory support, efficient referral mechanisms and transport facilities for women. If midwives are respected and seen as available in the community when complications arise, they can make a real difference to maternal health even if not present for all births. They need to be evenly distributed in rural areas and to be collaborating with Traditional Birth Attendants (TBAs). It is important that midwives and other health care workers feel valued and supported, and that motivation remains high in the face of increasing pressures. Leadership, quality and governance are essential pre-requisites to an effective service, along with reliable obstetric support.

New ways of thinking need to be holistic. There has been a long history of single issue emphasis and discarding of previous ideas because they do not appear to work. Limited effectiveness may be as much to do with being used in isolation as with inherent problems with the approach. Past emphases that should not be discarded but incorporated and integrated appropriately are antenatal care, risk analysis and TBAs. Skilled attendance for childbirth equally needs to be considered holistically as part of a package of interventions.

Services need to be specifically designed for pregnant women, especially blood availability, intensive care facilities, abortion and post-abortion care.

Planned changes to deal with unmet need can have substantial results but the sustainability may be affected adversely by changing circumstances such as population movement, budgetary constraints and the impact of HIV infection.

Gender empowerment and autonomy of women, restrictive cultural practices and norms, inequity, and birth as 'women's business' are still issues that have an impact on maternal health and survival.

3. ACTION POINTS

Application of lessons learned to future activities and policy. Specifically:

- What might be the impact of integrated approaches or substantial links between maternal, reproductive health, and HIV and AIDS services? Would it enhance the support of childbearing women or would the maternal health service provision be subsumed? Would the service become seamless?

- How does a holistic approach work in practice without losing focus? What might it look like? Is it really fresh or in fact what is already being done in most places, but perhaps with strands separated, each with lives of their own?

Appendix 1

PROGRAMME

Friday June 7, 2002, 08.30-17.00

Venue: Aulan 2nd. Floor, Norrbacka building, Karolinska Hospital, Stockholm

Morning session

Welcome: Professor Staffan Bergstrom, Chair

Lessons learned from applying the "cemetery approach" and alternative methods in maternal mortality research.
Dr. Francisco Songane, Minister of Health, Mozambique.

Maternal health and Swedish development co-operation
Dr. Anders Molin,

Antenatal care as a tool to decrease maternal mortality
Professor Gunilla Lindmark,

Lessons learned from maternal mortality research over the last decade in Maputo.
Dr. Fernanda Machungo

Enhancing maternal survival in the HIV era
Dr. Ana Carla Granja

Maternal mortality and severe morbidity ("near miss") in Uganda
Dr. Pius Okong,

Lunch break
Afternoon session

Reducing maternal mortality in Kigoma; successes and constraints over two decades
Dr. Godfrey Mbaruku,

Maternal mortality in rural Guinea Bissau: which way to walk?
Dr. Lars Hoj,

Incident community-based referent studies of maternal mortality in Masvingo District and urban Harare, 1989-1990 and in Temeke district, Dar-es-Salaam, 1991-1993; a comparison.
Dr. Lennarth Nystrom,

The role of social science in maternal mortality research
Dr. Annika Johansson

Confidential enquiry into maternal mortality in the Netherlands: its relevance for other parts of the world?
Jos van Roosmalen,

Should we invest in skilled birth attendance or EOC to bring down maternal mortality in low-income countries? Lessons learned from Malaysia and Sri Lanka.
Dr. Jerker Liljestrand,

Close

Appendix 2

SUMMARY OF PROCEEDINGS

Welcome: Professor Staffan Bergstrom, Chair, International Health, IHCAR

Professor Bergstrom reviewed the purpose of the event which was to review lessons learned from research in various low-income countries about enhancing maternal survival. The declared intent was to take a positive stance by emphasising survival rather than mortality and to consider the next steps and how to operationalise the research presented.

Professor Bergstrom welcomed the Ambassador for Mozambique and the Minister of Health for Mozambique, Dr. Francisco Songane, an obstetrician who was the first speaker, describing the long term collaboration between Mozambique, IHCAR and SIDA/SAREC.

Lessons learned from applying the "cemetery approach" and alternative methods in maternal mortality research.

Dr. Francisco Songane, Minister of Health, Mozambique.

The research investigated the quality of maternal death registration in Mozambique. It was known that less than half were registered and hospitals failed to indicate cause as did civil and cemetery data. Hospitals had been under-resourced because of post-Nairobi emphasis on family planning and TBA training. This has changed since Bangkok, a real achievement with the new emphasis on EmOC. Family planning and TBA investment is still needed but institutions must have renewed attention.

A system of encouraging data collection by public and also private cemeteries was instigated and efforts made to enquire why deaths were not declared or attributed to pregnancy and birth. The private cemetery approach originates from a persistent desire to bury in private cemeteries – a 'sanctuary for the family', also distance. Fear of declaration was not a significant factor.

Discussion: Using data as motor for change – revitalised Maternal Mortality meetings and instigated hospital Heads of Programme meetings, considered statistics at District level, increased first level referral capacity, doubled senior obstetric support, increased supervision but this remains weak – clinical assessment needed and follow-up. Re. the link between evidence and policy – need to look at what happens if proper support in place.

Maternal health and Swedish development co-operation
Dr. Anders Molin, Obstetrician SIDA, responsible for HIV and Maternal Health

There is a history of decades of Swedish collaboration with a wide range of countries including Mozambique, and in partnership with the Karolinska Institute. Global activities are now affected by new policy directions with health having a higher place on international agendas because of the MDGs, targeting of Ministers of Finance (e.g. WHO 2001 Committee on Macro-Economics and Health papers) and the Global Fund for AIDS, TB and Malaria. Global understanding of health and economics link is stronger.

SIDA principles for practice are described in a conceptual framework which links

- National ownership and partnership, and national context;
- Health determinants and the health sector as basis for;
- Policies, advocacy, institutional development and governance;
- Human rights and equity, poverty, education, democracy.

Country collaboration works in different ways with income level:

- Low income – technical co-operation, financial sustainability, increasing move toward central budgetary support and away from projects;
- Middle-income – technical role targeted toward the poor, not a transfer of resources;
- Countries in transition – health status is reducing rapidly although have their own resources, Technical Assistance (TA) role and appropriate adaptation of developed health systems.

SIDA is thinking in new ways:

- Leadership and good governance;
- Young people and lifestyle;
- Unnecessary maternal death;
- Health and environment;
- Research and development of global public goods.

Discussion: There is a concrete risk that maternal health will not be on the global agenda; HIV, TB and malaria are very high. Reproductive health resourcing is changing with US administration intervention. SMI partners trying to revitalise maternal health (MH) alongside infectious disease agenda but this is not won yet.

Antenatal care as a tool to decrease maternal mortality
Professor Gunilla Lindmark, Head of International Maternal and Child Health, Uppsalla

The risk approach and antenatal care effectiveness has been questioned for many years and increasingly so now. Evidence of effectiveness is limited because it does not work in isolation; trials are small and data difficult to collect. It can identify previous caesarean section, severe hypertension and anaemia, antepartum haemorrhage and malpresentation – all need institutional birth.

Antenatal care works directly – via detection, immediate treatment and referral, and indirectly by its link with the rest of the health system. Current emphasis is on danger signs awareness, clean safe delivery and planning for emergency. Treatment of infections is important – malaria, STIs, urinary tract infections, intercurrent maternal illness and nutritional supplementation (ongoing research), identification of fetal malpresentation, blood pressure monitoring if follow-up facilities exist. Quality of routine care is vital but is often poor.

Antenatal care should be a health service for women, linked strongly to reproductive health services.

Lessons learned from maternal mortality research over the last decade in Maputo.
Dr. Fernanda Machungo

Studies hospital based where most Maputo deaths occur through mismanagement. Audit is attempting to identify causes, avoidable factors and focus of necessary action. Haemorrhage, eclampsia, septicaemia and unsafe abortion are main causes; anaemia, malaria and HIV remain significant and strongly interlinked. HIV is second cause of maternal death with 28% pregnant women in Maputo being HIV positive.

Steps taken include:

- Blood storage for maternity, women having abortions asked to contribute;
- Dedicated intensive care unit for Obstetrics and Gynaecology unit;
- MgSO4 for eclampsia;
- Abortion on demand (midwife manual vacuum aspiration) for socio-economic reasons (illegal but with documentary guidance from Ministry of Health), availability limited and not free;

And continuing problems: Aseptic techniques need improvement, gloves re-used and sterilisation often inadequate, antibiotics often unavailable, malaria treatment inadequate – drug resistance, low immunity from HIV.

Maputo women are dying at home and in the streets, community-based study needed.
Decriminalisation of abortion is needed but cannot provide a universal service.
Men could be asked to donate blood for wives.
Health care workers becoming overburdened because of HIV and AIDS, now MTCT activities added for midwives.

Enhancing maternal survival in the HIV era
Dr. Ana Carla Granja

A key reason for continuing high death rate of women is inadequate attention to HIV infection and management of women and babies. Most programmes are vertical with no links. In Malawi 90% of pregnant women who died was HIV positive.
Direct cause of death is reduced immune response and postnatal infection, increased complications post caesarean section and abortion – severe infection, healing impairment, need for secondary surgery and blood transfusion.

Indirect causes are malaria and its contribution to anaemia, TB and respiratory tract infections.
Important interventions are:

- Access to high quality antenatal, delivery and abortion care, testing and counselling, ARV drugs, detection and treatment of malaria, TB and anaemia;
- Skilled attendance for birth, avoidance of prolonged rupture of membranes, oxytocic/Misoprostol for prevention of haemorrhage, breastfeeding options;
- Barrier methods of contraception and woman control. NB Intra-uterine devices increase pelvic inflammatory disease. Barrier methods especially important for women who are not breast-feeding and those at risk of infection post-abortion.

Women are neglected by MTCT emphasis, and many interventions have possible adverse affects for woman now or in future – ART (drug resistance), caesarean section (increased mortality), avoidance of breastfeeding, vaginal chlorhexidine lavage. Drug regime access must be ensured, withdrawal may increase viral load temporarily with MTCT implications if feeding.

Maternal mortality and severe morbidity ("near miss") in Uganda
Dr. Pius Okong, obstetrician, Zambia

Prevention of death is not enough, death is result of series of events, and survival with disability means poor quality of life. Morbidity is an important and more accessible measure.
Uganda's political history is a tragedy for economics;
The continuing poor status of women affects their health. Research shows the continuance of female subordination, and how social custom leads women into prostitution when they are not permitted to trade but expected to find own money. Will give birth alone to prove their worth and many practices are risky.
TBAs bridge the gap, can recognise but not solve all problems, but continue to have an important role because of availability, cultural acceptability and willingness to accept payment in kind. Women recognise the strengths and weaknesses of both midwives and TBAs.
Community perceives quality as important and also adolescent care.

Needs assessment found an acute shortage of midwives; poor skills, equipment and record keeping, a low met need for EmOC, transport difficulties.
Overall poverty, poor communications, low acceptability and sustainability of services, low capacity to act upon feed-back.
To address unmet needs:

- Increase midwife training, support and supervision;
- Improve equipment and record keeping, vital registration to include complications;
- Involve community stakeholders and empower adolescents and women outside of pregnancy.

Need to monitor community deaths, collaborate with professional associations. Provide some community obstetric experience to all medical graduates.

Reducing maternal mortality in Kigoma; successes and constraints over two decades
Dr. Godfrey Mbaruku, (Hilary Clinton Award holder)

Kigoma Hospital suffered acute shortages, demoralised, poorly performing staff and professional rivalry, absent doctors, very high mortality and poor reputation leading to moneyed women travelling to the capital.
Interventions: staff training, delegation of responsibility organised, absenteeism addressed, management and problem solving, and audit. Clinical management protocols introduced, equipment maintenance and supplies, community views considered in moving on poorly performing staff.
At 7 year follow-up, maternal mortality was halved. By 2001, rates were increasing again because of skilled staff shortage, reduced budget from the government, increased poverty and HIV infection rates, new influx of refugees, now more than half the population. The case fatality rate for direct maternal deaths remains lower however than before intervention, from 12.4 in 1984 to 3.4 in 2001. Refugee inflow has increased mortality rates each time.

Community involvement substantial – using local Lions Club, schools, relatives, no financial incentives e.g. for giving blood, transparently no bureaucracy, an attitude that people can get what they want, they can do something.

The way forward is seen as skilled attendants at birth and in antenatal period, with good referral facilities, poverty alleviation, female education and rights, and increased government investment.

Commendation from Jerker Liljestrand, formerly World Bank: "This report holds all the key elements for reducing maternal deaths'.

Maternal mortality in rural Guinea Bissau: which way to walk?
Lars Hoj, Technical adviser, Denmark

Health workers are the cornerstones of health care systems and key to any improvements.

16,000 healthy fertile women studied in four regions of Guinea Bissau using cohorts established by a Danish anthropologist. Key areas found - 42% deaths due to postpartum haemorrhage with half of these having seen no skilled attendant and over half dying at home or on the road. Access to EmOC was a real problem, risks for primigravid and multigravid women were not substantially different. Verbal autopsy system developed for use in all female deaths under 50 years with additional benefit of creating interest and assuring community of health care workers' involvement.

Incident community-based referent studies of maternal mortality in Masvingo District and urban Harare, 1989-1990 and in Temeke district, Dar-es-Salaam, 1991-1993; a comparison.
Lennarth Nystrom, epidemiologist, Dept. Public Health and Clinical Medicine, Umea University, Denmark

SAREC supported reproductive health research in E Africa, Tanzania, Mozambique, Zambia and Zimbabwe. Considered deaths, causes, risk and operational factors, accessibility and availability. Community based study using as informants:

- Health institutions, TBAs;
- Police and registration authorities, schools;
- Community, village, political and religious leaders.

Results and comments not provided.

The role of social science in maternal mortality research
Dr. Annika Johansson, IHCAR Stockholm, Zambia, Palestine, Tanzania

Social science can uncover the complexity of situations and what is happening under the surface whereas epidemiology measures the visible. In maternal health it can look at the how and why, and at core contradictions as meaning and knowledge are created in interactions between individuals and their world.
The conceptual model of the 'three delays' in maternal mortality is a social science device. Has found factors behind delays to be:

- Perceived severity and cause of problems and concepts of normality;
- Distance, cost, opportunity;
- Birth as 'woman's battle', cultural perceptions linked to female identity;
- Woman's status, decision-making power, control over resources;
- Stigma, fear and shame especially related to abortion, violence and infidelity.

Poverty and gender are over-riding elements.

Looked at adolescent networks, finding young people to be in transition and very dependent on these. Considered socialisation patterns, self-respect and self-confidence, gender roles and role models, entitlements and rights.
Parental roles may be those of support and guidance or punishment and silence. Parents can save the lives of young pregnant women.

Social science must be transparent and accountable with researcher awareness of own motivations and understandings paramount, and avoidance of imposing own self on data.

Confidential enquiry into maternal mortality in the Netherlands: its relevance for other parts of the world?
Jos van Roosmalen, Obstetrician

Maternal health care has been dictated by single issue activities with a tendency to forget holistic processes with each new enthusiasm. We need to understand limits of previous activities but not leave out completely, e.g. TBA training, antenatal care and

risk screening, Primary Health Care. Confidential enquiry process has always been holistic but activities have tended to focus on infant welfare e.g. caesarean section for early preterm distressed fetus.

Holland has seen a 50% increase in maternal mortality in last 9 years. Substandard care is an element in increases with delays especially phase three delay (care provision) and for pre- eclampsia, also under-reporting happens as everywhere. Immigrant population rates are double the ethnic Dutch although much better than their home rates, reasons not understood.

Caesarean risk much higher than for vaginal birth and is not linked with improved chances, rate increases must be avoided. Sub-Saharan rates are higher than are those of assisted vaginal delivery; reasons are unknown but could be seen as violence against women. We must accept that deaths will increase if more sections done especially with HIV positive women.

Should we invest in skilled birth attendance or EmOC to bring down maternal mortality in low-income countries? Lessons learned from Malaysia and Sri Lanka.

Dr. Jerker Liljestrand, obstetrician and maternal health consultant, formerly World Bank

In discussing where investments should be made we tend to dichotomise, this is unwise without being certain of the proof. Some say care of emergencies is main element, others personnel.
Skilled birth attendance = skilled birth attendant + supportive environment.

Difficult to attain targets for skilled attendants – Africa has remained at 44% average for 10 years.

Malaysia gave high priority to MCH, improved equity, roads and water, and made it part of the rural development plan. Cost has been about 25% of total health budget and 0.38% of GDP.

Sri Lanka has approached emergency care and skilled attendant in tandem.

Liljestrand believes the key to be accessibility of reliable competent midwives and an even distribution in rural areas, with a community willingness to seek them out for complications even if not present for all births. Husbands in Sri Lanka would know when and where to get help. This involves:

- Competency based standards;
- Secure referral systems to EmOC and subsidies for transport;
- Pragmatic support with equipment and delegated authority;
- Collaboration with TBAs;
- Agreement for life-saving procedures to be used by midwives;
- Incentives such as bicycles and uniforms.

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