Q & A: What we can do to prevent maternal deaths

1. What is a Maternal Death?

A maternal death is "the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration or site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental causes." (WHO)

2. Where do maternal deaths take place today?

99 per cent of maternal deaths occur in the developing countries. Only 1 per cent occurs in developed countries.

3. What are the causes of maternal deaths?

Maternal deaths happen for two reasons: a direct obstetric death which is caused by complication that develops directly as a result of pregnancy, delivery or the postpartum period; an indirect obstetric death which is due to existing medical conditions that a re made worse by delivery or pregnancy.

There are five major medical causes of direct obstetric death: haemorrhage (28 %); complications of unsafe abortion (19%); pregnancy-induced hypertension (17%); infection (11 %); and obstructed labor (11 %).

Direct obstetric deaths account for about 75 per cent of all maternal deaths in developing countries. Indirect obstetric deaths account for about 25 percent of all maternal deaths in developing countries.

4. What has been done to prevent maternal deaths?

Most efforts have been concentrated on:

Predicting and preventing obstetric complications, i.e., antenatal care;
Training traditional birth attendants; and
Community mobilization.

5. Have these efforts been effective?

No.

6. Why have they not worked?

Before answering this question, one must take note of the most important fact about maternal deaths from complications: most complications cannot be predicted and prevented. To put it another way, any pregnant woman can develop complications at any time during pregnancy, at delivery, or in the postpartum period.

This means that all pregnant women are at risk. We cannot predict or prevent most of the obstetric complications that lead to death. But they can be treated.

Now, let's look at the five major causes of deaths: hemorrhage, pre-eclampsia and eclampsia, infection, obstructed labor, and complications of unsafe abortion.

We cannot predict or prevent **hemorrhage** as this occurs anytime during pregnancy. As for **eclampsia**, research has shown that many eclamptic cases can occur without warning during or after delivery. The role of antenatal care in preventing deaths and disability from **infection**

is limited, according to WHO. Although clean delivery kits and health education might reduce infection rates, the crucial factors that give rise to unclean delivery are probably related more to poverty and lack of facilities, than to ignorance. As for **obstructed labor**, prediction or prevention has little role to play in alleviating the suffering of women from this complication. What is strongly recommended is treatment, including Caesarean section, that must be made available to all women if outcomes for both mother and infant are to be improved. As for the complications from **unsafe abortion**, these can be treated in a well-equipped and –staffed health facility.

According to a study published in the Lancet in 1980, researchers in Aberdeen, UK, found that the majority of antenatal admissions to the hospital – other than for delivery – were for conditions that had arisen despite routine antenatal care. Antenatal visits had neither detected nor prevented the complications from occurring.

7. What is the role of traditional birth attendants or TBAs on reduction of maternal deaths?

Agencies have been supporting training of TBAs for years. Reasons given are: most women in developing countries deliver at home and usually rely on TBAs to assist them during delivery; TBAs are paid by the women and their families and do not pose a burden to the public purse; and women have no other choice but to resort to TBAs.

But now we know that TBAs are not effective in preventing maternal deaths. They are not midwives or medical professionals and do not have the lifesaving skills necessary to deal with life-threatening problems.

In addition, some TBAs mistakenly believe that certain practices help women during delivery, although these, in fact, cause harm. Examples of such procedures include pushing on the abdomen to hasten delivery.

TBAs can be trained on how to recognize obstetric complications and how to refer these women with complications promptly.

8. And what about community mobilization?

Without health facilities to provide life-saving services, women with complications will die. That's a fact. Thus, the simple truth is community mobilization efforts will not amount to anything if there are no midwives and doctors in health facilities; if there is no blood, antibiotics, and other drugs; if there is no functioning operating theatre; and in short, if there is no functioning health facility.

Community mobilization helps when emergency obstetric services are in place. Then, the community should work on information dissemination regarding the danger signs of pregnancy. The community should likewise organize to help pool funds together to transport women to health facilities or to pay for the expenses women incur once they are in these facilities.[1]

9. Given all these, what can then be done to prevent maternal deaths and disabilities?

Agencies and governments have to ensure that health facilities are able to provide emergency obstetric care (EmOC) services. And that these health facilities are supported by a functioning referral system.

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[1] UNFPA, Understanding the Causes of Maternal Deaths, Module 1 (Distance Learning Courses on Populaton Issues), New York, New York, 2002.

10. What is EmOC?

EmOC or emergency obstetric care refers to the functions necessary to save lives. They are called Signal Functions and these include:

- Administer parenteral antibiotics
- Administer parenteral oxytocic drugs
- Administer parenteral anticonvulsants for pre-eclampsia and eclampsia
- Perform manual removal of placenta
- Perform removal of retained products
- Perform assisted vaginal delivery
- Perform surgery
- Perform blood transfusions

11. How does EmOC differ from Essential Obstetric Care or EOC?

WHO issued several publications presenting the full list of services that should be provided during pregnancy and childbirth. This package of services is often referred to as essential obstetric care or EOC. Often, EOC is used interchangeably with EmOC. This does not matter as long as the terms are clearly defined and the signal functions are clearly established.

12. How can Emergency Obstetric Care (EmOC) avert maternal deaths and disabilities?

If deaths due to pregnancy and delivery are to be substantially reduced, women with complications must have prompt access to adequate emergency obstetric care. In order to avert maternal deaths and disabilities, the focus must be placed on ensuring that women have access to quality EmOC. This entails upgrading peripheral facilities to provide basic and comprehensive obstetric care, i.e., renovating and maintaining health facilities as well as supplying and equipping these appropriately; training health staff to manage obstetric complications as well as the complications of the newborn; training staff to efficiently manage the health facilities; ensuring that a functioning referral system is in place which links peripheral facilities to district health facilities or referral centers that can provide EmOC.

Look what happens without EmOC.

In the United States, State of Indiana, there is a religious sect called the Faith Assembly of God. Members of the sect are well fed, highly educated, and relatively wealthy. Their religious beliefs, however, prevent them from using modern medical services, even in cases of emergency. A medical team studied maternal deaths for this population group of some 2,000 between 1975 and 1982 (Kaunitz et al, 1984).[2] The maternal mortality ratio in the Faith Assembly community was 872 maternal deaths per 100,000 live births whereas the ratio in the United States is 12. The researchers noted that the maternal mortality ratio for the Faith Assembly is comparable with those "in developing countries where obstetric care is unavailable….These findings suggest that when women, even in the United States, avoid obstetric care, they greatly increase the risks" of maternal deaths.

[2] Kaunitz, AM, et al, "Perinatal and maternal mortality in a religious group avoiding obstetric care", *American Journal of Obstetrics and Gynecology*, Dec 1, 1984; 150 (7); pp. 826-31.

13. **What is the evidence that EmOC works?**

Historical Evidence

Historical studies show that maternal mortality ratios decreased in industrialised nations in the beginning of the 19th century. These reductions have not been attributed to economic growth but to the diffusion and professionalization of obstetric care. In the brief period of fifteen years, maternal mortality fell so steeply in England and Wales in 1950 that the MMR was only a fifth of the ratio in 1935; Scotland shows a similar trend.

The sudden and profound decline in maternal mortality was not due to a single factor, but a combination of changes that came into effect during this period. The most important factors that led to the reduction in maternal mortality are: introduction of penicillin, blood transfusion on a large scale, and improved obstetric care in general.[3]

Current Evidence

- A study in Matlab, Bangladesh has provided support for community based EmOC programs. Three years of the maternity-care program which included services to manage life-threatening complications demonstrated a significant reduction in direct obstetric mortality compared with the three previous years of no intervention. Direct obstetric mortality was cut in half between 1976-86 and 1987-89 in the northern area where the maternity-care program was initiated. The government recruited and trained nurses and midwives who were able to identify complications related to pregnancy and treat complications when possible, while referring others to the central clinic at Matlab.[4]

- The maternal mortality ratio in Honduras declined by 38 percent between 1990 and 1997, from 182 to 108 maternal deaths per 100,000 live births. Honduras is one of the few Latin American countries that have documented such success in reducing maternal deaths. The Maternal and Child Health program demonstrated that improved EmOC services, referral of high risk women for hospital delivery, and access to and utilization of skilled attendants during delivery led to a vast improvement in the quality of care provided. Between 1990 and 1997 seven new area hospitals, thirteen birthing centers, 36 medical health centers and 266 rural health centers, and five maternity waiting homes were opened. The quality of care improved, and the norms for the "Integrated Care for Women" were institutionalized. These norms include family planning, emergency contraception, prenatal, delivery and postpartum care, and EmOC. [5]

- Maternal Mortality in Egypt has declined from 174/100,000 to 84/100,000 between 1992-3 and 2000. This dramatic reduction in maternal deaths is a major achievement and proof of Egypt's sustained efforts to improve quality obstetric care while reducing the fertility rate and unwanted births. As of 2001, a total of 75 rural hospitals and primary health care units have been upgraded to offer normal delivery care and to improve linkages with referral centers in the five governorates of Upper Egypt which reaches over 8 million Egyptians. Obstetric services in 25 governorate and district

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[3] Loundon, I. Death in child-birth: an international study of maternal care and maternal mortality 1800-1950. Oxford University Press, 1992.
[4] Maine, D., et al. "Why Did Maternal Mortality Decline in Matlab?" *Studies in Family Planning,* Vol. 27, 4; July/Aug 1996.)
[5] Danel, Isabella. "Maternal Mortality Reduction, Honduras, 1990-1997: A Case Study" Centers for Disease Control and Prevention. Report prepared for the World Bank.

hospitals have been upgraded to ensure access to quality EmOC services. In each of the target facilities, medical and nursing personnel (1300) completed competency-based training on the EmOC protocols and clinical supervision was improved.[6]

14. What have we learned so far, since the Safe Motherhood Initiative was launched in 1987?

We have learned that the Safe Motherhood Initiative has implemented a variety of programs in an attempt to reduce maternal mortality worldwide. These include a range of interventions such as antenatal care, training of traditional birth attendants, provision of micronutrients, improving girl's education to prevent maternal deaths, and empowerment of women. To this date, after almost 15 years, and despite all these efforts, maternal mortality ratios have not declined significantly.

We have also learned that EmOC is central to saving the lives of women who develop obstetric complications. Thus, it is time for the international community and governments to focus their efforts in saving women's lives through the implementation of quality EmOC programs. Unless EmOC programs are in place, maternal mortality ratios will not decline.

[6] Egyptian Ministry of Health and Population, Egypt National Maternal Mortality Study 2000, USAID, JSI.