Solving the problem

The question: "What can be done to bring down the incidence of maternal death?" can be debated over and again without any single suggestion appearing to hold the key. There is, however, agreement that much can be accomplished, and that it requires, first and foremost, that the prevention of maternal deaths be given a high priority.

In the broadest sense this means not focusing on women *only* when they become pregnant, but tackling the causes behind the causes of maternal death — the disadvantage of women in society that makes them typically undernourished, over-worked, ill-educated, and frequently ignored in the master plans of society.

Furthermore, if lasting results are to be obtained from any effort to reduce maternal death and suffering, awareness must be promoted at all levels of society — including among women themselves — of the chain of events that leads to half a million maternal deaths a year.

Attacking the issue on the broader front is, of course, a long slow process, and while absolutely vital, it will never be enough. For safe childbearing there will always be a need for professional services when complications arise, and in this field there is a great deal that can be accomplished now. For this, action is required on three main levels: policy, programming and training.

Policy

National governments must first review their policies and programmes in the light of this new commitment, and allocate the necessary resources. For example, where money is still being spent on high tech high cost medical care that serves only a small proportion of the population — generally urban based, there must be a change of direction. The health needs of the poor are generally neglected and women and girls, who have special needs, suffer most. There is much that can and should be done to promote their health and well-being in general and that will, incidentally, improve their chances of healthy childbearing. Policy reviews should look at such issues as the health care of girls, nutritional status of women, prevention of infection and family planning. Strong leadership and support from professional societies such as medical associations is essential for an effective campaign.

Programmes

It is clear from the persistence of high rates of maternal mortality and morbidity that current programmes are not adequate, and that bold and determined new thinking is required within the context of primary health care (PHC). Programmes should work on the principle that all services should be provided at the most peripheral level of the health care system at which this can be done effectively.

The design of services should be guided by what has been learned and observed already. For example, in many countries most deliveries and many maternal deaths take place outside hospitals. Furthermore, a sizeable proportion of serious complications cannot be predicted beforehand. Therefore, while efforts must be made to upgrade hospital care, and to refer high-risk women as early as possible, services need to be designed to reduce distance between pregnant women and the care they require.

A variety of approaches can be used. When complications can be predicted, maternity waiting homes could be established. These are facilites where pregnant women can come in the last weeks of pregnancy, live while they await delivery, and either have a supervised normal delivery or prompt transfer to a medical facility if complications arise. Experience with waiting homes in Colombia, Chile, Cuba, Uganda and Malawi has shown that they can be successful and need not be expensive, as the community can provide a large part of the labour and supplies.

However, in the large proportion of cases in which complications cannot be predicted, more effective means of treating complications need to be available at the first referral level, and through establishing more basic obstetric facilities. These need not be new facilities. Health centres could be upgraded to provide essential maternal health services: vacuum extraction deliveries; blood transfusions; simple general and/or local anaesthesia; caesarean section; suction curretage for incomplete abortion; intra-uterine device insertion; and tubal ligation and vasectomy.

The primary health care approach

This system of health care — designed to make the most effective use of health resources for the benefit of the whole population — has already been used to good effect in the fields of child health and family planning. The aim is to provide as much care as possible at the community level, where costs are lowest, and to refer problems to clinical back-up facilities. The systems includes a minimum of three elements:

* community care delivered through simple health posts and extension services. This should provide prenatal care including prophylaxis, as well as the treatment of conditions such as malaria or anaemia, and the screening and referral of high-risk cases,
* clinical back-up facilities for referral, as discussed above,
* transportation to referral facilities. As the case histories demonstrate, this does not only mean appropriate vehicles; it means all-weather roads, a means of calling out the vehicle, and costs — if there are any involved — within the means of the very poor.

Strong management is required to ensure the quality and timeliness of care. Many women are reluctant to use the health services for a variety of reasons, including the fact that they may be unaware of what they have to offer, that there are costs (perhaps including bribes) involved or that the services do not meet their needs. A system that works well will encourage use of modern facilities rather than resort to familiar traditional medicine, which may add to women's problems.

What can be done about the major causes of death?

Haemorrhage: Postpartum haemorrhage is difficult to predict and there is often little time or opportunity to transport the woman to a hospital for blood transfusion. Therefore, any trained person who is considered capable of doing a delivery should be trained to handle this life-threatening complication through use of oxytocic drugs (which contract the uterus and its blood vessels) and manual removal of the placenta followed by broad-spectrum antibiotics. In addition, the use of blood plasma substitutes at health centres that cannot provide transfusions should be explored.

Antepartum haemorrhage can be predicted in some cases (e.g. bleeding in the last 3 months with placenta previa). In these cases, early referral to a facility where blood transfusion and caesarean section are available is crucial. However, in many cases haemorrhage cannot be predicted. Therefore, there is an urgent need to shorten the distance between the place of delivery and a facility where emergency care can be provided. In addition to upgrading peripheral health facilities, attention must be paid to the key role of transportation. An effort should be made to make all kinds of government vehicles available in emergencies, rather than relying on scarce (or non-existent) health department vehicles alone. (See FATIMA's case history).

Infection: Deaths from infection can be greatly reduced (as they have been in China) through cleanliness during delivery. Provision of delivery kits to PHC workers is one way to encourage cleanliness. Addition of antibiotics to these kits — for use in cases of prolonged labour or premature rupture of the membranes — could prevent many maternal deaths in areas where physicians are scarce. (See GEETHA's case history).

Toxaemia: Only good prenatal and medical care can prevent the majority of deaths from this cause. However, sedatives for treatment of severe toxaemia should be made available at the primary care level. (See NEGISTI's case history).

Illegal abortion: Family planning is the first line of defence against illegal abortion, and education about avoiding unwanted pregnancies should be provided in schools, at all levels of the health care system, and during all contacts with pregnant and recently delivered women. Special attention should be paid to counselling women who are being treated for complications of abortion, in order to avoid repeated unwanted pregnancies and abortions. (See ESPERANZA's case history).

Obstructed labour: While there are certain groups of women who are at especially high risk of obstructed labour (i.e. women of small stature, women having their first birth and women having their sixth or later birth), in many cases this complication is not predictable. So, again, access to emergency obstetric care is essential. In the case of obstructed labour, much could be accomplished by educating TBAs to send women who are not making satisfactory progress in labour promptly to a facility where they can get medical care, such as a caesarean section. (See BOLA's case history).

Anaemia: Anaemia is often a major contributing factor in maternal deaths. Depending on the cause of anaemia in a particular region, iron and folate supplements, malaria prophylaxis and/or treatment, and treatment of ankylostomiasis and schistosomiasis should be provided to pregnant women through prenatal care. And of course, improved nutrition and health care of women before pregnancy are extremely important in avoiding anaemia.

Tetanus: In addition to being a major killer of newborns, tetanus is a common cause of maternal deaths in some areas (Bangladesh, India, Indonesia). The administration of tetanus toxoid to all women, especially pregnant women, should be a high priority.

Training

Training is a crucial element in a successful programme. Some of the areas in which training needs to take place are:

Traditional birth attendants: TBAs are often the first (and, frequently, the only) health care workers with whom pregnant women in poor countries have contact. Therefore, it is essential that they be as effective as possible. However, it is emphasized that, in addition to training, supervision and support are vital if a TBA is to be effective.

As well as playing an important part in health promotion, a major role of TBAs should be referral (assuming, of course, that there are health care facilities to which women can be referred). TBA training in referral should include recognition of risk factors (e.g. age, parity, poor obstetric history, bleeding during pregnancy), detection of anaemia, recognition of infection, prolonged labour and excessive blood loss.

TBAs should also be given the training and supplies to prevent or treat complications whenever possible. Preventive measures include the use of antiseptic techniques in delivery and the administration of drugs to reduce anaemia, and provision of contraceptives. Treatment skills could include first aid for treatment of haemorrhage (such as application of pressure, elevation of limbs and use of oxytocic drugs), and safe removal of retained placenta.

Health centres: Staff at these centres need special training and supplies to be effective in preventing maternal deaths. Training should include: recognition of blood pressure, abnormalities and anaemia; use of antibiotics, intramuscular iron supplements, oxytocic drugs and plasma expanders; and repair of lacerations. In areas where there is no physician available to perform life-saving caesarean sections, the feasibility of teaching trained midwives to do this operation should be explored.

Referral hospitals: As the case histories demonstrate, hospital staff need additional training in treatment of serious complications. For example, special teams could be established for coping with haemorrhage and eclampsia, and such catastrophic events as uterine rupture. In many places extra effort is needed to ensure that blood supplies are available as required.

What will it cost to save lives?

An extra $2 per capita per year for countries now spending in the range of $8-10 per capita of their national budget on health care should enable maternal mortality to be reduced by 50% within about ten years — quite apart from the enormous impact it will have in preventing the disabling conditions that are so widely suffered among women today.

Some very poor countries will be unable to afford even this sum. However, an investment of approximately $1 per capita per year should enable them to reduce maternal mortality by 25% or more within ten years through community-level care and family planning, together with more efficient use of whatever clinical facilities are available.

"Most women of childbearing age also help to support the family through production of subsistence or cash crops or other remunerative work. In Africa, most food is raised by women. Even where women are often secluded, as in Bangladesh, [they] process foodgrains and raise vegetables or small animals in home courtyards. In urban areas...young women work in service occupations and increasingly in small-scale industry...Indeed, women spend 12-15 hours a day on family and "productive" work. The loss of a mother means the loss of resources for the family.

Moreover, more and more women have sole responsibility for their families. They may be abandoned...or their husbands may migrate to find work but seldom send remittances home, or they may live in unstable consensual unions. Poorer women are particularly likely to be left alone. In Bangladesh, about one-fourth of poor households may be headed by women, while in parts of rural Zambia or Kenya, estimates reach 40 %....

Women who die in the childbearing period leave, on average, two or more children... Friends or relatives may step in to help, but for the poor, resources may be stretched too thin to help much. Many children may be left to fend largely for themselves. One group of twenty poor women in rural Kenya reported that three from their community had died in childbirth. They reported that the older orphaned children went to the city to beg and the younger ones died...This tragic story is repeated in other regions. In Bangladesh, for example, of the live children born to mothers who died, 95 percent had also died within one year... - from Herz and Measham (see "Resources", p. 22)